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ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

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Κύρωση Ευρωπαϊκής Συμφωνίας για τη Διεθνή Οδική Μεταφορά Επικινδύνων Εμπορευμάτων (ADR) που υπογράφηκε στη Γενεύη την 30ή Σεπτεμβρίου 1957.

Ο ΠΡΟΕΔΡΟΣ ΤΗΣ ΕΛΛΗΝΙΚΗΣ ΔΗΜΟΚΡΑΤΙΑΣ

Εκδίδομε τον ακόλουθο νόμο που ψήφισε η Βουλή:

Άρθρο πρώτο

1. Κυρώνεται και έχει την ισχύ που ορίζει το άρθρο 28 παρ. 1 του Συντάγματος η (με τη φροντίδα των Ηνωμένων Εθνών) Ευρωπαϊκή Συμφωνία, που υπογράφηκε στη Γενεύη την 30ή Σεπτεμβρίου 1957 «για τη Διεθνή Οδική Μεταφορά Επικινδύνων Εμπορευμάτων (ADR)» και που αποτελείται από τους τόμους Ι (Συμφωνία, Πρωτόκολλο Υπογραφής και Παράρτημα Α), ΙΙ (Προσθήκες Παραρτήματος Α') και ΙΙΙ (Παράρτημα Β').

2. Το κείμενο της Συμφωνίας που αναφέρεται στην προηγούμενη παράγραφο σε πρωτότυπο στην αγγλική γλώσσα και σε μετάφραση στην ελληνική έχει ως εξής:

ECONOMIC COMMISSION FOR EUROPE
INLAND TRANSPORT COMMITTEE

European Agreement

concerning the international carriage
of dangerous goods by road (ADR)
and protocol of signature

done at Geneva on 30 September 1957

VOLUME 1

(Agreement, Protocol of signature and Annex A)

FOREWORD

The text below comprises, in addition to the Agreement itself and the Protocol of signature, the annexes in the form in which they entered into force on 29 July 1968 as well as the amendments there to up to 1 October 1978.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR)

THE CONTRACTING PARTIES,
DESIRING to increase the safety of international transport by road, HAVE AGREED as follows:

Article 1.

For the purpose of this Agreement,
(a) the term «vehicle» shall mean motor vehicles, articulated vehicles, trailers and semi-trailers, as defined in article 4 of the Convention on Road Traffic of 19 September 1949, other than vehicles belonging to or under the orders of the armed forces of a Contracting Party;
(b) the term «dangerous goods» shall mean those substances and articles the international carriage by road of which is prohibited by, or authorized only on certain conditions by, Annexes A and B;
(c) the term «international transport» shall mean any transport operation performed on the territory of at least two Contracting Parties by vehicles defined in (a) above.

Article 2.

1. Subject to the provisions of article 4, pargraph 3, dangerous goods barred from carriage by Annex A shall not be accepted for international transport.
2. International transport of other dangerous ggods shall be authorized subject to compliance with:
(a) the conditions laid down in Annex A for the goods in question, in particular as regards their packaging and labelling, and
(b) the conditions laid down in Annex B, in particular as regards the construction, equipment and operation of the vehicle carrying the goods in question, subject to the provisions of article 4, paragraph 2.

Article 3.

The Annexes to this Agreement shall form an integral part thereof.

Article 4.

1. Each Contracting Party shall retain the right to regulate or prohibit, for reasons other than safety during carriage, the entry of dangerous goods into its territory.
2. Vehicles in service on the territory of a Contracting Party at the time of entry into force of this Agreement of brought into service on such territory within two months after its entry into force shall be allowed, for a period of three years from such entry into force, to perfrorm the international transport of dangerous goods even if their construction and equipment do not entirely conform to the requirements laid down in Annex B for the transport operation in question. Under special clauses of Annex B, however, this period may be reduced.
3. The Contracting parties shall retain the right to arrange, by special bilateral or multilateral agreements, that certain of the dangerous goods which under this Agreement are barred from from all international transport may, subject to certain conditions, be accepted for international transport on their territories, or that dangerous goods which under this Agreement are acceptable for international transport only on specified conditions may be accepted for international transport on their territories under conditions less stringent than those laid down in the Annexes to this Agreement. The special bilateral or multilateral agreements referred to in this paragraph shall be communicated to the Secretary - General of the United Nations, who shall communicate them to the Contracting Parties which are not signatories to the said agreements.

Articles 5.

The transport operations to which this Agreement applies shall remain subject to national or international regulations applicable in general to road traffic, international road transport and international trade.

Article 6.

1. Countries members of th Economic Commission for Europe and countries admitted to the Commission in a consultative capacity under paragraph 8 of the Commission's terms of reference may become Contracting Parties to this Agreement
(a) by signing it;
(b) by ratifying it after signing it subject to ratification;
(c) by acceding to it.
2. Such countries as may participate in certain activities of the Economic Commission for Europe in accordance with paragraph 11 of the Commision's terms of reference may become Contracting Parties to this Agreement by acceding to it after its entry into force.
3. The Agreement shall be open for signature until 15 December 1957. Thereafter, it shall be open for accession.
4. Ratification or accession shall de effected by the depositing of an instrument with the Secretary - General of the United Nations.

Article 7.

1. This Agreement shall enter into force one month after the date on which the number of countries mentioned in article 6, paragraph 1, which have signed it without reservation of ratification or have deposited their instruments of ratification or accession has reached a total of five. However, the Annexes thereto shall not apply until six months after the entry into force of the Agreement itself.
2. For any country ratifying or acceding to this Agreement after five of the countries referred to in article 6, paragraph 1, have signed it without reservation of ratification or have deposited their instruments of ratification or accession, this Agreement shall enter into force one month after the said country has deposited its instrument of ratification or accession and the Annexes thereto shall apply for the said country either on the same date, if they are already in force by that date, or, if they are not in force by that date, on the date on which they apply under the provisions of paragraph 1 of this article.

Article 8.

1. Any Contracting Party may denounce this Agreement by so notifying the Secretary - General of the United Nations.

2. Denunciation shall take effect twelve months after the date of receipt by the Secretary - General of the notification of denunciation.

Article 9.

1. This Agreement shall cease to have effect if, after its entry into force, the number of Contracting Parties is less than five during twelve consecutive months.

2. In the event of the conclusion of a worldwide agreement for the regulation of the transport of dangerous goods, any provision of this Agreement which is contrary to any provision of the said worldwide agreement shall, from the date on which the latter enters into force, automatically cease to apply to relations between the Parties to this Agreement which become parties to the worldwide agreement, and shall automatically be replaced by the relevant provision of the said worldwide agreement.

Article 10.

1. Any country may, at the time of signing this Agreement without reservation of ratification or of depositing its instrument of ratification or accession or at any time thereafter, declare by notification addressed to the Secreaty - General of the United Nations that this Agreement shall extend to all or any of the territories for the international relations of which it is responsible. The Agreement and the annexes thereto shall extend to the territory or territories named in the notification one month after it is received by the Secreraty - General.

2. Any country wich has made a declaration under paragraph 1 of this article extending this Agreement to ary territory for whose international relations it is responsible may denounce the Agreement separately in respect of the said territory in accordance with the provisions of article 8.

Article 11.

1. any dispute between two or more Contracting Paties concerning the interpretation or application of this Agreement shall so far as possible be settled by negotiation between them.

2. Any dispute which is not settled by negotiation shall be submitted to arbitration if any one of the Contracting Parties in dispute so requests and shall be referred accordingly to one or more arbitrators selected by agreement between the Parties in dispute. If whithin three months from the date of the request for arbitration the Parties in dispute are unable to agree on the selection of an arbitrator or arbitrators, any of those Parties may request the Secretary - General of the United Nations to nominate a single arbitrator to whom the dispute shall be referred for decision.

3. The decision of the arbitrator or arbitrators appointed under paragraph 2 of this article shall be binding on the Contracting Parties in dispute.

Article 12.

Each Contracting Party may, at the time of signing, ratifying, or acceding to, this Agreement, declare that it does not consider itself bound by article 11. Other Contracting Parties shall not be bound by article 11 in respect of any Contracting Party which has entered such a reservation.

2. Any Contracting Party having entered a reservation as provided for in paragraph 1 of this article may at any time withdraw such reservation by notifying the Secretary - General of the United Nations.

Article 13.

1. After this Agreement has been in force for three years, any Contracting Party may, by notification to the Secretary - General of the United Nations, request that a conference be convened for the purpose of reviewing the text of the Agreement. The Secretary - General shall notify all Contracting Parties of the request and a review conference shall be convened by the Secretary - General if, whithin a period of four nonths following the date of notification by the Secretary - General, not less than one-fourth of the Contracting Parties notify him of their concurrence with the request.

2. If a conference is convened in accordance with paragraph 1 of this article, the Secretary - General shall notify all the Contracting Parties and invite them to submit whithin a period of three monts such proposals as they may wish the Conference to consider. The Secretary - General shall circulate to all Contracting Parties the provisional agenda for the conference, together with the texts of such proposals at least three months before the date on which the conference is to meet.

3. The Secretary - General shall invite to any conference convened in accordance with this article all countries referred to in article 6, paragraph 1, and countries which have become Contracting Parties under article 6, paragraph 2.

Article 14.

1. Independently of the revision procedure provided for in article 13, any Contracting Party may propose on or more amendments to the Annexes to this Agreement. To that end it shall transmit the text thereof to the Secretary - General of the United Nations. The Secretary - General may also propose amendments to the Annexes to this Agreement for the purpose of ensuring concordance between those Annexes and other international agreements concerning the carriage of dangerous goods.

2. The Secretar- General shall transmitt any proposal made under paragraph 1 of this article to all Contracting Parties and inform thereof the other countries referred to in article 6, paragraph 1.

3. Any proposed amendment to the Annexes shall be deemed to be accepted unless, within three months from the date on which the Secretary - General circulates it, at least one-third of the Contracting Parties, or five of them if one-third exceeds that figure, have given the Secretary - General written notification of their objection to the proposed amendment. If the amendment is deemed to be accepted, it shall enter into force for all the Contracting Parties, either on the expiry of a further period of three months or, in cases where similar amendments have been or are likely to be made to the other international agreemens referred to in paragraph 1 of this article, on the expiry of a period the duration of which shall be determined by the Secretary - General in such a way as to allow, wherever possible, the simultaneous entry into force of the amendment and those that have been or are likely to be made to such other agreements; suchperiod shall not, however, be of less than one month's duration.

4. The Secretary - General shall, as soon as possible, notify all Contracting Parties and all the countries referred to in article 6, paragraph 1, of any objection which may be received from the Contracting Parties to a proposed amendment.

5. If the proposed amendment to the Annexes is not deemed to be accepted, but if at least one Contracting Party other than the Contracting Party which proposed the amendment has given the Secretary - General written notification of its agreement to the proposal, a meeting of all the Contracting Parties and all the countries referred

to in article 6, paragraph 1, shall be convened by the Secretary - General within three months after the expiry of the period of three months within which, under paragraph 3 of this article, notification must be given of objection to the amendment. The Secretary - General may also invite to such meeting representatives of:

(a) intergovernmental organizations which are concerned with transport matters;

(b) international non-governmental organizations whose activities are direclty related to the transport of dangerous goods in the territories of the Contracting Parties.

6. Any amendment adopted by more than half the total - number of Contracting Parties at a meeting convened in accordance with paragraph 5 of this article shall enter into force for all Contracting Parties in accordance with the procedure agreed at such meeting by the majority of the Contracting Parties attending it.

Article 15.

In addition to the notifications provided for in articles 13 and 14, the Secretary- General of the United Nations shall notify the countries referred to in article 6, paragraph 1, and the countries which have become Contracting Parties under article 6, paragraph 2, of

2001 (contd)

(a) signatures, ratifications and accessions in accordance with article 6;

(b) the dates on which this Agreement and the Annexes thereto enter into force in accordance with article 7;

(c) denunciations in accordance with article 8;

(d) the termination of the Agreement in accordance with article 9;

(e) notifications and denunciations received in accordance with article 10;

(f) declarations and notifications received in accordance with article 12, paragraphs 1 and 2;

(g) the acceptance and date of entry into force of amendments in accordance with article 14, paragraphs 3 and 6.

Article 16.

1. The Protocol of Signature of this Agreement shall have the same force, effect and duration as the Agreement

2002 itself, of which it shall be considered to be an integral part.

2. No reservation to this Agreement, other than those entered in the Protocol of Signature and those made in accordance with article 12, shall be permitted.

Article 17.

After 15 December 1957, the original of this Agreement shall be deposited with the Secretary - General of the United Nations, who shall transmit certified true copies thereof to each of the countries referred to in article 6, paragraph 1.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed this Agreement.

DONE at Geneva, this thirtieth day of September one thousand nine hundred and fifty - seven, in a single copy, in the English and French languages for the text of the Agreement proper, and in the French language for the Annexes, each text being equally authentic for the Agreement proper.

The Secretary - General of the United Nations is requested to prepare an authoritative translation of the Annexes in the English language and attach it to the certified true copies referred to in article 17.

PROTOCOL OF SIGNATURE

TO THE EUROPEAN AGREEMENT ON THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR)

On proceeding to sign the European Agreement on the International Carriage of Dangerous Goods by Road (ADR) the undersigned, duly authorized,

CONSIDERING that the conditions governing the carriage of dangerous goods by sea to or from the United Kingdom differ basically from those set forth in Annex A to ADR and that it is impossible to modify them so as to conform to the latter in the near future;

HAVING REGARD to the undertaking given by the United Kingdom to submit as an amendment to the said Annex A a special appendix containing special provisions for road - sea carriage of dangerous goods between the Continent and the United Kingdom;

HAVE AGREED that, until the entry into force of such special appendix, dangerous goods carried under ADR to or from the United Kingdom shall comply with the provisions of Annex A to ADR and also with the United Kingdom conditions for the carriage of dangerous goods by sea;

TAKE NOTE OF a declaration by the representative of France to the effect that the Government of the French Republic reserves the right, notwithstanding the provisions of article 4, paragraph 2, to refuse to allow vehicles in service on the territory of another Contracting Party, whatever the date on which they were put into service, to be used for the carriage of dangerous goods on French territory unless such vehicles comply either with the conditions laid down for such carriage in Annex B or with the conditions laid down for the carriage of the goods in question in the French regulations governing the carriage of dangerous goods by road;

RECOMMEND that, before submission in accordance with article 14, paragraph 1, or article 13, paragraph 2, proposed amendments to this Agreement or its Annexes shall as far as possible first be discussed at meetings of experts of the Contracting Parties and, if necessary, of the other countries mentioned in article 6, paragraph 1, of the Agreement and of the international organizations mentioned in article 14, paragraph 5, of the Agreement.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR)

ANNEX A

PROVISIONS CONCERNING DANGEROUS SUBSTANCES AND ARTICLES

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Part I
DEFINITIONS AND GENERAL PROVISIONS

1-1999
2000

1) For the purposes of this Annex:

– the term «competent authority» means the authority designated as such in each country and in each specific case by the Government;

– the term «fragile package» means a package containing a fragile receptacle (i.e. a receptacle made of glass, porcelain, stoneware or similar materials) which is not enclosed in a packaging with complete sides protecting it effectively against shock [see also marginal 2001 (5)];

– the term «gas» means a gas or vapour;

– the term «dangerous substances», when used alone, means the substances and articles designated as being substances and articles of ADR:

– the term «carriage in bulk» means the carriage of a solid substance without packaging;

– the term «RID» means the International Regulations concerning the Carriage of Dangerous Goods by Rail [Annex 1 to the International Convention concerning the Carriage of Goods by Rail (CIM)].

(2) For the purposes of this Annex, tanks (see definitions in Annex B) are not placed on the same footing as receptacles, the term «receptacle» being used in a restrictive sense. Provisions concerning receptacles are applicable to fixed tanks, batteries of receptacles, demountable tanks and tank - containers only if this is expressly stipulated.

(3) The term «full load» means any load originating from one sender for which the use of a vehicle or of a large container is exclusively reserved and all operations for the loading and unloading of which are carried out in conformity with the instructions of the sender or of the consignee.

(1) Unless expressly stated otherwise, the sign «%» in this Annex represents:

(a) in the case of mixtures of solids or of liquids, and also in the case of solutions and of solids wetted by a liquid: a percentage by weight based on the total weight of the mixture, the solution or the wetted solid;

(b) in the case of gaseous mixtures: a percentage by volume based on the total volume of the gaseous mixture.

Definitions and general provisions

(2) All weights mentioned for packages in this Annex are, unless otherwise specified, gross weights. The weight of containers or tanks used for the carriage of goods is not included in the gross weight.

(3) Pressures of all kinds relating to receptacles (such as test pressure, internal pressure, safety - valve opening pressure) are always indicated in kg/cm^2 gauge pressure (pressure in excess of atmospheric pressure); however, the vapour pressure of substances is always expressed in kg/cm^2 absolute pressure.

(4) Where this Annex specifies a degree of filling for receptacles or tanks, that degree of filling is always referred to a temperature of the substances of 15 °C unless some other temperature is indicated.

(5) Fragile receptacles secured, either singly or in groups, by cushioning materials in a strong receptacle are not regarded as fragile receptacles on condition that the strong receptacle is leakproof and so designed that in the event of breakage or leakage of the fragile receptacles their contents cannot escape from the strong receptacle and that the mechanical strength of the latter is not impaired by corrosion during carriage.

GENERAL PROVISIONS

(1) This Annex specifies the dangerous goods to be excluded from international carriage by road and the dangerous goods to be accepted for such carriage under certain conditions. It groups the dangerous goods in restrictive and non - restrictive Classes. Of the dangerous goods covered by the headings of the restrictive Classes (Classes 1a, 1b, 1c, 2, 4.2, 4.3, 5.2, 6.2 and 7), those which are listed in the clauses concerning these Classes (marginals 2101, 2131, 2171, 2201, 2431, 2471, 2551, 2651 and 2701) are to be accepted for carriage only under the conditions specified in these clauses, and others are to be excluded from carriage. Some of the dangerous goods covered by the headings of the non - restrictive Classes (Classes 3, 4.1, 5.1., 6.1, and 8) are, by notes inserted in the clauses concerning the various Classes, excluded from carriage; of the other goods covered the various Classes, excluded from carriage; of the other goods covered by the headings of the non - restrictive Classes, those which are mentioned or defined in the clauses concerning these Classes (marginals 2301, 2401, 2501, 2601 and 2801) are to be accepted for carriage only under the conditions specified in these clauses, and those which are not mentioned or defined therein are not deemed to be dangerous goods for the purposes of this Agreement and are to be accepted for carriage without any special conditions.

Definitions and general provisions

(2) The Classes of this Annex are as follows: 2002

Class 1a	Explosive substances and articles	Restrictive
Clas 1b	Articles filled with explosive substances	»
Class 1c	Igniters, fireworks and similar goods	»
Class2	Gases: compressed, liquefied or dissolved under pressure	»
Class 3	Inflammable liquids	Non-restrictive
Class 4.1.	Inflammable solids	Non-restrictive
Class 4.2.	Substances liable to spontaneous combustion	Restrictive
Class 4.3	Substances which give off inflammable gases on contact with water	Restrictive
Class 5.1	Oxidizing substances	Non-restrictive
Class 5.2	Organic peroxides	Restrictive
Class 6.1.	Toxic substances	Non-restrictive
Class 6.2	Repugnant substances and substances liable to cause infection	Restrictive
Class 7	Radioactive substances	Restrictive
Class 8	Corrosive substances	Non-restrictive

(3) Any carriage of goods governed by this Annex shall be the subject of a transport document. The sender shall communicate in writing to the carrier the particulars to be included in the transport document as laid down for each class in part II of this Annex in sections 2.B. The document may be that already required by other regulations in force. Any goods the carriage of which is so governed shall be described in the transport document in conformity with the indications in section B of the special provisions for each Class. The particulars to be entered in the transport document shall be drafted in an official language of the forwarding country, and also, if that language is not English, or French, or German, in English, French or German, unless international road transport tariffs, if any, or agreements concluded between the countries concerned in the transport operation, provide otherwise. The transport document shall be accompanied, if appropriate, by instructions to be implemented in the event of an accident (see Annex B, marginal 10185). The transport document shall accompany the dangerous substances carried.

(4) If by reason of the size of the load a consignment cannot be loaded in its entirety on a single transport unit, at least as many separate documents, or copies of the single document, shall be made out as transport units loaded. Furthermore, in all cases, separate transport documents shall be made out for consignments or parts of consignments which may not be loaded together on the same vehicle by reason of the prohibitions set forth in Annex B.

(5) Outer packagings additional to those specified in this Annex may be used providing that they do not contravene the spirit of the provisions of this Annex relating to outer packagings.-If such additional packagings areused, the prescribed marking and labels shall be applied to them.

(6) If the mixed packing of several dangerous substances with one another or with other goods is allowed by the provisions of section A. of the provisions applicable to the various Classes, the inner packagings containing different dangerous substances shall be carefully and effective separated from one another in the collective packagings if dangerous reactions, such as the production of dangerous heat, combustion, the formation of mixtures sensitive to friction or shock, and the release of inflammable or toxic gases, are liable to occur as a result of damage to or destruction of the inner packagings, In particular, if fragile receptacles are used, and especially if the said receptacles contain liquids, the danger of the formation of dangerous mixtures shall be avoided and to this end all appropriate measures shall be taken, such as the use of suitable cushioning materials in sufficient quantity, securing of the receptacles in a second strong packaging, and subdivision of the collective packaging into several compartments.

(7) If mixed packing is used, the provisions of this Annex concerning the particulars in the transport document shall apply in respect of each of the different kinds of dangerous substance contained in the collective package, and the collective package shall bear all the inscriptions and all the danger labels prescribed in this Annex for the dangerous substances the collective package contains.

(8) If solutions of substances listed in this Annex are not expressly mentioned in the list of the Class to which the dissolved substances belong, they shall nevertheless be considered as substances of ADR if their concentration is such that they retain the danger inherent in the substances themselves; their packaging shall in such: event conform to the requirements of section A of the special provisions applicable to the Class to which the said substances belong, it being understood that packagings which would be unsuitable for the carriage of liquids may not be used.

(9) Mixtures of substancesof ADR with other substances shall be considered as substances of ADR if they retain the danger inherent in the substance which is a substance of ADR.

(10) The sender, either in the transport document or in a separate declaration, shall certify that the substance presented may be carried by road in conformity with the provisions of ADR, that its condition, treatment and, as appropriate its packaging and labelling comply with the provisions of ADR. Furthermore, if several dangerous goods are packed together in a collective package or in a single container, the sender is required to declare that this mixed packing is not prohibited.

(11) A substance whose specific radioactivity does not exceed 0.002 microcurie per gramme and which is covered by a collective heading of any Class shall be excluded from carriage if, in addition, it is covered by the heading of a restrictive Class in which it is not listed.

(12) A substance whose specific radioactivity does not exceed 0.002 microcurie per gramme and which is not listed by name in a Class, but is covered by two or more collective headings of different Classes, shall be subject to the conditions of carriage laid down:

(a) in the restrictive Class, if one of the Classes concerned is a restrictive Class;

(b) in the Class corresponding to the predominant danger exhibited by the substance during carriage, if none of the Classes concerned is a restrictive Class.

(1) This Annex contains for each Class other than Class 7: 2003

(a) a list of the dangerous substances constituting the Class, and, where applicable, in the form of a marginal having a number ending with the letter «a», the exemptions allowed from the provisions of ADR for some of those substances if they comply with certain conditions;

(b) provisions sub-divided as follows:

A. Packages:

1. General conditions of packing;

2. Packing of a single substance or of articles of the same kind;

3. Mixed packing;

4. Marking and danger labels on packages.

B. Particulars in the transport document.

C. Empty packagings.

D. (where appropriate) Other provisions.

(2) Provisions concerning:

- consignment in bulk, in containers and in tanks;
- method of despatch and restrictions on forwarding;

- prohibitions on mixed loading; and
- transport equipment are to be found in Annex B and its appendices, which also contain all other pertinent provisions applying specifically to carriage by roade.

(3) The appendices to this Annex contain:

Appendix A.l: Stability and safety conditions relating to explosive substances, inflammable solids and organic peroxides, together with rules for tests;

Appendix A.2: Provisions relating to the nature of aluminium-all receptacles for certain gases of Class 2; provisions relating to the materials and construction of receptacles, intended for the carriage or deeply-refrigerated liquefied gases of Class 2; and provisions relating to tests on aerosol dispensers and non-refillable containers for gases under pressure of Class 2, 10° and 11°;

Appendix A.3: Tests relating to inflammable liquids of Classes 3 and 6.1.;

Appendix A.5: Provisions relating to tests on the metal drums referred to in marginals 2303(6) and 2813(1)(c);

Appendix A.6: Regulations relating to radioactive substances of Class 7;

Appendix A.9: Provisions relating to danger labels, and explanation of the symbols.

Appendixes A.4, A.7, and A.8, are reserved.

(4) For Class 7, the details concerning conditions of packing, mixed packing, labelling and marking of packages as well as provisions governing storage, despatch and carriage, including in bulk in containers and in tanks, are specified in the schedules of Annex A listed in marginal 2702. Some of the detailed and technical provisions affecting this Class are elaborated in Appendix A.6 which also include the complete table of radionuclides and method of testing packagings intended for substances of Class 7.

2004 Where the provisions relating to carriage as a «full load» 2005 are applied the competent authorities may require the vehicle or large container used for the transport operation concerned to be loaded at only one point and unloaded at only one point.

(1) If the vehicle carrying out a transport operation 2006 subject to the provisions of ADR is conveyed over a section of the journey other than by road haulage, then any national or international regulations on the said section, govern the carriage of dangerous goods by the mode transport used for conveying the road vehicle shall alone be applicable to the said section of the journey.

(2) In cases where a transport operation subject to the provision of ADR is likewise subject over the whole or a part of its road journey to the provisions of an international convention which regulates the carriage of dangerous goods by a mode of transport other than road carriage by virtue of clauses extending the applicability of the said convention to certain motor-vehicle services, then the provisions of that international convention shall apply, over the journey in question concurrently with those of ADR which are not incompatible therewith; the other clauses of ADR shall not apply over thw journey in question.

2007 2009 2010 For the purpose of carrying out the trials necessary with a view to amending the provisions of this Annex in order to adapt them to technological and industrial developments, the competent authorities of the Contracting Parties may agree directly among themselves to authorize certain transport operations in their territories by temporary derogation from the provisions of this Annex. The authority which has taken the initiative with respect to the temporary derogation so granted shall notify the competent service of the United Nations Secretariat of the derogation, which service shall bring it to the attention of the Contracting Parties.

2099

2011 Part II

LIST OF SUBSTANCES AND SPECIAL PROVISIONS FOR THE VARIOUS CLASSES

CLASS 1a EXPLOSIVE SUBSTANCES AND ARTICLES

Note: Substances and articles which cannot explode on contact with a flame and which are not more sensitive to shock or friction than dinitrobenzene are not subject to the provisions of Class la

1. List of substances and articles

(1) Among the substance and articles covered by the 2100 heading of Class la, only those listed in marginal 2101 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

(2) In the explosives which are to be accepted for carriage, nitroglycerine may be replaced wholly or in part by:

(a) nitroglycol, or

(b) dinitrodiethyleneglycol, or

(c) nitrated sugar (nitrated saccharose), or

(d) a mixture of the above substances.

1° Highly nitrated nitrocellulose (such as guncotton), 2101 i.e. with a nitrogen content of more than 12.6 per cent, well stabilized and containing in addition:

When the nitrocellulose is not compressed, not less then 25 per cent water or alcohol (methyl, ethyl, normal propyl or isopropyl, butyl, or amyl alcohol or mixtures thereof), including denatured alcohol; or mixtures of water and alcohol;

when the nitrocellulose is compressed, not less than 15 per cent water, or not less than 12 per cent paraffin wax or other similar substances.

See also Appendix A1, marginal 3101.

Note: 1. Nitrocellulose with a nitrogen content not exceeding 12.6 per cent is a substance of Class 4.1 if it complies with the specifications set out in marginal 2401, (a), (b) or (c).

2. Nitrocellulose in the form of nitrocellulose-film was free from gelatine, in reels, sheets or strips, is a substance of Class 4.2 (see marginal 2431, 4°).

2° Cordite paste, non-gelatinized («powder cake»), for use in the making of smokeless powders and containing not more than 70 per cent anhyding substance and not less than 30 per cent water; the anhydrous substance liquid explosives.

3° Gelatinized nitrocellulose powders and gelatinized nitrocellulose powders containing nitroglycerine (nitroglycerine powders):

(a) non-porous and non-dusty;

(b) porous or dusty.

4° Plasticized nitrocellulose containing not less than 12 per cent but less than 18 per cent plasticizing substances (such as butyl phthalate whose nitrocellulose has a nitrogen content not exceeding 12.6 per cent, also in the form of chips.

Note: Plasticized nitrocellulose containing not less than 18 per cent butyl phthalate or a plasticizer at least equal in effect is a substance of Class 4.1 [see marginal 2401 7° (b) and (c)].

See also Appendix A.1, marginal 3102, 1.

5° Non-gelatinized nitrocellulose powders. See also Appendix A.l., marginal 3102.

6° Trinitrotoluene (tolite), also when compressed or cast, trinitrotoluene mixed with aluminium, mixtures termed liquid trinitrotoluene, and trinitroanisole. See also Appendix A.1, marginal 3103.

7° (a) Hexyl (hexanitrodiphenylamine) and picric acid;

(b) pentolites (mixtures of pentaerythritol tetranitrate and trinitrotoluene) and hexolites (mixtures of trimethylene -trinitramine and trinitrotoluene) if their trinitrotoluene content is such that their sensitiveness to shock does not exceed that of tetryl;

(c) phlegmatized penthrite (pentaerythritol tetranitrate) and phlegmatized hexogen (trimethylene-trinitramine), both phlegmatized by incorporation of wax, paraffin wax or other similarly effective sudstances in such quantity

that the sensitiveness of these substances to shock does not exceed that of totryl.

For (a), (b) and (c), see also Appendix A.1, marginal 3103.

Note: Substances of 7° (b) and phlegmatized hexogen of 7° (c) may also contain aluminium.

Explosive organic nitro-compounds:

(a) soluble in water, e.g. trinitroresorcinol:

(b) insoluble in water, e.g. tetryl (trinitrophenylmethyl-nitraminc)

(c) tetryl gaines without metal covering.

For (a) and (b), see also Appendix A.1, marginal 3103.

Note: Except for liquid trinitrotoluene (6°), explosive organic, nitrocompounds in the liquid state are not to be accepted for carriage.

(a) Moist penthrite (pentaerythritol tetranitrate) and moist hexogen (trimethylene- trinitramine) wetted throughout with not less than 20 per cent water in the case of the former and not less than 15 per cent in the case of the latter;

(b) moist pentolites (mixtures of penthrite and trinitrotoluene) and moist hexolites (mixtures of hexogen and trinitrotoluene) whose sensitiveness to shock in the dry state exceeds that of tetryl and which are wetted throughout with not less than 15 per cent water;

(c) moist mixtures of penthritc or of hexogen with wax, paraffin wax or substances similer to wax or paraffin wax, whose sensitiveness to schock in the dry state exceeds that of tetryl and which are wetted throughout with not less than 15 per cent water:

(d) compressed penthrite gaines without metal covering.

For (a), (b) and (c), see also Appendix A.1, marginal 3103.

(a) Benzoyl peroxide:

1. in the dry state or with less than 10 per cent water;

2. with less than 30 per cent phlegmatizer.

Note: 1. Benzoyl peroxide with not less than 10 per cent water or with not less than 30 per cent phlegmatizer is a substance of Class 5.2 [see marginal 2551, 8° (a) and (b)].

2. Benzoyl peroxide with not less than 70 per cent dry and inert solids is not subject to the provisions of ADR.

(b) Cyclohexanone peroxides [1-hydroxy -l'hydroperoxy - dicyclohexyl peroxide and bis - (1-hydroxycyclohexyl) peroxide and mixtures of these two

1. in the dry state or with less than 5 per cent water:

2. with less than 30 per cent phlegmatizer.

Note: 1. Cyclohexanone peroxides and their mixtures with not less than 5 per cent water or with not less than 30 per cent phlegmatizer are substances of Class 5.2 [see marginal 2551 9° (a) and (b)].

2. Cyclohexanone peroxides and their mixtures with not less than 70 per cent dry and inert solids are not subject to the provisions of ADR.

(c) Parachlorobenzoyl peroxide:

1. in the dry state or with less than 10 per cent water;

2. with less than 30 per cent phlegmatizer.

Note: 1. Parachlorobenzoyl peroxide with not less than 10 per cent water or with not less than 30 per cent phlegmatizer is a substance of Class 5.2 [see marginal 2551 17° (a) and (b)].

2. Parachlorobenzoyl peroxide with not less than 70 per cent dry and inert solids is not subject to the provisions of ADR.

11° (a) Black powder (with a basis of potassium nitrate) in corned or meal form;

(b) slow mining powders similar to black powder (composed of sodium nitrate, sulphur and wood charcoal, coal or lignite, or composed of potassium nitrate with or without sodium nitrate, sulphur, coal or lignite).

(c) cartridges of compressed black powder or powder similar to compressed black powder.

Note: The density of the compressed mass must not be less than 1.5.g per 15°.

Class 1a

For (a) and (b), see also Appendix A.1, marginal 3104. 2101

12° (a) Nitrate explosives, in powder form, not covered by 11° or 14° (a) or (c) and consisting essentially of ammonium nitrate or of a mixture of ammonium nitrate and alkali or alkaline-earth nitrates or of a mixture of ammonium nitrate and sodium chloride, or of a mixture of alkali or alkaline-earth nitrates and ammonium chloride, or of a mixture of ammonium nitrate with alkali or alkaline-earth nitrates and of sodium chloride, or of a mixture of ammonium nitrate with alkali or alkaline-earth nitrates and ammonium chloride. They may contain, in addition, combustible substances (such as wood flour, or other vegetable flour or hydrocarbons), sensitizers (for example, fine aluminium powder), aromatic nitro-compounds, nitroglycerine or nitroglycol or a mixture of the two, and inert stabilizing or colouring substances (see also Appendix A.1, marginal 3105).

(b) Explosives not containing inorganic nitrates, in powder form, consisting essentially of a mixture of inert substances (such as alkali chlorides) with nitroglycerine or nitroglycol or a mixture of the two. They may contain, in addition, aromatic nitro-compounds and substances with a phlegmatizing, stabilizing or gelatinizing, or colouring effect. See also Appendix A.1, marginal 3105.

13° Chlorate and perchlorate explosives, i.e. mixtures of chlorates or perchlorates of alkali or alkaline-earth metals with compounds rich in carbon.

See also Appendix A.1, marginal 3106.

14° (a) Dynamites with an inert absorbent, and explosives similar to dynamite with an inert absorbent;

(b) Blasting gelatine consisting of gun-cotton and not more than 93 per cent nitroglycerine, and gelatinized dynamites with a nitroglycerine content not exceeding 85 per cent;

(c) Gelatinous nitrate explosives, consisting essentially of ammonium nitrate or of a mixture of ammonium nitrate with nitrates of alkali or alkaline-earth metals containing not more than 40 per cent gelatinized nitroglycerine or gelatinized nitroglycol or a mixture of the two. They may contain, in addition, nitro-compounds or combustible substances (such as wood flour or another vegetable flour or hydrocarbons) and, in addition, other inert or colouring substances.

For (a), (b) and (c), see also Appendix A.1, marginal 3107.

15° Empty packagings, uncleaned, which have contained dangerous substances of Class 1a.

Class 1a

A. Packages

2. Provisions

1. General conditions of packing

(1) Packagings shall be so closed and leak-proof as to prevent any loss of the contents. The use of metal bands or wirec to consure closure is forbidden unless this procedure is specifically authorized in the special provisions relating to the packing of the substances or article in question. 2102

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Solid substances shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a singl substance or of articles of the same kind», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strenght; in particular, internal stresses must have been suitably relieved. The thickness of the walls must not be less than 2 mm.

(5) Cushioning materials shall be suited to the nature of the contents; in particular, they must be absorbent if

the contents are liquid or might exude liquid.

2. Packing of a single substance or of articles of the same kind

(1) Substances of 1° and 2° shall be packed: 2103

(a) in wooden receptacles or in drums made of impermeable fibreboard: these receptacles and drums shall in addition be fitted with a lining impermeable to the liquids the contain; their closure must be leak-proof or

(b) in impermeable bags (e.g. made of rubber or of a suitable plastics material not readily inflammable) placed in a wooden case or

(c) in iron drums coated inside with zinc or lead or

(d) in receptacles made of tin-plate, zinc sheet or aluminium sheet, which shall be secured by cushioning materials in wooden cases.

(2) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm^2; the presence of these closures or safety devices must not impair the strength of the receptacles nor impair its closure.

(3) Nitrocellulose of 1°, if wetted exclusively with water, may be packed in fibreboard drums; the fibreboard must have undergone a special treatment to render it completely impermeable; the closures of the drums must be water-vapour proof.

(4) A package containing substances of 1° must not weigh more than 120 kg or, if it can be rolled, more than 300 kg; however, where fibreboard drums are used, a packages must not weigh more than 75 kg.

A packages containing substances of 2° must not weigh more than 75 kg.

(1) Substances of 3° (a) and 4° shall be packed: 2104

(a) if they are to be carried as a full load:

1. in drums made of impermeable fibreboard; or

2. in packagings made of wood or of metal other than black sheet-iron;

(b) if they are not to be carried as a full load

1. in boxes made of fibreboard, tin-plate, zinc sheet or aluminium sheet, or of a suitable plastics material not readily inflammable, or in bags made of closely-woven textile or of stout paper of at least two plies or of stout paper lined with aluminium foil or with a suitable plastics material. These packaging shall be placed in wooden cases; or

2. without preliminary packing in boxes or bags:

a. in drums made of impermeable fibreboard or in wooden casks; or

b. in wooden packagings lined with zinc sheet or aluminium sheet or

c. in receptacles made of metal other than black sheet-iron.

(2) If the powder is in tubes, sticks, threads, bands or sheets it may also be enclosed, without preliminary packing in boxes or bags, in wooden cases.

(3) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm^2; the presence of these closures or safety devices must not impair the strength of the receptacle not impair its closure. 2104

(4) The closure of wooden cases may be ensured by means of band or wires made of a suitable metal fastened tightly round them. If the band or wires are made of iron they shall be covered with a material not liable to produce sparks when subjected to impact or friction.

(5) A package must not weigh more than 120 kg; however, where fibreboard drums are used, a package must not weigh more than 75 kg.

(1) Substances of 3° (b) and 5° shall be packed: 2105

(a) if they are to be carried as a full load:

1. in drums made of impermeable fibreboard; or

2. in packagings made of wood or of metal other than black sheet-iron.

(b) if they are not to be carried as a full load:

1. in boxes made of fibreboard, tin-plate or aluminium sheet. A box must not contain more than 1 kg of powder and must be wrapped in paper. These packagings shall be placed in wooden packagings or

2. in bags made of closely-woven textile or of stout paper of at least two plies or of stout paper lined with aluminium foil or with a suitable plastics material. These bags shall be placed in fibreboard drums or in wooden casks or in other wooden packagings lined with zinc sheet or aluminium sheet, or in receptacles made of zinc sheet or aluminium sheet. Receptacles made of zinc sheet or aluminium sheet shall be completely lined with wood or fibreboard.

(2) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm^2; the presence of these closures or safety devices must not impair the strength of the receptacle nor impair its closure.

(3) The closure of wooden cases may be ensured by means of band or wires made of a suitable metal fastened tightly round them. If the bands or wires are made of iron they shall be covered with a material not liable to produce sparks when subjected to impact or friction.

21056z

(4)A package under (1) (a) must not weigh more than 100 kg; however, where fibreboard drums are used, a package must not weigh more than 75 kg. A package under (1) (b) must not weigh more than 75 kg. It must not contain more than 30 kgr of nitrocellulose powder.

(1) Substances of 6° shall be packed in wooden receptacles. Drums made of impermeable fibreboard are likewise to be accepted for solid trinitrotoluene and for trinitroanisole; and iron receptacles for mixtures termed liquid trinitrotoluene.

(2) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm^2; the presence of these closures or safety devices must not impair the strength of the receptacle nor impair its closure.

(3) A package must not weigh more than 120 kg or, if it can be rolled, more than 300 kg; however, where fibreboard drums are used, a package must not weigh more than 75 kg.

(1) Substances of 7° shall be packed: 2107

(a)Substances of 7° (a): in wooden receptacles or in drums made of impermeable fibreboard. Lead and materials containing lead (alloys or compounds) must not be used in the packaging of hexyl (hexanitrodiphenylamine) and picric acid.

Picric acid may also be packed, not more than 500 g per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials or of a suitable plastics material, secured in a wooden case by cushioning material (e.g. corrugated fibreboard). The receptacles shall be closed by means of a stopper, made of cork or rubber or a suitable plastics material, which shall be held in position by an additional device (such as a cap, crown, seal or binding) capable of preventing any loosening of the closure system during carriage;

(b) Substances of 7° (b) and (c): not more than 30 kg per bag, in cloth bags which do not allow the contents to filter through, or in bags made of stout paper or a suitable plastics material, which shall be placed in leak-proof wooden receptacles or in drums made of hardened fibreboard capable of being so closed as to be leak-proof and whose bottoms and lids shall be made of plywood. The lids of cases shall be secured by means of screws and those of drums by means of a collar.

(2) A package containing substances of 7° (a) must not weigh more than 120 kg if it is a wooden receptacle; where fibreboard drums are used, a package must not weigh more than 75 kg. Packages containing picric acid packed in fragile receptacles or in receptacles made of a plastics material must not weigh more than 15 kg. A package containing substances of 7° (b) or (c) must not weigh more than 75 kg; cases which, with their contents, weigh more than 30 kg shall be fitted with means of handling.

(1) Substances and articles of 8° shall be packed: 21081

(a) substances of 8° (a): in receptacles made of steel not liable to rust, or of any other suitable material (which

in particular excludes lead and its alloys). Nitro-compounds shall be uniformly wetted with sufficient water to ensure that they contain not less than 25 per cent water throughout the journey, at every point in the substance. Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm^2! the presence of these closures or safety devices must not impair the strength of the receptacle nor impair its closure. Receptacles, except those made of steel not liable to rust shall be secured by cushioning materials in wooden packagings;

(b) substances of 8° (b): not more than 15 kg per bag, in bags made of cloth or of a suitable plastics material, placed in wooden packagings;

(c) substances of 8° (a) and (b) may also be packed, not more than 500 g per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, secured by cushioning material (e.g. corrugated fibreboard) in a wooden case. A package must not contain more than 5 kg of nitro-compounds. The receptacles shall be closed by means of a stopper, made of cork or rubber or a suitable plastics material, which shall be held in position by an additional device (such as a cap, seal or binding) capable of preventing any loosening of the closure system during carriage;

(d) articles of 8° (c): separately in stout paper and placed, not more than 100 per box, in sheet-metal boxes. Not more than 100 of these boxes shall be packed in a wooden packing case;

(2) A package under paragraph (1) (a) or (b) must not weigh more than 75 kg; it must not contain more than 25 kg of substances of 8° (a) or more than 50 kg of substances of 8° (b). A package under paragraph (1) (c) not weigh more than 15 kg, or a package under paragraph (1) (d) more than 40 kg.

(1) Substances and articles of 9° shall be packed: 2109

(a) substances of 9° (a) to (c):

1. not more than 10 kg per bag, in bags made of cloth or of a suitable plastics material, placed in an impermeable fibreboard box or in a box made of tin-plate or aluminium sheet or zinc sheet; or

2. not more than 10 kg per receptacle, in receptacles made of fibreboard of adequate strenght, impregnated with paraffin wax or rendered impermeable by some other means.

Boxes made of tin-plate or aluminium sheet or zinc sheet and boxes or receptacles of other kinds shall be placed in a wooden case lined with corrugated fibreboard; metal boxes so placed shall be separated from one another by means of a corrugated-fibreboard wrapping. A case may not contain more than four boxes or receptacles of other kinds. The lids of cases shall be secured by means of screws. 2109

b) penthrite [9° (a)] may also be packed either:

1. not more than 5 kg per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, closed by means of a stopper made of cork or rubber or a suitable plastics material; each receptacle shall be placed in a metal receptacle hermetically closed by welding or soldering and cushioned with resilient materiale so as to wedge the inner receptacle securely without leaving any empty space. Not more than 4 metal receptacles shall be packed in a wooden case lined with corrugated fibreboard and shall be separated from one another by several thicknesses of corrugated fibreboard or of another material capable of performing the same function; or

2. not more than 500 g dry weight per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, closed by means of a stopper made of cork or rubber or a suitable plastics material. These receptacles shall be placed in a wooden case. They shall be separated from one another by means of a corrugated fibreboard wrapping and from the sides of the case by a space of not less than 3 cm filled with cushioning materials;

(c) hexogen [9° (a)] may also be packed as provided under (b) 1. above for penthrite;

(d) articles of 9° (d): first separately in stout paper and placed, not more than 3 kg per case, in fibreboard cases in which they shall be fixed in position by cushioning materials; these cases, not more than 10 per wooden case, shall be so secured by cushioning materials in a wooden case closed by means of screws that there is a space of not less than 3 cm filled with cushioning materials at all points between the fibreboard cases and the packing case.

(2) A package under (1) (a) or (1) (b) 1. must not weigh more than 75 kg; a package under 1 (c) must not weigh more than 10 kg; a package under (1) (b) 2. or (1) (d) must not weigh more than 35 kg. Packages which, with their contents, weigh more than 30 kg shall be fitted with means of handling.

(1) Substances of 10° shall be packed, not more than 500 g per bag, in firmly-tied bags made of a suitable pliant material; each bag shall be placed in a box made of metal, fibreboard or paperboard; these boxes, not more than 30 per packing case, shall be secured by cushioning materials in a wooden packing case with complete sides not less than 12 mm thick. 2110

(2) A package must not weigh more than 25 kg.

(1) Substances and articles of 11° shall be packed: 2111

(a) substances of 11° (a) and (b):

1. not more than 2.5 kg per bag, in bags placed in boxes made of fibreboard, tin-plate or aluminium. The boxes shall be secured by cushioning materials in wooden packagings; or

2. in bags made of closely-woven fabric, placed in wooden casks or cases;

(b) articles of 11° (c): rolled in stout paper; each roll must not weigh more than 300 g. The rolls shall be placed in a wooden case lined with stout paper.

(2) The lids of the wooden cases shall be secured by means of screws; if the screws are made of iron they shall be coated with a material not liable to produce sparks when subjected to shock or friction.

(3) A package must not weigh more than 75 kg if it is carried as part of a full load, and not more than 35 kg if it is carried as part of a full load and not more than 35 kg if it is not carried as part of a full load.

(1) Substances of 12° shall be cartridged in wrappings made of a suitable plastic material or of paper. The cartridges may be dipped in paraffin wax, ceresine or resin, or be wrapped in a suitable plastics material, so as to be protected from damp. Explosives containing more than 6 per cent liquid nitric esters shall be cartridged in paper coated with paraffin wax or ceresine or in an impermeable plastics material such as polyethylene. The cartridges shall be placed in wooden packagings. 2112

(2) Cartridges not coated with paraffin wax or ceresine, or cartridges in permeable wrappings, shall be made up into packets weighing not more than 2.5 kg each. Packets so made up, whose wrapping must consist at least of stout paper, shall be dipped in paraffin wax, ceresin or resin or wrapped in a suitable plastics material so as to be protected from damp. The packets shall be placed in wooden packagings.

(3) The closure of wooden packagings may be ensured by means of metal bands or wires fastened tightly round them.

(4) A package must not weigh more than 75 kg. It must not contain more than 50 kg of explosives. 2112

(5) Instead of the wooden packagings prescribed in paragraph (1) and paragraph (2), it is also permissible to use suitable cases, made of solid fibreboard or corrugated fibreboard, which are of sufficient mechanical strength and whose lid flaps and bottom flaps must be closed by means of adhesive strips of sufficient strength. The design of cases made of solid fibreboard or corrugated fibreboard must be approved by the competent authority of the country of departure. Such a package must not weigh more than 30 kg; it must not contain more than 25 kg of explosives.

(1) Substances of 13° shall be cartridged in paper wrappings. Cartridges not coated with paraffin wax or ceresine 2113

shall first be rolled in paper that has been rendered impermeable. They shall be made up by means of a paper wrapping into packets weighing not more than 2.5 kg each, which shall be secured by cushioning materials in wooden packagings whose closure may be ensured by means of metal bands or wires fastened tightyl round them.

(2) A package must not weigh more than 35 kg.

(1) Substances of 14° shall be packed: 2114

(a) substances of 14° (a): cartridged in wrappings made of paper that has been rendered impermeable. The cartridges shall be made up into packets by means of a paper wrapping or, if without a paper wrapping, secured by cushioning materials in fibreboard cases. The packets or fibreboard cases shall be secured by inert cushioning materials in wooden packagings whose closure may be ensured by means of metal bands or wires fastened tightly round them;

(b) substances of 14° (b): cartridged in wrappings made of paper that has been rendered impermeable. The cartridges shall be placed in a fibreboard box. The fibreboard boxes, wrapped in paper that has been rendered impermeable, shall be secured, leaving no empty spaces, in wooden packaging whose closure may be ensured by means of metal bands or wires fastened tightly round them;

(c) substances of 14° (c):

1. cartridged in wrappings made of suitable plastics material or of paper. The cartridges may be dipped in paraffin wax, ceresine or resin or be wrapped in a suitable plastics material, so as to be protected from damp. Explosives containing more than 6 per cent liquid nitric esters shall be cartridged in paper coated with paraffin wax or ceresine or in an impermeable plastics material such as polyethylene. The cartridges shall be placed in wooden packagings;

2. cartridges not coated with paraffin wax or ceresine, or cartridges in permeable wrappings, shall be made up into packets weight more than 2.5 kg each. Packets so made up, whose wrapping may consist at least of stout paper, shall be dipped in paraffin ceresine or resin or be wrapped in a suitable plastics material so as to be protected from damp. The packets shall be placed in wooden packagings; 2114

3. the closure of wooden packagings may be ensured by means of metal bands or wires fastened tightly round them;

4. instead of the wooden packagings prescribed under 1. and 2. it is also permissible to use suitable cases, made of solid fibreboard or corrugated fibreboard, which are of sufficient mechanical strength and whose lid flaps and bottom flaps must be closed by means of adhesive strips of sufficient strength. The design of cases made of solid fibreboard or corrugated fibreboard must be approved by the competent authority of the country departure.

(2) A package containing substances of 14° (a) or (b) must weigh more than 35 kg. A package containing substances of 14° (c) must not weigh more than 75 kgr; it must not contain more than 50 kg of explosives; in the case of a packing conforming to paragraph 1 (c) 4. package must not weigh more than 30 kg nor contain more than 25 kg of explosives.

3. Mixed packing

Substances listed under an item number of marginal 2101 may be included in the same package either with substances grouped under the same or another item number of that marginal, or with substances or any of other Classes, or with other goods. 2115

Note: Packages as referred to in marginal 2108 (1) (c) may contain organic nitro-compounds having different compositions and names.

4. Marking and danger labels on packages (see Appendix A.9)

Packages containing picric acid (7° (a)] shall be marked with name of the substance in clearly legible and indelible red characters marking shall be in an official language of the country of departure and also, if that language is not English, or French or German in English, French or German, unless international road transport tariffs, if any agreements concluded between the countries concerned in the transport operation, provide otherwise. 2116

(1) Packages containing substances and articles of Class Ia shall bear a label conforming to model No. 1. 2117

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

2118

B. Particulars in the transport document

The description of the goods in the transport document must conform to one of the names underlined in marginal 2101. Where the name of the substance is not indicated in the case of 8° (a) and (b), the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials "ADR" or "RID" [e.g. 1a 3° (a) ADR]. 2119

(2) The following must be certified in the transport document: "The nature of the goods, and the packaging, are in conformity with the provisions of ADR".

(3) For consignments which, under marginal 11 400 of Annex B, are to be accepted for carriage as a full load only, the transport document shall also show the weight of each package and the number and nature of the packagings.

2120
-2125

C. Empty packagings

(1) Packagings of 15° must be securely closed and be leak-proof in the same degree as though they were full. 2126

(2) The description in the transport document must be: "Empty packaging, 1a, 15°, ADR (or RID)". This description must be underlined in red.

2127
-2129

CLASS 1b. ARTICLES FILLED WITH EXPLOSIVE SUBSTANCES

1. List of articles

(1) Among the articles covered by the heading of Class 1b, only those listed in marginal 2131 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These articles to be accepted for carriage under certain conditions are to be considered as articles of ADR. 2130

(2) If the articles listed under 7°, 10° or 11° of marginal 2131 are composed of, or filled with, explosive substances listed in marginal 2101 those substances must satisfy the stability and safety conditions laid down concerning them in Appendix A.1.

1° Fuses, not primed: 2131

(a) rapid combustion fuses (fuses consisting of a thick tube with a core of black powder, or with a core of threads impregnated with black powder, or with a core of nitrated cotton threads);

(b) detonating fuses in the form of small-section metal tubes with thin walls and a core filled with an explosive substance; see also Appendix A.1, marginal 3108;

(c) flexible detonating fuses wrapped in textile or a plastics material, of small section and with a core filled with an explosive substance; see also Appendix A.1, marginal 3109;

(d) instantaneous detonating fuses (small-section woven fuses with a core filled with an explosive substance more dangerous than penthrite).

For other fuses, see Class 1c, 3° (marginal 2171).

2° Non-detonating primers (primers which do not produce a disruptive effect either with the aid of detonators or by other means):

(a) percussion caps;

(b) 1. primed cases of central-percussion cartridges, not filled with propellent powder, for firearms of all calibres;

2. primed cases of rim-fire cartridges, not filled with propellent powder, for Flobert weapons and firearms of similar calibres;

(c) quick-matches, screw-primers and other similar primers containing a small charge (black powder or other explosives), set in action by friction, percussion or electricity;

(d) fuses without any device, e.g. detonator, producing a dispruptive effect and without a transmission charge.

3° Railway for signals

4° Small-arms cartridges [with the exception of those containing a bursting charge (see under 11°)]:

(a) sporting cartridges;

(b) Flobert cartridges;

(c) tracer cartridges;

(d) incendiary cartridges;

(e) other central-percussion cartridges.

Note: Apart from sporting cartridges with lead pellets, only cartridges whose calibre does not exceed 13.2 mm are to be considered as articles of 4°.

5° Detonating fuses:

(a) detonators with or without a delayed-action device: delayed-action connecting pieces for detonating fuses;

(b) electric detonators fitted with fuses with or without a delayed-action device;

(c) detonators connected firmly to a black-powder fuse;

(d) detonators with gaines (detonators combined with a transmission charge composed of a compressed explosive); see also Appendix A.1, marginal 3110;

(e) fuses with detonators (fused detonators) with or without a transmission charge;

(f) detonators with percussion cap ("bouchons allumeurs") with or without a delayed-action device, with or without a mechanical device for firing, and without a transmission charge.

6° Sounding caps (detonators, with or without primers, contained in sheet-metal tubes).

7° Articles with a propellent charge, other than those listed under 8°; articles with a bursting charge; articles with a propellent and a bursting charge, provided that they contain only explosive substances of Class 1a all without a device producing a disruptive effect (e.g. detonator). The charge in these articles may comprise a tracer substance (see also under 8° and 11°).

Note: Non-detonating primers (2°) are allowed in these articles.

8° Articles filled with tracer substances or substances intended for signalling, with or without a propellent charge, with or without an ejection charge, and without a bursting charge, in which the propellent or tracer substance is compressed in such a way that the articles cannot explode when ignited.

9° Smoke-producing devices containing chlorates or carrying an explosive charge or an explosive ignition charge.

For smoke-producing substances for agricultural and forestry purposes, see Class 1c marginal 2171 27°.

10° Boring devices containing a charge of dynamite or of an explosive similar to dynamite, without fuses and without any device producing a disruptive effect (e.g. detonator), hollow-charge devices for industrial purposes, containing not more than 1 kg of explosive secured within the casing, and without a detonator.

11° Articles with a bursting charge, articles with a propellent and a bursting charge, all fitted with a device producing a disruptive effect (e.g. detonator), the whole well secured. The weight of each article must not exceed 25 kg.

2. Provisions

A. Packages.

1. General conditions of packing 2132

(1) Packagings shall be so closed and leak-proof as to prevent any loss of the contents. The use of metal bands or wires fastened round the packages to ensure their closure is allowed; their use is compulsory with cases having hinged lids if the lids are not fitted with an effective device to obviate any loosening of the closure.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Articles shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled "Packing of articles of the same kind", inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Cushioning materials shall be suited to the nature of the contents.

2. Packing of articles of the same kind

Articles of 1° shall be packed as follows: 2133

(a) articles of 1°(a) and (b): in wooden packagings or in drums made of impermeable fibreboard. A package drums must not weigh more than 120 kg; however, a fidreboard dru must not weigh more than 75 kg;

(b) articles of 1°(c): rolled in lengths of up to 250 m on reels made of wood or fibreboard. The reels shall be placed in wooden cases in such a manner that they cannot come into contact either with one another or with the sides of the cases. A case must not contain more than 1,000 m of fuse;

(c) articles of 1°(d): rolled in lengths of up to 125 m on reels made of wood or fibreboard which shall be packed in a wooden case, closed by means of screws and with sides not less than 18 mm thick, in such a manner that the reels cannot come into contact either with one another or with the sides of the case. A case must not contain more than 1,000 m of instantaneous detonating fuse.

(1) Articles of 2° shall be packed as follows: 2134

(a) articles of 2°(a): caps with an uncovered explosive charge, not more than 500 per box or small case, and caps with a covered explosive charge, not more than 5,000 per box or small case, in sheet-metal boxes, fibreboard boxes or small wooden cases. These packagings shall be placed in a packing case made of wood or sheet-metal;

(b) articles of 2°(b)1: primed cases of central-percussion cartridges, not filled with propellent powder, for firearms of all calibres, for cases made of wood or fibreboard or in textile bags;

(c) articles of 2°(b)2: primed cases of rim-fire cartridges, not filled with propellent powder, for Flobert weapons and firearms of similar calibres, not more than 5,000 per box, in boxes made of sheet-metal or fibreboard which shall be placed in a packing case made of wood or sheet-metal; however, these primed cases for rim-fire cartridges may also be packed, not more than 25,000 per bag, in a bag which must be secured by means of corrugated fibreboard in a packing case made of wood or iron;

(d) articles of 2°(c) and (d): in boxes made of figreboard, wood or sheet-metal which shall be placed in packagings made of wood or metal.

(2) A package containing articles of 2°(a), (c) or (d) must not weigh more than 100 kg.

(1) Articles of 3° shall be packed in cases made of boards not less than 18 mm thick, tongued and grooved and assembled by means of wood screws. Fog signals shall be secured in cases by cushioning materials in such a manner that they cannot come into contact either with one another or with the sides of the case. 2135

(2) A package must not weight more than 50 kg.

(1) Articles of 4°(a), (b) and (e) shall be placed tightly in firmly-closing boxes made of sheet-metal, wood or fibreboard; these boxes shall be housed, leaving no empty spaces, in packing cases made of metal, wood, hardboard, solid fibreboard or corrugated fibreboard; the fibreboard must have been rendered impermeable by impregnation and be of sufficient mechanical strength. 2136

Fibreboard cases shall be closed by means of adhesive strips of sufficient strength. The production model of cases

made of solid fibreboard or corrugated fibreboard must be approved by the competent authority of the country of departure.

(2) Articles of 4°(c) and (d) shall be placed, not more than 400 per box, in boxes made of sheet-metal, wood or fibreboard; these boxes shall be packed securely in packing cases made of metal or wood.

(3) A package must not weigh more than 100 kg; however, where hardboard or fibreboard cases are used, a package containing articles of 4(a), (b) or (e) must not weigh more than 40 kg.

(1) Articles of 5° shall be packed as follows: 2137

(a) articles of 5°(a): not more than 100 per receptacle in the case of detonators and not more than 50 per receptacle in the case of connecting pieces, in receptacles, made of sheet-metal or impermeable fibreboard, in which they shall be well protected against ignition and secured by cushioning materials. Sheet-metal receptacles shall be lined with a resilient material. The lids shall be secured all round by adhesive strips. Receptacles shall, not more than 5 per packet or box in the case of detonators and not more than 10 per packet or box in the case of connecting pieces, be enclosed in a packet or placed in a fibreboard box. The packets or boxes shall be packed in a wooden case closed by means of screws and with sides not less than 18 mm thick, or in a sheet-metal packaging, the case or packaging being secured by cushioning materials i a packing case with sides not less than 18 mm thick in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the wooden case or sheet-metal packaging and the packing case;

(b) articles of 5°(b): not more than 100 per packet, in packets with alternate detonators lying towards opposite ends of the packet. Not more than 10 of these packets shall be tied together to form a collective packet. Not more than 5 of these collective packets shall be secured by cushioning materials in a wooden packing case with side not less than 18 mm thick, or in a sheet-metal packaging, in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the collective packets and the packing case or sheet-metal packaging;

(c) articles of 5°(c): fuses fitted with detonators, rolled into coils! not more than 10 coils shall be made into a roll which shall be wrapped in paper. Not more than 10 rolls shall be secured by cushioning materials in a small wooden case closed by means of screws and with sides not less than 12 mm thick. Not more than 10 small cases shall be secured by cushioning materials in a packing case with sides not less than 18 mm thick in such a manner that there is a span of not less than 3 cm filled with cushioning materials at all points between the small cases and the packing case; (d) articles of 5°(d):

1. not more than 100 detonators per case, in wooden cases with sides not less than 18 mm thick, in such a manner that the detonators are spaced not less than 1 cm from one another and from the sides of the case. The said sides shall be mortised and the bottom and lid shall be secured by screws. If the case and the bottom and lid shall be secured by screws. If the case is lined with zinc sheet or aluminium sheet, a side thickness of 16 mm is sufficient. The case shall be secured by cushioning materials in a packing case with sides not less than 18 mm thick in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between it and the packing case; or

2. not more than 5 detonators per box, in sheet-metal boxes, the detonators being placed there in slatted wooden frames or in holed pieces of wood. The lid shall be secured all round by adhesive strips. Not more than 20 sheet-metal boxes shall be placed in a packing case with sides not less than 18 mm thick;

(e) articles of 5°(e): not more than 50 per case, in wooden cases with sides not less than 18 mm thick. The articles shall be secured within the cases by a wooden structure in such a manner that they are spaced not less than 1 cm from one another and from the sides of the case. The sides of the case shall be mortised and the bottom and lid shall be secured by screws. Not more than 6 cases shall be secured by cushioning materials in a packing case with sides not less than 18 mm thick in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the cases and the packing case. The space may be reduced to not less than 1 cm if it is filled with porous wood-fibre slabs. If the articles are individually packed and firmly secured in hermetically-closing boxes made of sheet-metal or a plastics material, they may be placed in a wooden packing case with sides not less than 18 mm thick. The articles must be separated from one another and firmly secured by fibreboard or by wood-fibre slabs;

(f) articles of 5°(f):

1. not more than 50 per case, in wooden or metal cases; in these cases each detonating part of the "bouchon allumeur" shall be so accommodated in a slotted wooden support that the distance between adjacent detonators and between the detonators of the outermost "bouchons allumeurs" and the side of the case is not less than 2 cm; closing the lid of the case shall ensure complete immobility of the whole; not more than 3 cases shall be placed, leaving no empty spaces, in a wooden packing case with sides not less than 18 mm thick; or

2. in boxes made of wood or metal; in these boxes each "bouchon allumeur" shall be so supported by a frame that the distance between two "bouchon allumeurs" and between a "bouchon allumeur" and the side of the box is not less than 2 cm and that the immobility of the whole is ensured; these boxes shall be placed in a packing case with sides not less than 18 cm thick in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the boxes and between the boxes and the packing case; a package must not contain more than 150 "bouchons allumeurs".

(2) The lid of the packing case small be closed by means of screws or of hinges and folding bars.

(3) Each package containing articles of 5° shall be provided with a closure protected either by lead or other seals (stamp or mark) applied to two screw-heads at the ends of the major axis of the lid or the folding bars, or by a strip, bearing the trade mark, gummed on to the lid and on two opposite sides of the case.

(4) A package must not weigh more than 75 kg; packages weigh more than 30 kg shall be fitted with means of handling.

(1) Articles of 6° shall be rolled separately in paper and placed in corrugated fibreboard wrappings. They shall be packed, not more than 25 per box, in boxes made of fibreboard or sheet-metal. The lids shall be secured all round by adhesive strips. Not more than 20 boxes shall be placed in a wooden packing case. 2138

(2) A package must not weigh more than 50 kg. Packages weigh more than 30 kg shall be fitted with means of handling.

(1) Articles of 7° shall be packed in wooden cases closed by means of screws or of hinges and folding and with sides not less than 16 mm thick, or in receptacles made of metal or a suitable plastics material of adequate strength. The lids and bottoms of the wooden cases may also be made of highly-compressed paperboard equalling the sides in strength. Articles weighing more than 20 kg may also be despatched in crates or without packing. 2139

(2) A package must not weigh more than 100 kg if it contains articles each of which weighs not more than 1 kg. Cases which, with the contents, weigh more than 30 kg shall be fitted with means of handling.

(1) Articles of 8° shall be packed in wooden cases, in drums made of fibreboard which has been rendered impermeable, or in receptacles made of metal or of a suitable plastics material of adequate strength. The ignition head shall be protected in such a manner as to prevent any scattering of the charge from the article. 2140

(2) A package must not weigh more than 100 kg; however, when fibreboard drums are used a package shall not

weigh more than 75 kg. Cases which, with their contents, weigh more than 30 kg shall be fitted with means of handling.

Articles of 9° shall be enclosed in wooden packagings. 2141
A package must not weigh more than 75 kg; packages weighing more than 30 kg shall be fitted with means of handling.

Articles of 10° shall de packed in wooden cases. Packages weighing more than 30 kg shall be fitted with means of handling.

Articles of 11° shall be packed as follows: 2143

(a) articles less than 13.2 mm in diameter: not more than 25 per box, packed tightly in firmly – closing fibreboard boxes or in receptacles made of a sutitable plastics material of adequate strength; these boxes or receptacles shall be placed, leaving no empty spaces, in a wooden case, with sides not less than 18 mm thick, which may be lined with tin – plate, zinc or aluminium sheet, or a suitable plastics or simiral material of adequate strength.

A package must not weigh more than 60 kg. Packages weighing more than 30 kg shall be fitted with means of handling.

(b) articles from 13.2. mm to 57 mm in diameter:

1. separately

in a tube made of fibreboard or of a suitable plastics material, strong, close – fitting and closing firmly at both ends; or

in a tube made of fibreboard or of a suitable plastics material, strong, close – fitting, closed at one end and open at the other; or

in a tube made of fibreboard or of a suitable plastics material, open at both ends but with an inner projection or other suitable internal device to prevent the article from moving.

Packed in this manner, not more than:

300 articles not less than 13.2. mm and not more than 21 mm in diameter; or

60 articles more than 21 mm but not more than 37 mm in diameter; or

25 articles more than 37 mm but not more than 57 mm in diameter shall be placed in layers in a wooden case with sides not less than 18 mm thick, the wooden case being lined with tin – plate, zinc sheet, or aluminium sheet:

In the case of articles packed in tubes open at both ends or at one end, the packing case shall be lined on the side or sides adjacent to the open ends of the tubes either with a felt pad not less than 7 mm thick or with a sheet of the same thickness of double – faced corrugated fibreboard or similar material.

A package must not weigh more than 100 kg. Packages weighing more than 30 kg shall be fited with means of handling;

2. articles 20 mm in diameter may also be packed, not more than 10 per box, in strong, closely – fitting fibreboard boxes coated with paraffin wax and equipped with a honey – combed bottom insert and with partitions made of fibreboard coated with paraffin wax. The boxes shall be closed by a gummed flap. Not more than 30 boxes shall be tightly packed in a wooden case being with sides not less than 18 mm thick, the wooden case being lined with zinc sheet, tin – plate or aluminium sheet.

A package must not weigh more than 100 kg. Packages weighing more than 30 kg shall be fited with means of handling;

3. articles not more than 30 mm in diameter may, in a number not exceeding that indicated under 1., also be put on to strips and packed in a stong steel receptacle. This receptacle may be cylindrical.

These articles put on to strips shall be surrounded by a suitable device so as to constitute a compact unit and as to prevent individual articles from becoming detached. One or more units shall be so fixed in the receptacle that they cannot be displaced.

The ends of articles put on to strips shall rest on shock – absorbing non – metallic supports.

The lid of the receptacle must be so closed as to be leak – proof and be so secured by a locking device capable of being sealed that the articles cannot fall out.

A pagkage must not weigh more than 100 kg. Packages weighing more than 30 kg shall be fitted with means of handling. Receptacles capable of being rolled shall have their lids fitted with a strong handle enabling them to be carried;

4. articles not less than 30 mm and not more than 57 mm in diameter may also be packed separately in a strong, closely – fitting, hermetically – closed cylindrixal box made of fibreboard, fibre or a sutitable plastics material. Not more than 40 of these boxes shall be placed in layers in a wooden case with sides not less than 18 mm thick.

A package must not weigh more than 100 kg. Packages weighing more than 30 kg shall be fitted with means of handling.

(c) Other articles of 11°: in conformity with the provisions of marginal 2139 (1. A package must not weigh more than 100 Kg. Packages weighing more than 30 kg shall be fitted with means of handling.

Note: In the case of articles containing both propellent and bursting charges, the diameter referred to is that of the cylindrical portion containing the bustring charge.

3. Mixed packing.

(1)Articles listed under an item number of marginal 2131 may not be included in the same package either with articles of a different kind but of the same item number, or with articles of another item number of than marginal, or with substances or articles belonging to other Classes, or with other goods. 2144

(2) The following may, however, be included in the same pagkage:

(a) articles of 1° with one another.

When articles of 1°(a) and (b) are included in the same package, they shall be packed in conformity with marginal 2133 (a).

When articles of 1°(c) are included in the same package with articles of 1°(a) or (b) or both, those of 1°(c) shall be made up into packages in conformity with the provisions applicable to them and the outer packaging shall be that prescribed for articles of 1°(a) or (b). A package must not weigh more than 120 kg;

(b) articles of 2°(a) with those of 2°(b), provided that both are contained in inner packagings consisting of boxes placed in wooden cases. A package must not weigh more than 100 Kg;

(c) articles of 4owith one another, taking into account the provisions for inner packaging, in a wooden outer packaging. A package must not weigh more than 100 kg;

(d) articles of 7° with those of 5°(a) (d), (e) and (f), on condition that the packaging of these latter prevents the transmission of a possible detonation to the articles of 7°. In one package the number og articles of 5°(a), (d), (e), and (f) must be the same as that of the articles of 7°. A package must not weigh more than 100 kg.

4. Marking and danger labels on packages (see Appendix A.9)

Packaging containing articles of Class ib shall bear a label conforming to model No 1. However, packages, containing articles of 1°(d), 5° and 6° shall bear two labels conforming to model No. 1. 2145

2146

B. Particulars in the transport document

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2131; it must be underlined in red and followed by particulars of the Class, the item number together with the letter, if any), and the initials «ADR» or «RID» (e.g. 1b 2°(a) ADR. 2147

(2) The following must be certified in the transport document:

«The nature of the goods, and the packaging, are in conformity with the provisions of ADR. 2148–2162

C. Empty packaging 2163

No provisions. 2164–2169

CLASS 1c IGNITERS, FIREWORKS AND SIMILAR GOODS

1. List of goods

(1) Among the substances and articles covered by the heading of Class 1c, only those listed in marginal 2171 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

(2) Articles to be accepted must fulfil the following conditions:

(a) The explosive charge shall be constituted, arranged and distributed in such a manner that neither friction, shaking, shock nor ignition of the packed articles can lead to an exlposion of the whole contents of the package;

(b) white or yellow phosphorus may not be used except in articles of 2° and 20°;

(c) the detonating compound of fireworks (21°– 24°), flash – powders (26°), and the smoke – producing compounds of pesticides (27°), must not contain chlorates;

(d) the explosive charge must satisfy the stability conditions of Appendix A.I., Marginal 3111.

4. Ignitens: 2171

1°.(a) Safety matches (with a potassium chlorate and sulphur base);

(b) Matches with a base of potassium chlorate and of phosphorus sesquisulphide, also friction igniters.

2°. Strips of amorces for safety lamps and strips of paraffin – waxed amorces for safety lamps. 1,000 amorces must not contain more than 7.5 explosive.

For strips of caps, see under 15°

3°. Slow – combustion fuses (fuses consisting of a thin impermeable tube with a narrow – section core of black powder).

For other fuses, see Class 1b, 1°(Marginal 2131).

4°. Pyroxlin thread (nitrated cotton thread). See also Appendix A.1, marginal 3101.

5°.Tubular igniters («lances d' allumage» (tubes, made of paper or fibreboard, containing a small quantity of a fuse composition of oxygenated substances and organic substances and, possibly, of nitrated aromatic compounds) and thermite caps with pellet igniter.

6°.Safety igniters for fuses (paper cartridges containing a primer by thread intended to cause friction or tearing, or similar devices).

7°.(a) Electic primers without detonator;

(b) pellets for electric primers.

8°. Electric igniters (e.g. igniters intended for igniting photograph magnesium powders). The charge of each must not exceed 30 mg nor contain more than 10 per cent fulminate of mercury.

Note: Appliances of the electric bulb type producing a sudden light and containing an ignition charge similar to that of electric igniter are not subject to the provisions of ADR.

B. Pyrotechnic articles and toys: caps and (strips) of caps; detonating articles:

9°. Indoor pyrotechnic articles (e. g. Boscocylinders, confetti bombs cotillon fruits). Articles with a nitrated – cotton (collodion – cotton) base must not contain more than 1 g per article.

10°.Fulminating bonbons, flower crackers, strips of nitrated paper (collodion paper).

11°.(a) Fulminating peas, fulminating grenades and other similar pyrotechnic toys containing fulminate of silver;

(b) fulminating matches;

(c) accessories with fulminate of silver.

Ad (a) (b) and (c): 1,000 articles must not contain more than 2.5 g fulminate of silver.

12°. Detonating pebbles, each carrying on the outside a charge of no more than 3 g of an explosive other than fulminate.

13°. Pyrotechnic matches (e.g. Bengal matches, golden – rain matches cascade – of – flowers matches).

14°. Miracle candles without ignition heads.

15°. Caps for children's toys, strips (strings) of caps and rings of caps. 1.000 caps must not contain more than 7.5. g of an explosive free from fulminate.

For strips of caps for safety lamps, see under 2°.

16°. Explosive corks with an explosive charge having a phosphorus and chlorate base or with a charge of fulminate or a similar compound compressed into cardboard cartridges. 1,000 corks must not contain more than 60g chlorate explosive nor more than 10g of fulminate of a compound with a fulminate bace.

17°. Round petards with an explosive charge having a phosrhorus and clorate base. 1,000 petards must not contain more than 45g explosive.

18°. Cardboard caps (toy ammunition) with an explosive charge having a phosphorus and chlorate bace or with a charge of fulminate or a similar compound. 1,000 caps must not contain more than 25 g explosive.

19°. Cardboard caps exploding under foot, with a protected charge having a phosphorus and chlorate base. 1,000 caps must not contain more than 30 g explosive.

20°. (a) Detomating sheets;

(b) Martinikas (so called Spanish fireworks).

Both comprise a mixture of white (yellow) and red phosphorus with potassium chlorate and not less than 50 per cent inert substances not taking part in the decomposition of the mixture of phosphorus and chlorate. A sheet must not weigh more tan 2.5. g and a martinika not more than 0.1 g.

C. Fireworks

21°. Anti – hail rockets not fitted with a detonator, bombs and firepots. The charge, including the propellent charge, must not weigh more than 14 kg per article, the bomb or firepot not more than 18 kg in all.

22°. Incediary bombs, rockets, Roman candles, fountains, wheels and similar fireworks, with a charge not weighing more than 1,200 g per article.

23°. Cannon shots each containing not more than 600 g granulated black powder or 220 g of an explosive not more dangerous than aluminium powder with potassium perchlorate, rifle shots (crackers) each containing not more than 20 g granulated black powder, all provided with fuses with covered ends; and similar articles for producing a loud detonation.

For railway fog – signals, see Class 1b, 3o(Marginal 2131).

24°. Small fireworks (e.g. jumping – crackers, serpents, golden rain, silver rain, if they contain not more than 1,000 g granulated black powder per 144 articles; volcanoes and hand comets, if they contain not more than 30 g each of granulated black powder).

25°. Bengal fires without ignition heads (e.g. Bengal torches, lights, flames).

26°. Magnesium flash – powders, not more than 5 g per bag or tube, in paper bags or in small glass tubes.

D. Pesticides (substances and articles):

27°. Smoke producing substances for agricultural and forestry purposes and smoke – producing cartridges for use as pesticides.

For smoke – producing devices containing chlorates or carrying an explosive charge or an explosive ignition charge, see Class 1b (Marginal 2131).

2. Provisions

A. Packages

1. General conditions of packing 2172

(1) Packings shall be so closed and leak – proof as to prevent any loss of the contents.

(2) Packagings, including their closures, must be sufficient rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requiremets of carriage. Articles shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance or of articles of the same kind», inner packagings may be enclosed in outer packagings, either singly or in groups.

(3) Cushioning materials shall be suited to the nature of the contents.

2. Packing of a single substance or of articles of the same kind

(1) Articles of 1°(à) shall be packed in boxes or in books. These boxes or books shall be wrapped in stout paper to form a collective packet all the folds of which shall be glued. The books may also be placed in boxes made of thin fibreboard or of a material not readily inflammable (e.g. cellulose acetate). The fibreboard boxes or the collective packets shall be placed in a strong case made of wood, metal, compressed – wood hardboard, strong solid fibreboard or double – faced corrugated fibreboard.

All joints of metal cases shall be secured by soft soldering or double – seaming.

Fibreboard cases shall be closed by means of joined flaps. The edges of the outer flaps, and all joints, must be either flued or firmly closed by some other suitable means.

If the fibreboard boxes or collective packets are packed in fibreboard cases, the weight of a package may not exceed 20 kg.

(2) Articles of 1° (b) shall be so packed in boxes as to prevent any movement. Not more than 12 of these boxes shall be enclosed in a packet all the folds of which shall be glued.

Not more than 12 of these packets shall be wrapped in stout paper to form a collective packet all the folds of which shall be glued. The collective packets shall be placed in a strong case made of wood, metal, compressed - wood hardboard, strong solid fibreboard or double - faced corrugated fibreboard.

All joints of metal cases shall be secured by soft soldering or double - seaming.

Fibreboard cases shall be closed by means of joined flaps. The edges of the outer flaps, and all joints, must be either glued or firmly closed by some other suitable means.

If the collective packets are packed in fibreboard cases, the weight of package must not exceed 20 Kg.

(1) Articles of 2° shall be packed in boxes made of sheet – metal or fibreboard. Not more than 30 sheet – metal or 144 fibreboard boxes shall be enclosed in a packets which must not contain more than 90 g exlosive. These packets shall be placed in a packing case, with well–jointed sides not less than 18 mm thick, lined with stout paper or with thin zinc or aluminium sheet or with a sheet of a plastics material not readily inflammable. A side thickness of 11 mm is sufficient for a package weighing not more than 35 kg if the case is encircled with an iron band.

(2) A package must not weigh more than 100 kg.

(1) Articles of 3° shall be packed in wooden cases lined with stout paper or thin zinc or aluminium sheet, or in drums of impermeable fibreboard.

Small consignments weighing not more than 20 kg, wrapped in corrugated fibreboard, may also be made up into packets in stout two ply packing paper securely tied with string.

(2) Where fibreboard drums are used, a package must not weigh more than 75 kg.

(1) Pyroxylin thread (4°) shall be rolled, in lengths not exceeding 30 m per strip, on fibreboard strips. Each roll shall be wrapped in paper. Not more than 10 of these rolls shall be wrapped in packing paper to form packets which shall be secured by cushioning materials in small wooden cases. The cases shall be placed in a wooden packing case.

(2) A package must not contain more than 6,000 m of pyroxylin thread.

(1)Articles of 5° shall be packed, not more than 25 per box, in boxes made of tin–plate or fibreboard; however, thermite caps may be packed, not more than 100 per box, in fibreboard boxes. Not more than 40 of these boxes shall be secured by cushioning materials in a wooden case in such a manner that they cannot come into contact either with one another or with the sides of the case.

2173 (2) A package must not weigh more than 100 kg.

(1) Articles of 6° - 8° s hall be pached.

(a) articles of 6°: in wooden cases; 2178

(b)articles of 7° (a): in wooden cases or in wooden casks or in drums made of impermeable fibreaboard;

(c) articles of 7° (b): not more than 1,000 per box, secured by sawdust cushioning in fibreboard boxes divided into not less than three compartmets each containing approximately the same number of articles and separated by by interposed fibreboard sheets. The lids of boxes shall be secured by gummerd strips applied all roud. Not more than 100 of these fibreboard boxes shall be placed in a perforated sheet – iron receptacle. This receptacle shall be secured by cushioning materials in a wooden packing case closed by means of screws and with sides not less than 18 mm thick, in such a manner that there is a space of not less than 3 cm filled with cushioning materials at all points between the sheet – iron receptacle and the packing case;

(d) articles of 8°: in fibreboard boxes. The boxes shall be made up into a packet containing not more than 1,000 electric igniters. The packet shall be placed in a wooden packing case.

(2) In the case of fibreboard drums, a package containing articles of 7° (a) must not weigh more than 75 kg. A package containing articles of 7° (b) must not weigh more than 50 kg; if it weighs more than 30 kg it shall be fitted with means of handling.

(1) Articles of 9° – 26° shall be enclosed (inner packa- 2179
ging):

(a) articles of 9° and 10°: in paper packagings or in boxes;

(b) articles of 11° (a): not more than 500 per fibredoard box or per small wooden case, secured by sawdust cushioning:

1. in fibreboard boxes which shall be wrapped in paper; or

2. in small wooden cases;

(c) articles of 11° (b): not more than 10 per book,in books; not more than 100 books together shall be packed 2174
in a fibreboard box; or wrapped in stout paper;

(e) articles of 12°: not more than 25 per box, in fibreboard boxes;

(f) articles of 13°: in boxes wrapped in paper to form packets each containing not more than 12 boxes;

(g) articles of 14°: in boxes or in bags made of paper or of a suitable plastics material. These packagings shall be wrapped in paper to form packets each containing not more than 144 of these articles;

(h) articles of 15°: in fibreboard boxes each containing:
not more than 100 caps each charged with not more than
2175 5 mg explosive; or not more tan 50 caps each charged with not more than 7.5. mg explosive.

Not more than 12 of these boxes shall be made up in paper into a roll and not more than 12 of these rolls shall be wrapped in packing paper to form a packet.

Strips (strings) of 50 caps, each cap being charged with not more than 5 mg explosive, may be packed in the following manner

5 strips (strings) per box, in fibreboard boxes wrapped 6
2176 together in paper equivalent in strength to Kraftspaper of a minimum weigth of 40 mg/m²; 12 small packets so made up shall be wrapped together in paper of the same quality to form a large packet;

(i) articles of 16°: secured by cushioning materials, not more than 50 per box, in fibreboard boxes. The corks shall be glued to the bottom of the boxes or fixed in position there by some equivalent method. Each box shall be wrapped in paper and not more than 10 of these boxes
2177 shall be wrapped in packing paper to form a package;

(k) articles of 17°: not more than 5 per box, in fibreboard boxes. Not more than 200 boxes, arranged in rolls, shall be placed together in a collective fibreboard box;

(l) articles of 18°: secured by cushioning materials, not

more than 10 per box, in fibreboard boxes. Not more than 100 boxes, arranged in rolls, shall be wrapped in paper to form a packet;

(m) articles of 19°: secured by cushioning materials, not more than 15 per box, in fibreboard boxes. Not more than 144 boxes, arranged in rolls, shall be packed in a second fibreboard box;

(n) articles of 20° (a) secured by cushioning materials, not more than 144 per case, in fibreboard cases;

(o) articles of 20° (b): not more than 75 per box, in fibreboard boxes not more than 72 boxes shall be wrapped in fibreboard to form a packet;

(p) articles of 21°: in fibreboard boxes or in stout paper. If the ignition point of the articles is not covered by a protective cap each article must first be wrapped separately in paper. The propellent charge of bombs weighing more than 5 kg shall be protected by a paper case covering the lower part of bomb;

(q) articles of 22°: in fibreboard boxes or in stout paper. However large fireworks need not have an inner packaging if their igniting point is covered by a protective cap;

(r) articles of 23°: secured by cushioning materials in boxes made wood or fibreboard. The ignition heads shall be protected by a protective cap;

Class 1c

(s) articles of 24°: in fibreboard boxes or in stout paper; 2179

(t) articles of 25°: in fibreboard boxes or in stout paper. However, large fireworks need not have an inner packaging if their ignition point is covered by a protective cap;

(u) articles of 26°: in fibreboard boxes. A box must not contain more than 3 glass tubes.

(2) The inner packagings mentioned under (1) shall be placed:

(a) packagings containing articles of 10°, 13° and 14°, in wooden packing cases;

(b) packagings containing substances or articles of 9°, 11°, 12° and 15° - 26°, in wooden packing cases with well-jointed sides not less than 18 mm thick, lined with stout paper or thin zinc or aluminium sheet. A side thickness of 11 mm is sufficient for a package weighing not more than 35 kg if the case is encircled with an iron band.

The contents of a packing case are to be limited as follows:

in the case of articles of 17°, to 50 outer fibreboard boxes;

in the case of articles of 18°, to 25 packets;

in the case of articles of 20° (a), to 50 fibre-board cases;

in the case of articles of 20°(b), to 50 packets, each of 72 fibreboard boxes; and

in the case of articles of 21°, to a number of articles such that the weight of their total charge does not exceed 56 kg;

(c) packaging containing magnesium flash-powders (26°), either in conformity with (b) above, or in wooden packing cases each weighing not more than 5 kg, or, in the case of packagings in the form of paper bags, in strong fibreboard cases each weighing not more than 5 kg.

(3) Wooden cases containing articles with an explosive charge with a phosphorus and chlorate base must be closed by means of screws.

(4) A package containing articles of 9°, 11°, 12°, 15° - 22° or 24° - 26° must not weigh more than 100 kg; it must not weigh more than 50 kg if it contains articles of 23° or more than 35 kg if the sides of the case are only 11mm thick and the case is encircled with an iron band.

(1) Substances of articles of 27° shall be packed in wooden cases lined with packing paper, oiled paper or corrugated fibreboard. No lining is necessary if these substances and articles are wrapped in paper or fibreboard. 2180

Class 1c

(2) A package must not weigh more than 100 kg. 2180

(3) Smoke-producing cartridges for use as pesticides may, if wrapped in paper or fibreboard, likewise be packed:

(a) in corrugated-fibreboard boxes or in strong fibreboard cases; such a package must not weigh more than 20 kg; or

(b) in ordinary-fibreboard cases; such a package must not weigh more than 5 kg.

Mixed packing

(1) Substances and articles grouped under the same item number may be included in the same package. The inner packagings shall conform to what is laid down for 2181

Special conditions:

Class 1c

Item No.	Description of substance	Maximum quantity per receptacle	Maximum quantity Special per package	Special provisions
1°	Matches	5 kg	5 kg	Must not be packed together with substances of Classes 3,4,1 and 4,2.
2° and 3°	Strips of amorces and slow-combustion fuses	Mixed packing not allowd		
4°	Pyroxylin thread		1.500 m of pyroxylin thread	
5° - 8°	All articles	Mixed packing not allowed		
9° - 20°	All articles			Mixed packing allowed only with small wares or non pyrotechnic toys, from which they must be kept separate. The collective case must meet the requirements laid bown for those articles contained therien in respect of which mariginal 2179 (2) and (3) imposes the most stringent conditions.
21° - 25°	All articles			Mixed packing allowed only with one another. The collective case must meet the requirements laid down for those articles contained therein in respect of which marginal 2179 (2) and (3) imposes the most stringent conditions.
26° and 27°	All articles and substances	Mixed packing not allowed		

each dangerous substance, and the outer packaging shall be that laid down for the dangerous substances of the item number in question. In this connexion a fibreboard case containing articles of 20° (a) shall be deemed equivalent to a packet containing articles of 20° (b).

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance or of articles of the same kind dangerous substances of this Class, in quantities not exceeding 6 kg for all of the dangerous substances listed under the same item number or the same letter, may be enclosed in the same package either with dangerous substances of another item number or of another letter of the same class or with dangerous substances belonging to other Classes (if mixed packing is likewise permitted in the case of such substances), or with other goods, subject to the following special conditions.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions contained in marginals 2001(5) and 2002(6) and (7) must be observed.

A package must not weigh more than 100 kg, or more than 50 kg if it contains articles of 23°.

Class 1c

4. Marking and danger labels on packages (see Appendix A.9)

(1) Packages containing articles of Class 1c, 16° or 21° to 23°, shall bear a label conforming to model No.1. 2182

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9.

B. Particulars in the transport document 2183

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2171; it must be underlined in red and follwed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR», or «RID» [e.g. 1c, 1°(a) «ADR»] The wotding «Fireworus of ADR, 1c, item number.....», with particulars of the item numbers under with the substances or articles to be carried are listed, is also allowed in the transport document. 2184

(2) In the case of substances or articles of 2°, 4°, 5°, 8°, 9°, 11°, 12° and 15° - 27°, the following must be certified in the transport document: «The nature of the goods, and the packaging, are in conformity with the provisions of ADR».

2185
2189

C. Empty packagings

No provisions. 2190

2191-
2199

CLASS 2.
GASES: COMPRESSED, LIQUEFIED OR DISSOLVED UNDER PRESSURE

1. List of substances

(1) Among the substances and articles covered by the heading of Class 2, only those listed in marginal 2201 are to be accepted for carriage, and then only subject to the requirements of this Annex and to the provisions of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR. 2200

(2) Substances having a critical temperature lower than 50°C or, at 50°C, a vapour pressure greater than 3 kg/cm² are deemed to be substances of Class 2.

(3) The substances and articles of Class 2 are classified as follows:

A: Compressed gases having a critical temperature below -10°C;

B: Liquefied gases having a critical temperature of -10°C or above:

(a) Liquefied gases having a critical temperature of 70°C or above:

(a) Liquefied gases having a critical temperature of 70°C or above;

(b) Liquefied gases having a critical temperature of -10°C or above, but below 70°C;

C: Deeply-refrigerated liquefied gases;

D: Gases dissolved under pressure;

E: Aerosol dispensers and non-refillable containers of gas under pressure;

F: Gases subject to special requirements; and

G: Empty receptacles and empty tanks.

The substances and articles of Class 2 are subdivided according to their chemical properties, as follows:

(a) non-inflammable;

(a t) non-inflammable, toxic;

(b) inflammable;

(b t) inflammable, toxic;

(c) chemically unstable;

(c t) chemically unstable, toxic.

Unless otherwise specified, chemically unstable substances shall be considered to be inflammable.

Class 2

The names of corrosive gases and of articles containing such gases shall be followed by the word «corrosive» in brackets. 2200

(4) Substances of Class 2 which are listed among the chemically unstable gases are to be accepted for carriage only if the necessary steps have been taken to prevent their dangerous decomposition, dismutation or polymerization during carriage.

To this end, care should in particular be taken to ensure that receptacles and tanks do not contain any substances liable to promote these reactions.

A. Compressed gases [see also marginal 2201a under (a). For gases of 1° and (b) and 2° (a) in aerosol dispensers or in non-refillable containers for gases under pressure, see under 10° and 11°]: 2201

Gases having a critical temperature below -10°C are considered to be compressed gases for the purposes of ADR.

1° Pure gases and technically-pure gases

(a) Non-inflammable

Argon; helium; krypton; neon; nitrogen; oxygen; tetrafluoromethane (R 14).

(a t) Non-inflammable, toxic

Boron trifluoride; fluorine (corrosive); silicon tetrafluoride (corrosive).

(b) Inflammable

Deuterium; hydrogen; methane.

(b t) Inflammable, toxic.

Carbon monoxide.

(c t) Chemically unstable, toxic

Nitric oxide (nitrogen monixide) NO (non-inflammable).

2o Mixtures of gases

(a) Non-inflammable

Mixtures of two or more of the following gases: rare gases (containing not more than 10 per cent xenon by volume), nitrogen oxygen, carbon dioxide (not more than 30 per cent by volume); non-inflammable mixtures of two or more of the following gases hydrogen, methane, nitrogen, rare gases (containing not more than 10 per cent xenon by volume), not more than 30 per cent carbon dioxide by volume; nitrogen containing not more than 6 per cent ethylene by volume; air.

(b) Inflammable

Mixtures of not less than 90 per cent methane by volume with hydrocarbons of 3° (b) and 5° (b); inflammable mixtures of two of the following gases: hydrogen,

methane, nitrogen, rare gases (containing not more than 10 per cent xenon by volume), not more than 30 per cent carbon dioxide by volume; natural gas.

(b t) Inflammable, toxic

Town gas; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; water gas; synthesis gas (e.g. from the Fischer-Tropsch process); mixtures of carbon monoxide with hydrogen or with methane.

(c t) Chemically unstable, toxic

Mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume.

Liquefied gases [see also marginal 2201a under (b) and (e). For gases of 5° to 6° in aerosol dispensers or in non-refillable containers for gases under pressure, see under 10° and 11°]:

Gases having a critical temperature of -10°C or above are considered to be liquefied gases for the purposes of ADR.

(a) Liquefied gases having a critical temperature of 70°C or above:

Pure gases and technically-pure gases

(a) Non-inflammable

Bromochlorodifluoromethane (R 12 B1); chlorodifluoromethane (R 22); chloropentafluoroethane (R 115); 1-chloro-2,2,2-trifluoroethane (R 133a) dichlorodifluoromethane (R 12); dichlorofluoromethane (R 21); 1,2-dichloro-1,1,2,2-tetrafluoroethane (R 114); octofluorocyclobutane (RC 318).

(a t) Non-inflammable, toxic

Ammonia: boron chloride (corrosive); chlorine (corrosive); chlorine trifluoride (corrosive); hexafluoropropylene (R 216); hydrogen bromide (corrosive); methyl bromide; nitrosyl chloride (corrosive); nitrogen dioxide No_2 (nitrogen peroxide, nitrogen tetroxide N_2O_4) (corrosive); phosgene (corrosive); sulphur dioxide; sulphuryl fluoride; tungsten hexafluoride.

(b) Inflammable

Butane; 1-butylene (1-butene); 1-chloro-1, 1-difluoroethane (R 142b); cis-2-butylene (cis-2-butene); cyclopropane; 1,1-difluoroethane (R 152a); isobutane, isobutylene; methylsilane; propane; propylene; trans-2-butylene (trans-2-butene); 1,1 1-trifluoroethane.

Class 2

(b t) Inflammable, toxic

Arsine; dichlorosilane; dimethylamine; dimethyl ether; dimethylsilane; ethylamine; ethyl chloride; hydrogen selenide; hydrogen sulphide; methylamine; methyl chloride; methyl mercaptan trimethylamine; trimethylsilane.

(c) Chemically unstable

1,3-butadiene; vinyl chloride.

(c t) Chemically unstable, toxic

Cyanogen; cyanogen chloride (non-inflammable) (corrosive); ethylene oxide; methyl vinyl ether; trifluorochloroethylene (R 1113); vinyl bromide.

Note: in the case of halogenated hydrocardons, the use of names customary in the trade, such as the following, is also permitted: Algofrene, Arcton Edifren, Flugene, Forane, Freon, Fresane, Frigen, Isceon, Kaltron, followed by the substance identification number without the letter R.

4° Mixtures of gases

(a) Non-inflammable

Mixtures of substances listd under 3° (a) with or without hexafluoropropylene of 3° (a t), which as:

mixture F 1 have a vapour pressure at 70°C not exceeding 13 Kg/cm² and a density at 50°C not lower than that of dichlorofluoromethane (1.3).

mixture F 2 have a vapour pressure at 70°C not exceeding 19 Kg/cm² and a density at 50°C not lower than that of dichlorofluoromethane.

mixture F 3 have a vapour pressure at 70°C not exceeding 30 Kg/cm² and a density at 50°C not lower than that of dichlorofluoromethane (1.09).

Note: 1. Trichlorofluoromethane (R 11), trichlorotrifluoroethane (R113 and chlorotrifluoroethane (R133 are not liquefied gases within the meaning of ADR and thus are not subject to the requirements of ADR. They may however enter into the composition of mixtures F1 to F3.

2. See Note under 3°.

The azeotropic mixture of dichlorodifluoromethane (R 12) and 1,1-difluoroethane (R 152a), known as R500;

The azeotropic mixture of chloropentafluoroethane (R 115) and chlorodifluoromethane (R 22), known as R 502;

The mixture of 19 to 21 per cent by weight dichlorodifluoromethane (R 12) and 79 to 81 per cent by weight bromochlorodifluoromethane (R 12 B1).

Class 2

(a t) Non-inflammable, toxic 2201

Mixtures of methyl bromide and chloropicrin having a vapour pressure above 3 kg/cm² at 50°C.

(b) Inflammable

Mixture of hydrocarbons listed under 3° (b) and of ethane and ethylene of 5° (b), which as:

mixture A have a vapour pressure at 70°C not exceeding 11 kg/cm² and a density at 50°C not lower than 0.525;

mixture A 0 have a vapour pressure at 70°C not exceeding 16 kg/cm² and a density at 50°C not lower than 0.495;

mixture A 1 have a vapour pressure at 70°C not exceeding 21 kg/cm² and a density at 50°C not lower than 0.485;

mixture B have a vapour pressure at 70°C not exceeding 26 kg/cm² and a density at 50°C not lower than 0.450;

mixture C have a vapour pressure at 70°C not exceeding 31 kg/cm² and a density at 50°C not lower than 0.440.

Note: In the case of the foregoing mixtures the use of the following names customary in the trade is permitted for describing these substances:

Name given under 4°(b)	Name customary in the trade
Mixture A, mixture A O	butane
Mixture C	propane

Mixtures of hydrocarbons of 3° (b) and 5° (b) containing methane.

(b t) Inflammable, toxic

Mixtures of two or more of the following gases: methylsilane, dimethylsilane, trimethylsilane; methyl chloride and methylene chloride in mixtures having a vapour pressure above 3 kg/cm² at 50°C; mixtures of methyl chloride and chloropicrin and mixtures of methyl bromide and ethylene bromide having in either case a vapour pressure above 3 kg/cm² at 50°C.

(c) Chemically unstable

Mixtures of methylacetylene and propadiene with the hydrocarbons of 3° (b), which as:

mixture P 1 contain not more than 63 per cent methylacetylene and propadiene by volume and not more than 24 per cent propane and propylene by volume, the percentage of C_4-saturated hydrocarbons being not less than 14 per cent by volume; and as mixture P2 contain not

more than 48 per cent methylacetylene and propadiene by volume and not more than 50 per cent propane and propylene by volume, the percentage fo C_4-saturated hydrocarbons being not less than 5 per cent by volume[4].

(c t) Chemically unstable, toxic

Ethylene oxide containing not more than 10 per cent carbon dioxide weight; ethylene oxide containing not more than 50 per cent methylene formate by weight, with nitrogen up to a total pressure not exceeded 10 kg/cm^2 at 50°C ethylene oxide with nitrogenupto a total preesure of 10kg/cm^2 at 50°C dichlorodifluoromethane containing 12 per cent ethylene oxide by deight.

(b) Liquefied gases having a critical temperature of -10°C or above, below 70°C:

5° Pure gases and technically-pure gases

(a) Non-inflammable

Bromotrifluoromethane (R 13 B 1); carbon dioxide; chlorotrifluoromethane (R 13); hexafluoroethane (R 116);

nitrous oxide N_2O; sulphur hexafluoride; trifluoromethane (R 23) xenon.

With regard to carbon dioxide, see also marginal 2201a under (c).

Note: 1. Nitrous oxide is to be accepted for carriage only if it is less than 99 per cent pure.

2. See Note under 3°.

(a t) Non-inflammable, toxic

Hydrogen chloride (corrosive).

(b) Inflammable

Ethane; ethylene; silane.

(b t) Inflammable, toxic

Germane; phosphine.

(c) Chemically unstable

1,1-difluoroethylene; vinyl fluoride.

(c t) Chemically unstable, toxic

Diborane.

Class 2

6° Mixtures of gases 2201

(a) Non-inflammable

Carbon dioxide containing not less than 1 per cent and not more than 10 per cent nitrogen, oxygen, air or rare gases by weight; the azeotropic mixture of chlorotrifluorome thane (R 13) and trifluoromethane (R 23) known as R 503.

Note: Carbon dioxide containing less than 1 per cent nitrogen, oxygen, air or rare gases by weight is a substance of 5°(a).

(c) Chemically unstable

Carbon dioxide containing not more than 35 per cent ethylene oxide by weight.

(c t) Chemically unstable, toxic

Ethylene oxide containing more than 10 per cent but not more than 50 per cent carbon dioxide by weight.

C. Deeply - refrigerated liquefied gases

7o Pure gases and technically - pure gases

(a) Non-inflammable

Argon; carbon dioxide; helium; krypton; neon; nitrogen; nitrous oxide N_2O; oxygen; xenon.

(b) Inflammable

Ethane; ethylene; hydrogen; methane.

8° Mixtures of gases

(a) Non-inflammable

Air; mixtures of substances of 7°(a)

(b) Inflammable

Mixtures of substances of 7°(b); natural gas.

D. Gases dissolved under pressure

9o Pure gases and technically - pure gases

(a t) Non-inflammable, toxic

Ammonia dissolved in water with more than 35 per cent but not more than 40 per cent ammonia by weight; ammonia dissolved in water with more than 40 per cent but not more than 50 per cent ammonia by weight.

Note: Ammonia solution with an ammonia content not exceeding 35 per cent by weight is not subject to the requirements of ADR.

Class 2

(c) Chemically unestable 2201

Acetylene dissolved in a solvent (e.g. acetone) absorbed by porous substances.

E. Aerosol dispensers and non-refillable containers of gas under pressure [see also marginal 2201a under (d)]:

Note: 1. Aerosol dispensers are receptacles which can be used only once are equipped with a release valve or dispersal device, and contain, under pressure, a gas or mixture of gases listed in marginal 2208 (2) or contain an active substance (insecticide, cosmetic, etc.) together with such a gas or mixture of gases as a propellant.

2. Non-refillable containers of gas under pressure are receptacles which can be used only once and contain a gas or a mixture of gases listed in marginal 2208 (2) and (3) (e.g. butane for camp-cookers, refrigerant gases; etc), but are not equipped with a release valve.

3. The term «inflammable substances» means:

(i) gases (propellant in aerosol dispensers; contents of non-refillable containers of gas under pressure) whose mixtures with air can be ignited and have a lower and an upper inflammability limit!

(ii) liquids (active substances in aerosol dispensers) of Class 3.

4. The term «chemically unstable» is applied to contents which the absence of special precautions undergo dangerous decomposition or self-polymerization at a temperature of not more than 70°C.

10o Aerosol dispensers

(a) Non-inflammable

With non-inflammable contents.

(a t) Non-inflammable, toxic

With non-inflammable toxic contents.

(b) Inflammable

1. With not more than 45 per cent of inflammable contents by weight

2. With more than 45 per cent of inflammable contents by weight

(b t) Inflammable, toxic

1. With toxic contents and not more than 45 per cent of inflammable contents by weight.

2. With toxic contents and more than 45 per cent of inflammale contents by weight.

Class 2

(c) Chemically unstable 2201

With chemically-unstable contents.

(c t) Chemically unstable, toxic

With chemically - unstable toxic contents.

11° Non-refillable containers of gas under pressure

(a) Non-inflammable

With non-inflammable contents.

(a t) Non-inflammable, toxic

With non-inflammable toxic contents.

(b) Inflammable

With inflammable contents.

(b t) Inflammable, toxic

With inflammable toxic contents.

(c) Chemically unstable

With chemically-unstable contents.

(c t) Chemically unstable, toxic

With chemically-unstable toxic contents.

F. Gases subject to special requirements

12° Various mixtures of gases

Mixtures containing gases listed under other item numbers of this Class, and mixtures of one or more gases listed under other item numbers of this Class with one or more varpours of substances not excluded from carriage under ADR, on condition that during carriage:

1. the mixture remains entirely gaseous; and

2. all possibility of a dangerous reaction is excluded.

13° Test gases
Gases and mixtures of gases not listed under other item numbers of this Class and used only in laboratory tests, on condition that during carriage:
(a) the gas or mixture of gases remains entirely gaseous; and
(b) all possibility of a dangerous reaction is excluded.

G. Empty receptacles and empty tanks 2201
14° Empty receptacles and empty tanks, uncleaned, which have contained tetrafluoromenthane of 1°(a), substances of 1°, (a t) - (c t); 2°, (b) - (c t); 3° - 6°; carbon dioxide and nitrous oxide of 7°(a); or substances of 7°(b), 8°(b), 9°, 12° or 13°.
Note: 1. Receptacles and tanks which after being emptied of substances listed under 14° still contain small residual amounts are regarded as empty receptacles or empty tanks, uncleaned.
2. Empty receptacles or empty tanks, uncleaned, which have contained gases of 1°(a) other than tetrafluoromethane (R 14), or gases 2°(a), 7°(a) other than carbon dioxide and nitrouw oxide, or 8°(a) are not subject to the requirements of ADR.

Gases and articles handed over for carriage in conformity whith the following provisions are not subject to the requirements or provisions relating to this Class set out elsewhere in this Annex or in Annex B: 2201a
(a) compressed gases which are neither inflammable not toxic nor corrosives and whose pressure in the receptacle, referred to a temperature of 15°C, does not exceed 2 kg/cm^2; the same rule applies to mixtures of gases containing not more than 2 per cent inflammable components;
(b) liquefied gases contained, in quansities not exceeding 60 1, or in quantities of less than 5 1 with not more than 25g hydrogen, in freering appliances (refrigerators, ice machines, etc.) and necessary for their operation;
(c) carbon dioxide [5°(a)] in metal capsules (sodors, sparklets) if the carbon dioxide in the gaseous state does not contain more than 0.5 per cent air and the capsules contain not more than 25g carbon dioxide and not more than 0.75 g per cm^3 of capacity;
(d) articles of 10° and 11° of a capacity not exceeding 50 cm^3. A package of such articles shall not weigh more than 10 kg;
(e) liquefied petroleum gases contained in motor-vehicle tanks firmly secured to the vehicles; the fuel cock between tank and engine must de closed and the electrical contact open.

2. Provisions

A. Packages
1. General conditions of packing
(1) The materials of which the receptacles and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therwith. 2202
Note: Care must be taken not to allow any moisture to enter receptacles when they are being filled, and to dry receptacles completely after hydraulic pressure tests (see marginal 2216 carried out with water or with aqueous solutions.
(2) Packagings, including their closures, shall be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. When outer packagings are prescribed, the receptacles shall be firmly secured therein. Unless otherwise specified in the section entitled «Packing of a single substance or of articles of the same kind», inner packagings may be enclosed in outer packagings, either singly or in groups.
(3) Metal receptacles intended for the carriage of gases of 1° to 6° and 9° shall contain only the gas for which they have been tested and whose name is inscribed on the receptacle [see marginal 2218 (a)].
Derogations are allowed
1. for metal receptacles tested for one of the substances of 3°(a) or 4°(a) or for bromotrifluomethane, chlorotrifluoromethane or trifluoromethane of 5° (a). These receptacles may also be filled with some other substance of the aforesaid items on condition that the minimum test pressure prescribed for that substance does not exceed the test pressure of the receptacle and that the name of the substance and its permissible maximum filling weight are inscribed on the receptacle;
2. for metal receptacles tested for hydrocarbons of 3°(b) or 4°(b). These receptacles may also be filled with some other hydrocarbon on condition that the minimum test pressure prescribed for that substance does not exceed the test pressure of the receptacle and that the name of the substance and its permissible maximum filling weight are inscribed on the receptacle.
For 1 and 2, see also marginals 2215, 2218 (1)(a) and 2220, (1) to (3).
(4) A change in the use to which a receptacle is assigned is allowed in principle if it does not conflict with national regulations; it requires however the approval of the competent authority and replacement of the former markings by markings relating to the new use.
2. Packing of a single substance or of articles of the same kind
Note: Carbon dioxide and nitrous oxide [7°(a)] and mixtures of these two gases [8°(a)] may not be carried otherwise than in specially-equipped tanks (see Annex B, marginal 21400).
a. Nature of receptacles
(1) Receptacles intended for the carriage of gases of 1° to 6°, 9°, 12° and 13° shall be so closed and leak-proof as to prevent any escape of the gases. 2203
(2) These receptacles shall be made of carbon steel or of alloy steel (special steels).
The following may however be used:
(a) copper receptacles for:
1. compressed gases of 1°, (a), (b) and (b t),
and 2o, (a) and (b), whose filling pressure referred to a temperature of 15°C does not exceed 20 kg/cm^2; and
2. liquefied gases of 3°(a); sulphur dioxide of 3o(a t); dimethyl-ether, ethyl chloride and methyl chloride of 3°(b) vinyl chloride of 3°(c); vinyl bromide of 3°(a t); mixtures F 1, F 2 and F 3 of 4°(a); and ethylene oxide containing not m ore than 10 per cent carbon dioxide by weight of 4° (c t);
(b) aluminium - alloy receptacles (see Appendix A.2) for:
1. compressed gases of 1°, (a), (b) and (b t); nitric oxide (nitrogen monoxide) NO of 1°(c t); and compressed gases of 2° (a), (b) and (b t);
2. liquefied gass of 3° (a); sulphur dioxide of 3°(a t); liquefied gases of 3°(b) other than methylsilane; dimethyl ether, hydrogen selenide, and methyl mercaptan of 3°(b t); ethylene oxide of 3°(c t); liquefied gases of 4°, (a) and (b) ethylene oxide containing not more than 10 per cent carbon dioxide by weight, of 4°(c t); and liquefied gases of 5°, (a) and (b), and 6° (a) and (c). Sulphur dioxide of 3°(a t) and substances of 3°(a) and 4°(a) shall be dry; and
3. dissolved acetylen of 9°(c).
All gases which are to be carried in aluminium-alloy receptacles must be free from alkaline impurities.
(1) Receptacles for dissolved acetylene [9°(c)] shall be entirelly filled with a porous material, uniformly distributed, of a type approved by the competent authtority and which 2204
(a) does not attack the receptacles on form harmful or dangerous compounds either with acetylene or with the solvent;
(b) does not shake down, even after prolonged use or through jolting temperatures up to 60° C;
(c) is capable of preventing the spread of decomposition of the acetylene in the mass.
(2) The solvent must not attack the receptacles.
(1) The following liquefied gases may, in addition, be

carried in thick-walled glass tubes on condition that the quantity of substance each tube and the degree of filling of the tubes do not exceed the indicated below:

Names of gases	Quantity of substance	Degree filling of tube
Carbon dioxide, nitrous oxide N_2O[-5°(a)], ethane, ethylene [5°(b)]	3g	one falt of capacity
Ammonia, chlorine, methyl bromide [3°(a t)], cyclopropane [3°(b)], ethyl chloride [3°(b t)]	20 g	two-thirds of capacity
Phosgene, sulphur dioxide [3°(a t)	100 g	three-quarters of capacity

(2) The glass tubes shall be flame-sealed and secured separately by infusorial - earth cushioning in closed sheet - metal capsules which shall be placed in a wooden case or in some other outer packaging of sufficient strength (see also marginal 2222).

(3) For sulphur dioxide of 3°(a t) stout glass siphons containing not more than 1.5 kg of substance and filled to not more than 88 per cent of their capacity are also allowed. The siphons shall be secured by infusorial earth, sawdust or powdered carbonate of lime, or by a mixture of the two latter, in strong wooden cases or in some other outer packaging of sufficient strenght. A package shall not weigh more than 100 kg. If it weighs more than 30 kg it shall be fitted with means of handling.

(1) Gases of 3°(a); 3°(b) other than methylsilane; 3o(b t) other than arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane; 3°(c); 3°(c t) other than cyanogen chloride; and mixtures of 4°(a) and 4°(b), may also, on condition that the weight of liquid per litre of capacity does not exceed either the maximum weight of contents indicated in marginal 2220 or 150 g per tube, be contained in thick-walled glass tubes, or in thick-walled metal tubes made of a metal allowed by marginal 2203 (2). The tubes shall be free from faults liable to impair their strength; in particular, internal stresses in glass tubes shall have been suitably relieved and the thickness of the tube walls shall not be less than 2 mm. The leakproofness of the closure system shall be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage. The tubes shall be secured by cushioning material in small boxes made of wood or fibreboard, the number of tubes per box being such that the weight of the liquid contained in a box does not exceed 600 g. These small boxes shall be placed in wooden cases or in some other outer packaging of sufficient strenght; if the liquid contents of a case weigh more than 5 kg the case shall be lined with soft-soldered sheet-metal. 2206

(2) A package shall not weigh more than 75 kg.

(1) Gases of 7°(a) other than carbon dioxide and nitrous oxide, and of 8°(a) other than mixtures containing carbon dioxide and nitrous oxide, shall be enclosed in closed, double - walled metal receptacles which are so insulated that they cannot become coated with dew or hoar-frost and which are fitted with safety valves.

(2) Gases of 7°(a) other than carbon dioxide and nitrous oxide, and of 8°(a) other than mixtures containing carbon dioxide and nitrous oxide, may also be enclosed in receptacles which are not hermetically closed and which are:

(a) double - walled vacuum-jacketed glass receptacles surrounded by an absorbent insulating material; these receptacles shall be protected by iron-wire baskets and placed in metal cases; or 2207

(b) metal receptacles protected against heat transmission in such a way that they cannot become coated with dew or hoar-frost; the capacity of these receptacles shall not exceed 100 litres.

(3) The metal cases referred to in subparagraph (2)(a) and the receptacles referred to in subparagraph (2)(b) above shall be fitted with means of handling. The openings of the receptacles referred to in subparagraphs (2)(a) and (b) shall be fitted with devices allowing gases to escape, preventing any splashing out of the liquid, and so fixed that they cannot fall aut. In the case of oxygen of 7°(a) and mixtures containing oxygen of 8°(a), the devices referred to above and the absorbent insulating material surrounding the receptacles referred to in subparagraph (2)(a) shall be made of incombustible materials.

(1) Aerosol dispensers (10°) and non-refillable containers for gas under pressure (11°) shall satisfy the following requirements: 2208

(a) aerosol dispensers containing only a gas or a mixture of gases, and non-refillable containers for gas under pressure, shall be made of metal. This requirement shall not apply to non-refillable containers for gas under pressure with a maximum capacity of 100 ml for butane. Other aerosol dispensers shall be made of metal, a plastics material glass. Receptacles made of metal and having an outside diameter of less than 40 mm shall have a concave bottom;

(b) receptacles made of materials liable to shatter, such as glass or certain plastics materials, shall be enclosed in a device (close - wire netting, flexible cover made of a plastics material, etc.) and affording protection against fragments and their dispersal. Receptacles whose capacity does not exceed 150 cm^3 and whose internal pressure 20°C is below 1.5 kg/cm^2 are exempted from this requirement;

(c) the capacity of receptacles made of metal shall not exceed 1,000 cm^3 and that of receptacles made of a plastics material or of glass shall not exceed 500 cm^3;

(d) each model of receptacle shall, before being put into service, say a hydraulic pressure test carried out in conformity with Appendix marginal 3291. The internal pressure to be applied (test pressure shall be 1.5 times the internal pressure at 50°C, with a minimum of 10 kg/cm^2;

(e) the release valves of aerosol dispensers, and their dispersal devises shall ensure that the dispensers are so closed as to be leak-proof shall be protected against accidental opening. Valves and dispersal devices which close only by the action of the internal pressure are to be accepted.

(2) The following gases shall be accepted as propellants, or as constituents of propellants, or as filler gases, for aerosol dispenser gases of 1°(a) and (b); 2°(a) and (b); 3o, (a) and (b) other than methylsilane; ethyl chloride and dimethyl ether of 3°(b t); 1,3-butadiene of 3°(c); trifluorochloroethylene of 3°(c t); gases of 4°, (a) and (b); gases of 5°, (a) and (b) other t han silane; gases of 5°(c) and 6°(a) and (c).

(3) All the gases listed under (2) and, in addition, the following gases shall be accepted as filling gases for non-refillable containers for gas under pressure; methyl bromide of 3°(a t); dimethylamine, ethylamine, methylamine, methyl mercaptan and trimethylamine of 3°(b t); ethylene oxide, methyl vinyl ether and vinyl bromide of 3°(c t); ethylene oxide containing not more than 10 per cent carbon dioxide by weight, of 4°(c t).

(1) The internal pressure at 50°C of aerosol dispensers and of non-refillale containers of gas under pressure shall exceed neither two-thirds of the test pressure of the receptacle nor 12 kg/cm^2. 2209

(2) Aerosol dispensers and non refillable containers of gas under pressure shall be so filled that at 50°C the liquid phase does not exceed 95 per cent of their capacity. The capacity of aerosol dispensers is the available volume in a closed dispenser fitted with the valve support, the valve and the dip tube.

(3) All aerosol dispensers and non-refillable containers for gas under pressure shall satisfy a tightness (leakproofness) tests in conformity with Appanedix A.2, marginal 3292.

(1) Aerosol dispensers and non-refillable containers of gas under pressure shall be placed in wooden cases or strong fibreboard or metal boxes; aerosol dispensers made of glass or a plastics material and liable to shatter shall be separated from one another by interposed sheets of fibreboard or of another suitable material. 2210

(2) A package shall not weigh more than 50 kg if fibreboard boxes are used or more than 75 kg if other packagings are used.

(3) Where carriage is by fyll load, eash load comprising only aerosol dispensers made of metal, the dispensers may de grouped together and secured on trays with the aid of an appropriate plastics material by means of a shrinkage and heat-sealing process, on condition that the groups of dispensers are then stacked and suitably secured on pallets.

b. Conditions governing metal receptacles

(These conditions are not applicable to the metal tubes referred to in marginal 2206, to the receptacles referred to in marginal 2207 (2)(b), or to the aerosol dispensers or non-refillable metal containers for gas under pressure referred to in marginal 2208).

1. Construction and fittings (see also marginal 2238). 2211

(1) At the test pressure, the stress in the metal at the most severely stressed point of the receptacle (marginals 2215, 2219 and 2220) shall not exceed three-quarters of the guaranteed minimum yield stress (Re). By «yield stress» is meant the stress at which a permanent elongation of 2‰ (i.e. 0.2 per cent) or, for austenitic steels, 1 per cent of the gauge lenght on the test-piece, has been produced.

Note: In the case of sheet-metal the axis of the tensile test-piece shall be at right angles to the direction of rolling. The permanent elongation at fracture (l = 5 d) shall be measured on a test-piece of circular cross - section in which the gauge length l is equal to five times, the diameter d; if test-pieces of rectangular cross-section are used, the gauge length shall be calculated by the formula $l = 5{,}65 \sqrt{F_o}$ where F_o indicates the initial cross-sectional area ot the test-piece.

(2) (a) Steel receptacles whose test pressure exceeds 60 kg/cm² shall de of seamless construction or welded. For welded receptacles, steels, (carbon or alloy) of fully satisfactory weldability shall be used.

(b) Receptacles whose test pressure does not exceed 60 kg/cm² shall either conform to the provisions of subparagraph (a) adove, or beriveted or hard-soldered on condition that the manufacturer guarantees the workmanship of the riveting and hard-soldering and that the competent authorities of the country of origin have given their approval.

(3) Aluminium - alloy receptacles shall be seamless or welded.

(4) Welded receptacles are to be accepted only on condition that manufacturer guarantees the workmanship of the welding and that the competent authorities of the country of origin have given their approval.

(1) A distinction is made between the following types of receptacles. 2212

(a) cylinders of a capacity not exceeding 150 litres;

(b) receptacles of a capacity of not less than 100 litres [with the exception of cylinders in conformity with subparagraph (a)] and not more than, 1,000 litres (e.g. cylindrical receptacles equipped with rolling hoops, and receptacles on skids);

(c) tanks (see Annex B);

(d) assemblies, known as «frames», of cylinders in conformity with subparagraph (1)(a), the cylinders being interconnected by a manifold and held firmly together by a metal fitting;

(2) (a) If under the regulations of the country of departure the cylinders referred to in subparagraph (1)(a) are required to be fitted with device to prevent rolling, this device shall not be integral with the valve cap (marginal 2213 (2).

(b) Receptacles in conformity with subparagraph (1)(b) which are capable of being rolled shall be equipped with rolling hoops or be otherwise protected against damage due to rolling (e.g. by corrosion - resistant metal sprayed on to the receptacle' s outer surface).

Receptacles in conformity with subparagraphs (1)(b) and (1)(c) which are not capable of being rolled shall be fitted with devices (skids, rings straps) ensuring that they can be safely handled by mechanical means and so arranged as not to impair the strenght of, nor cause undue stresses in, the wall of the receptacle. 2212

(c) Frames of cylinders in conformity with subparagraph (1)(d) shall be fitted with devices ensuring that they can be handled safely. The manifold and the master cock shall be situated within the frame and be so mounted as to be protected against any damage.

(3) (a) With the exceptions of gases of 7° and 8°, gases of Class 2 may be carried in cylinders in conformity with subparagraph (1)(a).

Note: For possible limitations on the capacity of cylinders for certain gases, see marginal 2219.

(b) With the exception of fluorine and silicon tetrafluoride [1°(a t)]; nitric oxide (NO) [1o(c t)]; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2°(b t)]; mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2°(c t)]; boron chloride, chlorine trifluoride, nitrosyl chloride, sulphuryl fluoride and tungsten hexafluoride [3°(a t)]; methylsilane [3°(b)] arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3°(b t)]; cyanogen chloride, cyanogen and ethylene oxide [3°(c t)]; mixtures of methylsilanes [4°(b t)]; substances of 4°(c) and 4o(c t) other than dichlorodifluoromethane containing 12 per cent ethylene oxide by weight; nitrous oxide [5°(a)]; silane [5°(b)]; and substances of 5°(b t), 5°(c t), 7°, 8°, 12° and 13°, gases of Class 2 may be carried in receptacles in conformity with subparagraph (1) (b).

(c) With the exception of silicon tetrafluoride [1°(a t)]; nitric oxide [1°(c t)]; mixtures of hydrogen with not more thant 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2°(b t)]; mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2°(c t)]; boron chloride, chlorine trifluoride, nitrosyl chloride, sulphuryl fluoride and tungsten nexafluoride [3°(a t)]; methylsilane [3°(b)]; arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3°(b t)]; cyanogen chloride, cyanogen and ethylene oxide [3°(c t)]; mixtures of methylsilanes [4°(b t)]; substances of 4°(c) and 4°(c t) other than dichlorodifluoromethane containing 12 per cent ethylene oxide by weight; nitrous oxide [5°(a)]; silane [5°(b); and substances of 5°(b t), 5°(c t), 7°, 8°, 12° and 13°, gases of Class 2 may be carried in frames of cylinders in conformity with subparagraph (1)(d). The individual cylinders in a frame of cylinders shall contain only one and the same compressed gas, liquefied gas or gas dissolved under pressure. Each cylinder in a frame of cylinders for fluorine [1°(a t)] or dissolved acetylene [9°(c)] shall however be fitted with a cock. The cylinders in a frame of cylinders 2212

of acetylene shall all contain the same porous material (marginal 2201).

(1) Openings for filling and emptying receptacles shall be fitted with flap valves or needle-valves. Valves of other types may however be allowed if they present equivalent guarantees of safety and have been approved in the country of origin. Nevertheless, whatever the type of valve adopted, its system of attachment shall be strong and such that satisfactory condition can be verified easily before each filling. 2213

Apart from a manhole, which if provided shall be closed by an effective closure, and from the necessary orifice for the removal of deposits, receptacles and tanks in conformity with marginal 2212 (1)(b) and (c) shall not be equipped with more than two openings, for filling and discharge respectively. Nevertheless, receptacles of a capacity of not than 100 l intended for the carriage of dissolved acetylene [9°(c)] may have more than two openings for filling and discharge.

Similarly, receptacles and tanks in conformity with marginal 2212 (b) and (c), intended for the carriage of substances of 3°(b) and 4°(b) be provided with other openings intended in particular for verifying thelevel of the liquid and the gauge pressure.

(2) Valves (cocks) shall be effectively protected by caps or fixed flanges. Caps shall possess vent-holes of sufficient cross-sectional area to evacuate gases if leakage occurs at the valves. The caps or glanges shall adequately protect the valve if the cylinder falls and during the carriage and stacking. Valves placed inside the neck of the receptacle and protected by a screw-threaded plug, and receptacles carried packed by protective cases, shall not require a cap. Likewise, no protective case will be required for valves (cocks) on frames of cylinders.

(3) Receptacles containing fluorine [1°(a t)]; chlorine trifluoride [3°(a t)]; or cyanogen chloride [3°(c t)] shall, whether they are carried packed in protective cases, be fitted with steel caps. These caps shall have no openings and shall, throughout carriage, be equipped with a gasket ensuring gas-tightness and made of a material not liable to attack by the contents of the receptacle.

(1) In the case of receptacles containing boron trifluoride or fluorine [1°(a t(]; chlorine trifluoride or liquefied ammonia [3°(a)]; ammonia dissolved in water [9°(a t)]; nitrosyl chloride [3°(a t)]; dimethylamine, ethylamine, methylamine or trimethylamine [3°(b t)]; or made of copper or of any other metal liable to be attacked by these gases are not to be accepted. 2214

(2) The use of substances containing grease or oil for ensuring leakproofnes of joints (seams) or for maintaining the closure device and receptacles used for oxygen [1o(a)]; fluorine [1o(a t)]; mixtures with oxygen [2°(a)]; nitrogen dioxide, chlorine trifluorid [3°(a t)]; nitrous oxide [5°(a)]; nitrogen dioxide, chlorine trifluoride [3°(a t)]; nitrus oxide [5°(a)]; or mixtures of 12° containing more than 10 per cent oxygen by volume is prohibited.

(3) The following requirements shall apply to the construction receptacles referred to in marginal 2207 (1):

(a) The materials and construction of the receptacles shall be in conformity with the requirements of Appendix A.2, B, marginals 3250 to 3254. All the mechanical and technological characteristics of the material used shall be established for each receptacle at the first test; with regard to the impact strength and the bending coefficient, see Appendix A.2, marginals 3265 to 3285.

(b) Receptacles shall be fitted with a safety valve which shall be capable of opening at the working pressure shown on the receptacle. The valves shall be so constructed as to work perfectly even at their lowest working temperature. Their reliability of functioning at that temperature shall be established and checked by testing each valve or a sample of valves of the same type of construction.

(c) The vents and safety valves of receptacles shall be so designed as to prevent the liquid from splashing out.

(d) The closing devices shall be so arranged that they cannot be opened by unqualified persons.

(e) Receptacles whose filling is measured by volume shall be provided with a level indicator.

(f) The receptacles shall be thermally insulated. The thermal insulation shall be protected against impact by means of continuous metal sheathing. If the space between the receptacle and the metal sheathing is airless (vacuum insulation), the protective sheathing shall be designed to withstand without deformation an external pressure of at least 1 kg/cm^2. If the sheathing is so closed as to be gas-tight (e.g. in the case of vacuum insulation), device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas - tightness of the receptacle or its fittings. The divice shall prevent moisture from penetrating into the insulation.

(4) In the case of receptacles containing mixtures of 4° (c) or dissolved acetylene [9° (c)], metal parts of closing devices in contact with the contents shall not contain more than 70 per cent copper. Receptacles for dissolved acetylene [9° (c)] may also have stop-valves taking yoke connectors.

(5) Receptacles containing oxygen of 1° (a) or 7° (a) and fitted in fish-tanks are likewise to be accepted if they are provided with appliances enabling the oxygen to escape gradually.

2. Official test of receptacles (for aluminium - alloy receptacles see also Appendix A.2)

(1) Metal receptacles shall be subjected to initial and periodic tests under the supervision of an expert approved by the competent authority. The nature of these test is specified in marginals 2216 and 2217. 2215

(2) In order to ensure compliance with the requirements of marginals 2204 and 2221 (2), tests of receptacles intended to contain dissolved acetylene [9° (c)] shall include, in addition, examination of the nature of the porous material and of the quantity of solvent.

(1) The initial test of new or unused receptacles shall comprise: 2216

A. On an adequate sample of receptacles:

(a) testing of the material of construction in respect at least of yield stress, tensile strength, and permanent elongation at fracture; the values yielded by these tests shall comply with national regulations;

(b) measurement of wall thickness at the thinnest point, and calculation of the stress;

(c) checking the homogeneity of the material for each manufacturing batch, and inspection of the external and internal condition of the receptacles;

B. For all receptacles:

(d) a hydraulic pressure test in conformity with the provisions of marginals 2219 to 2221;

(e) an ispection of the markings on the receptacles (see marginal)

C. In addition, for receptacles intended for the carriage of dissolved acetylene [9° (c)]:

(f) an inspection as required by national regulations.

(2) Receptacles shall withstand the test pressure without undergoing permanent deformation or exhibiting cracks.

(3) At the periodic inspections the following shall be repeated:

the hydraylic pressure test; check of the external and internal condition of the receptacle (e.g. by weighing, internal inspection, checks of wall thickness); verification of the equipment and markings and, if necessary verification of the characteristics of the material by suitable tests.

Periodic inspections shall be carried out:

(a) every 2 years in the case of receptacles intended for the carriage of gases of 1° (a t) and 1° (c t); town gas of 2° (b t); gases of 3° (a t) other than ammonia, hexafluoropropylene and methyl; cyanogen chloride of 3° (c t); and substances of 5° (a t);

(b) every 5 years in the case of receptacles intended for the car of other compressed and liquefied gases (subject to the provision of subparagraph (c) below) and

of receptacles for the carriage of ammonia dissolved under pressure [9° (a t)];

(c) every 10 years in the case of receptacles intended for the carriage of gases of 1° (a) other than oxygen; of mixtures of nitrogen rare gases, of 2° (a); of gases of 3° (a and 3° (b) other than 1,1-difluorethane, 1-chloro-1,1,-difluorthane, methylsilane 1,1,1-trifluorethane, and of mixtures of gases of 4° (a) and if the receptacles have a capacity of not more than 150 litres the country of origin does not prescribe a shorter interval.

(d) in the case of receptacles intended for the carriage of dissolved acetylene [9° (c)], marginal 2217 (1) shall apply, and in that of receptacles conforming to marginal 2207 (1), marginal 2217 (2) shall apply.

2217 (1)The external condition (corrosion, deformation) of, and the condition (loosening, settlement) of the porous material in, receptacles intended for the carriage of dissolved acetylene [9° (c)] shall be examined every 5 yeats. Sampling shall be performed by cutting up, if considered necessary, a suitable number of receptacles and inspecting them internally for corrosion and for any changes that may have occurred in the constituent materials and in the porous material.

(2) Receptacles conforming to marginal 2207 (1) shall be subjected every 5 years to external inspection and to a tightness (leakproofness) test. The tightness (leakproofness) test shall be carried out with the gas contained in the receptacle or with an inert gas at a pressure of 2 kg/cm^2. Checking shall be performed by means of a pressure gauge or by vacuum measurement. The thermal insulation shall not be removed. The pressure shall not decline during the 8-hour test period. Changes resulting from the nature of the test gas of from variations in temperature shall be taken into account.

3. Marks on receptacles

2218 (1) Metal receptacles shall bear the following particulars in clearly legible and durable characters:

(a) one of the names of the gas or of the mixture of gases in full, as given in marginal 2201, 1° to 9°; the name or mark of the maker or owner; and the number of the receptacle [see also marginal 2202 (3)]. In the case of halogenated hydrocarbons of 1° (a), 3° (a), 3° (a t), 3° (b), 3° (c t), 4° (a), 5° (a) and 6° (a) the use of the letter R followed by the substance identification number is also permitted;

(b) in the case of receptacles intended for liquefied gases, the tare of the receptacle including such fittings and accessories aas valves, cocks, metal plugs, etc., but excluding the protective cap;

(c) in the case of receptacles intended for compressed gases, the tare of the receptacle proper;

(d) the test pressure (see marginals 2219 to 2221) and the date (month, year) of the last test undergone (see marginals 2216 and 2217);

(e) the stamp of the expert who carried out the tests and inspections; and in addition:

(f) in the case of compressed gases of mixtures of compressed gases [1°, 2°, 12° and 13°]: the maximum filling pressure at 15° C allowed for the receptacle in question (see marginal 2219);

(g) in the case of boron fluoride [1° (a t)], liquefied gases [3° to 6°] and ammonia dissolved in water [9° (a t)]: the maximum filling allowed, and the capacity. In the cases of deeply-refrigerated gases of 7° and 8°: the capacity;

(h) in the case of acetylene dissolved in a solvent [9° (c)]: the permitted filling pressure [see marginal 2221 (2)], and the weight of the empty receptacle including the weight of the fittings and accessories, of the porous material, and of the solvent;

(1) in the case of mixtures of gases of 12° and test gases of 13°, the words «mixtures of gases» of «test gases», as the case may be, shall be engraved on the receptacle as a general indication of the content. An exact description of the contents shall be shown in a durable form throughout carriage;

(k) in the case of metal receptacles which, under marginal 2202 (3), are accepted for the carriage of a number of different gases (multi-purpose receptacles), an exact description of the contents shall be shown in a durable form during carriage.

(2) The marks shall be engraved either on a reinforced part of the receptacle, or on a ring, or on a data plate, immovably affixed to the receptacle. In addition, the name of the substance may be indicated on the receptacle by an adherent and clearly - visible inscription applied by painting or by any other, equivalent, process.

(c) Test pressure, degree of filling, and limitation of capacity, of receptacles (see also marginals 2238, 211 180 and 212 180

2219 (1) In the case of receptacles intended for the carriage of compressed gases of 1°, 2° and 12°, the internal pressure (test pressure to bi applied in the hydraylic pressure test shall bi at least one and one-half times the filling pressure at 15° C indicated on the receptacle, but shall not be less than 10 kg/cm^2.

(2) In the case of receptacles used for the carriage of substances 1° (a) other than tetrafluoromethane; of deuterium and hydrogen of 1° (b) or of gases of 2° (a), the filling pressure shall not exceed 300 kg/cm^2 referred to a temperature of 15° C. In the case of tanks, the filling pressure shall not exceed 250 kg/cm^2 referred to a temperature of 15° C.

In the case of receptacles and tanks intended for the carriage of other gases fo 1° and 2° the filling pressure shall not exceed 200 kg/cm^2 referred to a temperature of 15° C.

(3) In thr case receptacles intended for the carriage of fluorine [1°(a t)] the internal pressure (test presure) to be applied in the hydraulic pressure test shall be 200kg/cm^2 and the filling pressure shall not exceed 28 kg/cm^2 at a temperatures of 15°C; in addition, on receptacle may contain more than 5 kg fluorine.

In the case of receptacles for the carriage of boron trifluoride [1°(a t)] the hydrsulic to be applied in the test (test) pressure shall be either 300 kg/cm2, in which case the maximum weight of the contents per liure of capacity shall not exceed o.86 kg, or 225 kg/cm^2, in which case the maximum weight of the condents per litre of capacity shall not exceed 0.715 kg.

(4) n the case of receptacles in ended for the carriage of nitric oxide No [1°(c t)], the capacity shall be limited to 50 1; the hydraulic pressure to be applied in the test (test pressure) shall be 200 kg/cm^2; and the filling pressure shall not exceed 50 kg/cm^2 at a temperature of 15°C.

(5) In the case f receptacles indended for, the carriage of mixtures of hydrogen with not more than 10 per cend hydrogen selenide or phosphine or silane or germane by volume or witn not more than 15 per cent arsine by volume; of mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volune or with not more than 15 per cent arsine by volume [2°(b t)]; of mixtures of hydrogen with not more than 10 per cent diborane by volume; or of mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volune [2°(c t)], the capacity shall be limited to 50 1; the hydraulic pressure to be applied in the test (test pressure) shall be not less than 200 kg/cm^2; and the filling pressure shall not exceed 50 kg/cm^2 at a temperature of 15°C.

(6) Receptacles in conformity with marginal 2207 (1) shall not, at the filling temperature and at a pressure of 1 kg/cm^2, be filled beyond 98 per cent of their capacity.

Where oxygen of 7° (a) is carried, steps shall be taken to prevent any spillage of the liquid phase.

(7) Where dissolved acetylene [9° (c)] is carried in receptacles in conformity with marginal 2212 (1) (b), the capacity of the receptacles shall not exceed 150 l.

(8) The capacity of receptacles intended for the carriage of mixtures of gases of 12° shall not exceed 50 l. The pressure of the mixture shall not exceed 150 kg/cm^2 at

a temperature of 15° C.

(9) The capacity of receptacles intended for the carriage of test gases of 13° shall not exceed 50 l. The filling pressure at a temperature of 15° C shall not exceed 7 per cent of the test pressure of the receptacle.

(10) In the case of tungsten hexafluoride [3° (a t)] the capacity of the receptacles shall be limited to 60 l.

The capacity of receptacles for silicon tetrafluoride [1° (a t)]; boron chloride, nitrosyl chloride and sulphuryl fluoride [3° (a t)]; methylsilane [3° (b)]; arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3° (b t)]; cyanogen chlodride and cyanogen [3° (c t)]; mixtures of methylsilanes [4o (b t)]; substances of 4° (c t) other than dichlorodifluoromethane containing 12 per cent ethylene oxide by weight; silane [5° (b)]; and substances of 5o (b t) and (c t), shall be limited to 50.

(11) In the case of receptacles intended for chlorine trifluoride [3° (a t)] the capacity shall be limited to 40 l. After filling, a receptacle containing chlorine trifluoride [3° (a t)] shall, before being handed over for carriage, be held back for not less than seven days in order to verify that it is leak-proof.

(1) In the case of receptacles intended for the carriage of liquefied gases of 3° to 6°, and of receptacles intended for the carriage of gases dissolved under pressure of 9°, the hydraulic pressure to be applied in the test (test pressure) shall be not less than 10 kg/cm². 2220

(2) In the case of liquefied gases of 3° and 4° the following values shall be complied with for the hydraulic pressure to be applied to the receptacles in the test (test pressure) and for the maximum degree of filling allowed:*

*See the end of the table in paragraph (2).

Description of substance	Item number	Minimum Test pressure kg/cm²	Maximum weight of contents per litre of capacity kg
Bromochlorodifluoromethane (R 12 B 1)	3°(a)	10	1.61
Chlorodifluoromethane (R 22)	3°(a)	29	1.03
Chloropentafluoroethane (R 115)	3°(a)	25	1.06
1-chloro-2,2,2-trifluoroethane (R 133a)	3°(a)	10	1.18
Dichlorodifluoromethane (R 12)	3°(a)	18	1.15
Dichlorofluoromethane (R 21)	3°(a)	10	1.23
1,2-Dichloro-1,1,2,2-tetrafluoroethane (R 114)	3°(a)	10	1.30
Octofluorocyclobutane (RC 318)	3°(a)	11	1.34
Ammonia	3°(at)	33	0.53
Boron chloride	3°(at)	10	1.19
Chlorine	3°(at)	22	1.25
Chlorine trifluoride	3°(at)	30	1.40
Hexafluoropropylene (R 216)	3°(at)	22	1.11
Hydrogen bromide	3°(at)	60	1.20
Methyl bromide	3°(at)	10	1.51
Nitrogen dioxide	3°(at)	10	1.30
Nitrosyl chloride	3°(at)	13	1.10
Phosgene	3°(at)	20	1.23
Sulphur dioxide	3°(at)	14	1.23
Sulphuryl fluoride	3°(at)	50	1.10
Tungsten hexafluoride	3°(at)	10	2.70
Butane	3°(b)	10	0.51
1-Butene	3°(b)	10	0.53
1-Chloro-1,1-difluoroethane (R 142b)	3°(b)		
Cis-2-butene	3°(b)	10	0.55
Cyclopropane	3°(b)	20	0.53
1,1-Difluoroethane (R 152a)	3°(b)	18	0.79
Isobutane	3°(b)	10	0.49
Isobutene	3°(b)	10	0.52
Methylsilane	3°(b)	225	0.39
Propane	3°(b)	25	0.42
Propylene	3°(b)	30	0.43
Trans-2-butene	3°(b)	10	0.54
1,1,1-Trifluoroethane	3°(b)	35	0.75
Arsine	3°(bt)	42	1.10
Dichlorosilane	3°(bt)	10	0.90
Dimethylamine	3°(bt)	10	0.59
Dimethyl ether	3°(bt)	18	0.58
Dimethylsilane	3°(bt)	225	0.39
Ethylamine	3°(bt)	10	0.61
Ethyl chloride	3°(bt)	10	0.80
Hydrogen selenide	3°(bt)	31	1.60
Hydrogen sulphide	3°(bt)	55	0.67
Methylamine	3°(bt)	13	0.58
Methyl chloride	3°(bt)	17	0.81

Methyl mercaptan	3°(bt)	10	0.78
Trimethylamine	3°(bt)	10	0.56
Trimethylsilane	3°(bt4	225	0.39
1,3-Butadiene	3°(c)	10	0.55
Vinyl chloride	3°(c)	12	0.81
Cyanogen	3°(ct)	100	0.70
Cyanogen chloride	3°(ct)	20	1.03
Ethylene oxide	3°(ct)	10	0.78
Methyl vinyl ether	3°(ct)	10	0.67
Trifluorochloroethylene (R 1113)	3°(ct)	19	1.13
Vinyl bromide	3°(ct)	10	1.37
Mixture F1	4°(a)	12	1.23
Mixture F2	4°(a)	18	1.15
Mixture F3	4°(a)	29	1.03
Mixture of gases R 500	4°(a)	22	1.01
Mixture of gases R 502	4°(a4	31	1.05
Mixture of 19 to 21 per cent by weight dichlorodifluoromethane (R 12) and 79 to 81 per cent by weight bromochlorodifluoromethane (R 12 BI)	4°(a)	12	1.50
Mixtures of methyl bromide and chloropicrin	3°(at)	10	1.51
Mixture A (trade name: butane)	4°(b)	10	0.50
Mixture A 0 (trade name: butane)	4°(b)	15	0.47
Mixture A 1	4°(b)	20	0.46
Mixture B	4°(b)	25	0.43
Mixture C (trade name: propane)	4°(b)	30	0.42
Mixtures of hydrocarbons containing methane	4°(b)	225	0.187
		300	0.244
Mixtures of methylsilanes	4°(bt)	225	0.39
Mixtures of methyl chloride and methylene chloride	4°(bt)	19	0.81
Mixtures of methyl bromide and ethylene bromide	4°(bt)	10	1.51
Mixtures of methylacetylene / propadiene and hydrocarbons			
Mixture P 1	4°(c)	30	0.49
Mixture P 2	4°(c)	24	0.47
Ethylene oxide containing not more than 10 per cent carbon dioxide by weight	4°(ct)	28	0.73
Ethylene oxide containing not more than 50 per cent methyl formate by weight with nitrogen up to a maximum total pressure of 10 kg/cm² at 50°C	4°(ct)	25	0.80
Ethylene oxide with nitrogen up to a total pressure of 10 kg/cm² at 50°C	4°(ct)	15	0.78
Dichlorodifluoromethane containing 12 per cent ethylene oxide by weight	4°(ct)	18	1.09

* 1. The test pressures prescribed are at lest equal to the vapour pressures of the liquids at 70°C, reduced by 1 kg/cm², the minimum test pressure required being however 10 kg/cm².

2. In view of the high degree of toxicity of phosgene (carbonyl chloride) [3° (at)] and of cyanogen chloride [3°(ct)], the minimum test pressure for these gases has been fixed at 20 kg/cm².

3. The maximum values prescribed for the degree of filling in kg/litre have been determined as follows: maximum weight of contents per litre of capacity=0.95 times the density of the liquid at 50°C; in addition, the vapour phase must not disappear below 60°C.

(3) In the case of receptacles intended to contain liquefied gases of 5° and 6° the degree of filling shall be such that the internal pressure at 65° C does not exceed the test pressure of the receptacles. The following values shall be complied with [see also paragraph (4)]:

Description of substance	Item number	Minimum Test pressure kg/cm²	Maximum weight of contents per litre of capacity kg
Bromotrifluoromethane (R 13 B 1)	5°(a)	42	1.13
		120	1.44
		250	1.60
Carbon dioxide	5°(a)	190	0.66
		250	0.75
Chlorotrifluoromethane (R 13)	5°(a)	100	0.83
		120	0.90
		190	1.04
		250	1.10
Hexafluoroethane (R 116)	5°(a)	200	1.10
Nitrous oxide N_2O	5°(a)	180	0.68
		225	0.74
250	0.75		
Sulphur hexafluoride	5°(a)	70	1.04
Trifluoromethane (R 23)	5o(a)	190	0.87
		250	0.95
Xenon	5°(a)	130	1.24
Hydrogen chloride	5°(at)	100	0.30
		120	0.56
		150	0.67
		200	0.74
Ethane	5°(b)	95	0.25
		120	0.29
		300	0.39
Ethylene	5°(b)	225	0.34
		300	0.37
Silane	5°(b)	225	0.32
		250	0.41
Germane	o(bt)	250	1.02
Phosphine	5°(bt)	225	0.30
		250	0.51
1.1.-Difluoroethylene	5°(c)	250	0.77
Vinyl fluoride	5°(c)	250	0.64

Class 2

Description of substance	Item number	Minimum test pressure kg/cm²	Maximum weight of contents per litre of capacity kg
Diborane	5°(ct)	250	0.072
		Constituents (weight per cent)	
Carbon dioxide containing 1-10 per cent nitrogen, oxygen, air or rare gases by weight	6°(a)	190 1	0.64
		190 1-10	0.48
		250 1	0.73
		250 1-10	0.59
Mixture of gases R 503	6°(a)	31	0.11
		42	0.20
		100	0.66
Carbon dioxide containing not more than 35 per cent ethylene oxide by weight	6°(c)	190	0.66
		250	0.75
Ethylene oxide containing more than 10 per cent but not more than 50 per cent carbon dioxide by weight	6°(ct)	190	0.66
		250	0.75
6o (ct)			

(4) For substances of 5° other than hydrogen chloride [5° (at)]; germane and phosphine [5° (bt)]; and diborane [5° (ct)], and for substances of 6°, the use of receptacles tested at a lower pressure than that indicated in paragraph (3) for the substance in question is allowed, but the quantity of substance per receptacle shall not exceed that which at 65°C would produce inside the receptacle a pressure equal to the test pressure. In such a case the permissible maximum load shall be prescribed by the expert approved by the competent authority.

(1) In the case of gases dissolved under pressure, of 9°, the following values shall be complied with for the hydraulic pressure to be applied to the receptacles in the test (test pressure), and for the maximum degree of filling allowed: 2221

Class 2

Description of substance	Item number	Minimum test pressure kg/cm²	Maximum weight of contents per litre of capacity kg
Ammonia dissolved under pressure in water with more than 35 per cent but not more than 40 per cent ammonia by weight	9o (at)	10	0.80
with more than 40 per cent but not more than 50 per cent ammonia by weight	9°(at)	12	0.77
Dissolved acetylene	9° (c)	60	see under (2)

(2) In the case of dissolved acetylene [9o (c)], once equilibrium has been achieved at 15°C the cylinder - filling pressure shall not exceed the value prescribed by the competent authority for the porous mass, which value shall be engraved on the cylinder. The quantity of solvent and the quantity of acetylene shall likewise correspond to the figures specified in the approval.

Class 2

Special conditions:

Item No or letter	Description of substance	Maximum quantity per receptacle	Maximum quantity per package	Special requirements
	Gases packed in accordance with marginal 2205 All gases listed in this marginal	in the quantities prescribed in marginal 2205	6 kg	Chlorine [3° (at)] shall not be packed together with sulphur dioxide [3° (at)]
(a) (at)	Non-inflammable gases Non-inflammable toxic gases			Shall not be packed together with substances of Classes 1a, 1d, 1c, 3, 4.2, 5.2 or 7
(b)	Inflammable gases			Shall not be packed together with substances of Classes 1a, 1d, 1c, 3, 4.1, 5.2 7 or 8
	Gases packed in accordance with marginal 2206 All gases listed in the marginal except ammonia and cyclopropane			
(a) (at)	Non-inflammable gases Non- inflammable toxic gases	150 g	6 kg	Shall not be packed together with substances of Classes 1a, 1b, 1c, 3, 4.2, 5.2 or 7
(b) (bt) (c) (ct)	Inflammable gases Inflammable toxic gases Chemically unstable gases Chemically unstable toxic gases			Shall not be packed together with substances of Classes 1a, 1d, 1c, 3, 4.1, 4.2, 4.3, 5.1, 5.2 or 7 6 kg
3°(at) 3°(b)	Ammonia Cyclopropane	20 g	6 kg	

3. Mixed packing

(1) Substances of this Class other than substances of 7° and 8° may be enclosed in the same package with one another if they are contained:

(a) in metal pressure - receptacles of a volume not exceeding 10 litres;

(b) in thick - walled glass tubes or glass syphons in accordance with marginals 2205 and 2206, on condition that these fragile receptacles are secured in accordance with the provisions of marginal 2001 (5). The cushioning materials shall be suited to the properties of the contents. Inner packagings shall be placed in an outer packaging in which they shall be effectively kept apart from one another.

(2) Articles of 10° and 11° may be enclosed in the same package with one another under the conditions prescribed in marginal 2210.

(3) In addition, substances packed in accordance with marginals 2205 and 2206 may be enclosed in the same package with one another subject to the following special conditions.

(4) A package which meets the requirements of (1) and (2) shall not weigh more than 100 kg, or more than 75 kg if it contains fragile receptacles.

Class 2

4. Markings and labels on packages (see Appendix A.9)

(1) Every package containing receptacles holding gases of 1° to 9°, 12° or 13° or non-refillable containers of gas under pressure of 11° shall be marked legibly and indelibly with an indication of its contents, with the addition «Class 2». This marking shall be in an official language of the country of departure, and also, if that language is not English, French of German, in English, French or German, unless any agreements concluded between the countries concerned in the transport operation provide otherwise.

This provision need not be complied with if the receptacles and their markings are clearly visible.

(2) Packages containing aerosol dispensers of 10° shall be mrked with the word «AEROSOL» in clearly legible and indelible characters.

(3) Where a consignment constitutes a full load, the markings referred to in paragraph (1) are not mandatory.

(1) Packages which contain receptacles made of materials liable to shatter, such as glass or certain plastics materials, shall bear a label conforming to model No. 9. 2224

(2) Every package containing gases of 7° (a) or 8° (a) shall bear, on two opposite sides, labels conforming to model No. 8, and if the substances it contains are enclosed in glass receptacles [marginal 2207 (2) (a)] it shall, in addition, bear a label conforming to model No. 9.

Every package containing aerosol dispensers of 10° (b) 2., 10° (bt) 2., 10° (c) or 10° (ct), or non - refillable containers of gas under pressure of 11° (b), 11° (bt), 11° (c) or 11o (ct), shall bear a label conforming to model No. 2A. 2225

B. Particulars in the transport document

(1) The description of the goods in the transport document must be: 2226

(a) in the case of pure and technically - pure gases of 1°, 3°, 5°, 7° or 9°, of aerosol dispensers of 10°, of non - refillable containers of gas under pressure of 11° one of the names underlined in marginal 2201;

(b) in the case of mixtures of gases of 2°, 4°, 6°, 8°, 12° or 13° «mixture of gases». This description must be supplemented by an indication of the composition of the mixture of gases in volume per cent or weight per cent. Constituents below one per cent need not be indicated. In the case of mixtures of gases of 2° (a), 2° (b), 2° (bt), 4° (a), 4° (b), 4° (c), 6° (a), 8° (a) or 8° (b) the descriptions or names customary in the trade which are underlined in marginal 2201 may likewise be used, without indication of the composition.

Class 2

These descriptions must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g., 2, 5° (at), ADR] 2222

(2) In the case of consignments of gases which are listed among the chemically unstable gases the sender shall certify as follows in the transport document: «The necessary steps have been taken to satisfy the requirements of ADR marginal 2200 (4)». In the case of consignments of mixtures of gases of 12° or test gases of 13°, the sender shall certify as follows in the transport document: «The conditions laid down in ADR marginal 2201, 12° or 13°, have been complied with».

(3) In the case of consignments of chlorine trifluoride [3° (at)] the sender shall certify as follows in the transport document: «After filling with chlorine trifluoride, the receptacle has been kept under observation for not less than seven days and its leakproofness has been verified».

(4) In the case of tanks containing gases of 7° (a) or 8° (a) other than carbon dioxide and nitrous oxide, the transport document shall bear the following entry:

«The tank is in permanent communication with the atmosphere». 2227 2236

C. Empty packagings

(1) Receptacles and tanks of 14° shall be closed in the same manner as though they were full. 2223

(2) The description in the transport document must be: «Empty receptacle or («Empty tank»), uncleaned, 2, 14°, ADR (or Item 14, RID)». This text must be underlined in red.

D. Transitional provisions

The following transitional provisions shall apply to receptacles for compressed or liquefied gases or gases dissolved under pressure:

(a) receptacles already in service shall, subject to the following exceptions, be accepted in international traffic so long as the requirements of the contracting country in which the tests in accordance with marginal 2216 were carried out so permit and as the intervals prescribed in marginals 2216 (3) and 2217 for the periodic inspections are observed;

(b) in the case of receptacles manufactured under the previous system (permissible stress two - thirds, instead of three -quarters, of the yield stress), no increase in either the test pressure or the filling pressure shall be permitted [see marginal 2211 (1)];

(c) transitional measures for tanks: see marginal 211180;

(d) transitional measures for tank-containers: see marginal 212180.

CLASS 3. INFLAMMABLE LIQUIDS

1. List of substances

(1) Among the inflammable liquids and mixtures thereof, whether liquid or still pasty at a temperature not exceeding 15°C, the substances listed in marginal 2301 are subject to the provisions of this Annex and of Annex B. These substances to be accepted for carriage under certain conditions are to be considered as substances of ADR. 2300

(2) Inflammable liquids which at a temperature of 50° C have a vapour pressure not exceeding 3 kg/cm^2, except those listed in other Classes, are deemed to be inflammable liquids within the meaning of ADR.

(3) Liquids of Class 3 which are liable to form peroxides easily (as happens with ethers or with certain heterocyclic oxygenated substances) are not to be handed over for carriage unless their peroxide content, reckoned as hydrogen peroxide H_2O_2, does not exceed 0.3 per cent.

(4) The peroxide content referred to above and the flash - point referred to below shall be determined as shown in Appendix A.3 (marginals 3300 - 3303).

(5) Substances of Class 3 which polymerize easily are to be accepted for carriage only if the necessary precautions have been taken to prevent their polymerization during carriage.

(6) Solid substances soluble in liquids shall be deemed to include driers, fixed oils (boiled or blown linseed oils, etc.) or similar substances (nitrocellulose excepted) whose flash - point is above 100°C.

2301 1o (a) Liquids not miscible, or only partially miscible, with water which have a flash - point below 21°C, also when they contain not more than 30 per cent solids (nitrocellulose excepted) either dissolved, or held in suspension in the liquids, or both, e.g. crude petroleums and other crude oils; volatile products from the distillation of petroleum and of other crude oils or of coal, lignite, shale, wood and peat tars, e.g. petroleum ether, pentanes, benzine, benzol and toluene; condensation products of natural gas; ethyl acetate (acetic ester), vinyl acetate, diethyl ether ether (sulphuric ether) methyl formate and other ethers and esters; carbon disculphide; acrylaldehyde (acrolein); certain chlorinated hydrocarbons [e.g. 1,2 - dichloroethane and chloroprene (chlorobutadiene)];

(b) mixtures of liquids having a flash - point below 21°C and containing not more than 55 per cent nitrocellulose with a nitrogen content not exceeding 12.6 per cent (collodions, semi - collodions and other nitrocellulose solutions).

Class 3

For (a), see also marginal 2301a under (a), (b) and (d); for (b), see also marginal 2301a, under (a).

Note: For mixtures of liquids having a flash - point below 21°C and

– containing more than 55 per cent nitrocellulose, whatever its nitrogen content, or

– containing not more than 55 per cent nitrocellulose with nitrogen content above 12.6 per cent,

see Class 1a, marginal 2101, 1°, and Class 4.1, marginal 2401 7° (a+.

2° Liquids not miscible, or only partially miscible, with water which have a flash - point below 21°C and contain more than 30 per cent solids (nitrocellulose excepted) either dissolved, or held in suspension in the liquids, or both, e.g.: certain colours for rotogravures and for leathers, certain varnishes, certain enamel paints, and rubber solutions. See also marginal 2301a, under (c).

3° Liquids not miscible, or only partially miscible, with water which have a flash - point between 21°C and 55°C inclusive, also when they contain not more than 30 per cent solids either dissolved, or held in suspension in the liquids, or both, e.g.: turpentine: semi - heavy products from the distillation of petroleum and of other crude oils, or of coal, lignite, shale, wood and peat tars, e.g. white spirit (turpentine substitute), heavy benzols, petroleum oils (for lighting, heating or engines), xylene, styrene, cumene, solvent naphtha; butanol; butyl acetate; pentyl acetate (amyl acetate)! nitromethane (mononitromethane) and cetain mononitro - paraffins; certain chlorinated hydrocarbons (e.g. chlorobenzene). See also marginal 2301a, under (c) and (d).

4° Liquids not miscible, or only partially miscible, with water which have a flash - point above 55°C but not exceeding 100°C, also when they contain not more than 30 per cent solids either dissolved, or held in suspension in the liquids, or both, e.g.: certain tars and their distillation products: heating oils, diesel oils, certain gas oils; tetrahydronaphthalene (tetralin); nitrobenzene; certain chlorinated hydrocarbons (e.g. 1 - chloro - 2 - ethylhexane). See also marginal 2301a, under (c) and (d).

5° Liquids miscible in all proportions with water which have a flash - point below 21°C, also when they contain not more than 30 per cent solids either dissolved, or held in suspension in the liquids, or both, e.g.: methanol (methyl alcohol, wood spirit), denatured or not;

Class 3

Ethanol (ethyl alcohol, ordinary alcohol), denatured or not; acetaldehyde; acetone and acetone mixtures; pyridine. See also marginal 2301a, under (a) and (c).

6° Empty receptacles, uncleaned, and empty tanks, uncleaned, which have contained inflammable liquids of Class 3.

2301a Substances handed over for carriage in conformity with the following provisions are subject neither to the provisions for this Class contained in this Annex nor to those contained in Annex B:

(a) liquids of 1° (except those mentioned under (b) below), and acetone and acetone mixtures (5°): in quantities not exceeding 200 g per receptacle, in receptacles made of sheet - metal, glass, porcelain, stoneware or a suitable plastics material, these receptacles, with a total content not exceeding 1 kg, being placed together in an outer packaging made of sheet - metal, wood or fibreboard and fragile receptacles being suitably secured in the packaging to prevent their beakage;

(b) carbon disulphide, diethyl ether, petroleum ether, pentanes, methyl formate: 50 g per receptacle and 250 g per package, these substances being packed in the same way as those of (a);

(c) liquids of 2° - 5°, except acetaldehyde, acetone and acetone mixtures: 1 kg per receptacle and 10 kg per package, these substances being packed in the same way as those of (a);

(d) the motor - fuel contained in the tanks of motor - driven vehicles or in closed auxiliary tanks firmly fixed to the vehicles. If there is a cock between the tank and the engine it must be closed; the electric circuit must also be disconnected. Motor cycles and motor - assisted pedal cycles whose tanks contain motor - fuel must be loaded upright on their wheels, secured against falling.

2. Provisions

A. Packages

1. General conditions of packing 2302

(1) Receptacles shall be so closed and leak - proof as to prevent any loss of the contents, and particularly any evaporation.

(2) The materials of which the receptacles and their closures are made must not be liable to attack by the contents nor form harmful or dangerous compounds therewith.

Class 3

(3) Packagings, including their closures, must be sufficiently, rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the cubstances at the time of filling and the highest mean teaperature which they are likely to reach during carriage (see also marginal 2305). Inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The walls must be not less than 3 mm thick in the case of receptacles weighing, with their contents, more than 35 kg and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

(5) Cushioning materials shall be suited to the nature of the contents and, in particular, shall be absorbent. Suitable materials must be used to secure receptacles in the protective packaging; this securing must be carried out with care and be checked periodically (possibly before each fresh filling of the receptacle).

2. Packing of a single substance

(1) Substances of 1° - 5° must be packed in suitable receptacles made of metal or of glass, porcelain, stoneware or similar materials. Substances of 4° and corrosive liquids of 1° (a), 3° and 5° may also be packed in receptacles made of a suitable plastics material. [For the special provisions concerning chloroprene and nitromethane, see under (8) and (9), respectively, below]. 2303

(2) Fragile receptacles (glass, porcelain, stoneware or similar materials) may not contain more than the following quantities of substances of 1°:

carbon disulphide ..... 1 litre;
diethyl ether, petroleum ether, pentanes ..... 2 litres;
other substances of 1° ..... 5 litres;

Clase 3

(3) Tin- plate receptacles having a capacity not exceeding 10 litres must have a wall thickness of not less than 0.25 mm; those having a capacity exceeding 10 litres but not exceeding 60 litres must have a wall thickness of not less than 0.3 mm and their joints shall be double-seamed by welting, or soldered, or produced by a process ensuring a similar degree of strength and tightness. 2303

(4) Receptacles made of sheet-steel [for tin-plate receptacles having a capacity not exceeding 60 litres, see also (3)] must be welded or hard-soldered, and the quantities of substances of 1°-5° they may contain, according to the thickness of their walls, are as follows:

if the wall thickness is not less than 0.5 mm: not more than 30 litres;

if the wall thickness is not less than 0.7 mm: not more than 60 litres;

if the wall thickness is not less than 1.5 mm: over 60 litres.

Packages weighing more than 100 kg shall be fitted with rolling hoops.

(5) Receptacles made of sheet-metal other than steel must be designed and manufactured in such a way that they possess the same strength as the sheet-steel receptacles referred to under (4).

(6) Liquids whose vapour pressure at 50°C does not exceed 1.5 Kg/cm^2, with the exception of carbon disulphide, may also be carried in metal drums complying with the following provisions:

The body joints of the drums must be welded and the end joints welded or double-seamed by welting. The drums must be fitted with rolling hoops or strengthening ribs. Every drum must have undergone the leakage test prescribed in marginal 3502 of Appendix A.5. The drums must be of a type of construction which has satisfied the other tests prescribed in the aforesaid Appendix A.5. and must bear the mark assigned at the time of type approval.

(7) For the carriage in non-returnable metal packagings (new packagings intended to be used only once) of inflammable products whose vapour pressure at 50°C does not exceed 1.1 kg/cm^2 it is not necessary, in the case of a package whose unit weight must not exceed 225 kg, for the end of the receptacle to be welded to the body and for the wall thickness to be greater than 1.25 mm, but the receptacle must be able to withstand, without leakage, a hydraulic pressure of 0.3 kg/cm^2 at least, and its body and ends must be equipped with devices (such ae ribs or rolling hoops), whether detachable or not, ensuring rigidity.

(8) Chloroprene [1° (a)] shall be packed:

(a) in hermetically-closed metal receptacles, suitably lined if necessary, having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or other outer packaging of adequate strenght; or

(b) in sheet-steel canisters, welded or hard-soldered, having a capacity not exceeding 60 litres, hermetically closed and fitted with means of handling.

(9) Nitromethane (3°) must be contained:

(a) in frapile receptacles containing not more than 1 litre; or

(b) in sheet-steel receptacles in conformity with (4) above having a capacity not exceeding 10 litres; or

(c) in metal drums each having two hermetic closures, one of them screwthreaded, each drum being fitted with rolling hoops and having a capacity not exceeding 200 litres.

(1) Fragile receptacles containing substances of 1° to 5°, receptacles made of a plastics material and containing corrosive liquids of 1° (a), 3° and 5°, tin-plate receptacles containing substances of 1° and 5°, tin-plate receptacles having a wall thickness of less than 0.5 mm and containing substances of 2° -4°, and sheet-steel receptacles containing nitromethane in conformity with marginal 2303 (9) (b), shall be secured by cushioning materials in protective packagings. If receptacles made of a plastics material are secured separately in protective packagings, cushioning materials are not necessary. 2304

Protective packagings enclosing fragile receptacles containing substances of 1° and 5° and protective packagings enclosing receptacles containing nitromethane (3°) must have complete sides and be made of wood, sheet-metal or a similar material.

The closure of fragile receptacles placed in open protective packagings must be provided with a protective cover shielding them from damage. If the packages are loaded on an open vehicle, the protective cover must be incapable of igniting on contact with a flame.

(2) The following are to be accepted for carriage without protective packaging:

(a) receptacles made of a plastics material in conformity with marginal 2304 (1), containing substances of 4°;

(b) receptacles made of tin-plate not less than 0.5 mm thick, containing substances of 2°-4°;

(c) sheet-metal receptacles in conformity with marginal 2303 (4) to (7);

(d) metal canisters in conformity with marginal 2303 (8) (b) containing cloroprene [1° (a)];

(e) metal drums in conformity with marginal 2303 (9) (c) containing nitromethane (3°).

(3) The following packages must not exceed the maximum weights indicated below:

(a)	packages of fragile receptacles containing substances of 1°	30 kg;
(b)	packages of fragile receptacles containing substances of 2° - 5°	75 kg;
(c)	packages of receptacles made of a plastics material and containing substances of 1° (a) and 3°-5°, and of tin-plate receptacles containing substances of 1°-5°	75 kg;
(d)	packages of receptacles containing chloroprene in conformity with marginal 2303 (8)	75 kg;
(e)	packages of sheet-steel receptacles containing nitromethane in conformity with marginal 2303 (9) (b)	75 kg;
(f)	drums tested in conformity with marginal 2303 (6)	250 kg;
(g)	receptacles in conformity with marginal 2303 (7)	225 kg;
(h)	drums containing nitromethane in conformity with marginal 2303 (9) (c)	275 kg;

(4) Packages other than cases and metal drums shall be fitted with means of handling.

Metal receptacles intended to contain liquids of 1°, nitromethane (3°), or acetaldehyde, acetone, or acetone mixtures (5°), shall not be filled beyond 93 per cent of their capacity. Nevertheless, receptacles containing hydrocarbons other than petroleum ether, pentanes, benzene and toluene may be filled to 95 per cent of their capacity. 2305

3. Mixed packing

(1) Substances grouped under the same item number may be included in the same package. The inner packa- 2306

gings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance», substances of this Class may be enclosed in the same package either with dangerous substances of other Classes (if mixed packing is likewise permitted in the case of such substances) or with other goods, as indicated below.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions contained in marginals 2001 (5) and 2002 (6) and (7) must be observed.

A package must not weigh more than 150° kg, or more than 75 kg if it contains fragile receptacles.

Item No.	Description of substances	Maximum quantity per fragile receptacle	Maximum quantity per other receptacle	Maximum quantity per package	Special provisions
1o (a)	Carbon disulphide	0.3 litre	1 litre	1 litre	Liquids of Class 3 nust not be packed together with substances of Class 4.2, hydrogen peroxide or perchloric acid of Class 5.1, or substances of Class 8, 2°(a), 3°(a), 4°, 7° and 41°.
1° 3a) and 1° (b)	All substances except carbon disulphide	1 litre	5 litres	5 litres	
2°	All substances	1 litre	5 litres	10 litres	
3°	All substances	3 litres	5 litres	10 litres	
4°	All substances	5 litres	5 litres	10 litres	
5°	Liquids having a boiling point ≤ 50°C	1 litres	5 litres	5 litres	
	Other substances	3 litres	5 litres	10 litres	

4. Marking and danger labels on packages (see Appendix A:) 2307

(1) Packages containing liquide of 1° to 3° and 5° shall bear a label conforming to modesl No. 2A.

However, if substances of 2°, 3° or 5° are packed in receptacles made of glass, porcelain, stoneware or similar material, of a capacity exceeding 5 litres, the packages shall bear two labels conforming to model No. 2A.

Packages containing acrylaldehyde or chloroprene (chlorobutadiene) [1° (a)] or methanol (methyl alcohol) (5°) shall in addition bear a label conforming to model No. 4.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when othe packagings are used.

(3) In the case of consignments carried as a full load, labels Nos. 2A and 4, as prescribed under (1), need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10 500.

B. Particulars in the transport document 2308

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2301. If the latter does not contain the name of the substance, the trade name shall be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 3, 1°(a), ADR]. 2309

(2) In the case of all consignments of substances which polymerize easily, the following must be certified in the transport document: «The necessary steps have been taken to prevent polymerization during carriage».

2310

C. Empty packagings 2315

(1) Receptacles and tanks of 6° must be closed in the same manner and leak-proof in the same degree as though they were full. 2316

(2) The description in the transport document must be: «Empty receptacle (or empty tank), 3, 6° ADR (or RID)». This description must be underlined in red.

(3) Empty receptacles, uncleaned, of 6° which have contained substances of 1° to 3° and 5° shall bear a label conforming to model No. 2A. Those which have contained acrylaldehyde or chloroprene (chlorobutadiene) (1°(a)) or methanol (methyl alcobol) (5°) shall in addition bear a label conforming to model No. 4.

2317
2399

CLASS 4.1. INFLAMMABLE SOLIDS

1. List of substances

Among the substances covered by the heading of Class 4.1, those listed in marginal 2401 are subject to the provisions of this Annex and of Annex B. These substances to be accepted for carriage under certain conditions are to be considered as substances of ADR. 2400

1° Substances which can easily be ignited by sparks, such as wood flour, sawdust, wood shavings, wood fibre, wood charcoal, wood parings and wood cellulose, old paper and waste paper, paper fibres, cane (except Spanish broom), reeds, hay, straw, also when damp (including 2401

maize, rice and flax straw), vegetable textile substances and waste of vegetable textile substances, cork in powder or granular form, expanded or not, with or without an admixture of tar or of other substances not subject to spontaneous oxidation, and cork waste in small lumps. See also Class 4.2, marginal 2431, 8°-10°, and marginal 2431a, under (b).

Note: 1. These substances are included in the list only for the purposes of the prohibitions on mixed loading. For this purpose the provisions of marginal 2416 (1) apply. No other clause, either of this Annex or of Annex B, is applicable to them.

2. Hay still having a degree of humidity which might lead to fermentation is not to be accepted for carriage.

3. Wrappings and slabs of expanded cork, manufactured under pressure, with or without an admixture of tar or of other substances not subject to spontaneous oxidation, are not subject to any of the provisions of ADR.

4. Cork impregnated with substances still subject to spontaneous oxidation is a substance of Class 4.2 (see marginal 2431, 9°).

2° (a) Sulphur (including flowers of sulphur);

3° (b) sulphur in the melted state.

3° Celloidin, produced by incomplete evaporation of the alcohol contained in collodion and consisting mainly of collodion cotton.

4° Celluloid in slabs, sheets, rods or tubes, and fabrics coated with nitrocellulose.

5° Film celluloid, i.e. the raw material for films, without emulsion, in rolls, and developed celluloid films.

6° Celluloid waste and celluloid-film waste.

Note: Nitrocellulose-film waste, free from gelatine, in reels, sheets or strips, is a substance of Class 4.2 (see marginal 2431, 4°)

7° (a) Weakly nitrated nitrocellulose (such as collodion cotton), i.e. with a nitrogen content not-exceeding 12.6 per cent, well stabilized and containing in addition not less than 25 per cent water or alcohol (methyl, ethyl, normal propyl or isopropyl, butyl or amyl alcohol, or mixtures thereof), also if denatured, solvent naphtha, benzol, toluene, xylene, mixtures of denatured alcohol and xylene, mixture water and alcohol or alcohol containing camphor in solution;

Note: 1. Nitrocellulose with a nitrogen content exceeding 12.6 per cent is a substance of Class la (see marginal 2101, 1°).

2. When the nitrocellulose is wetted with denatured alcohol, the denaturing substance must not have a detrimental effect on the stability of the nitrocellulose.

(b) plasticized nitrocellulose, non-pigmented, containing not less than 18 per cent plasticizer (butyl phthalate or a plasticizer at least equivalent in effect) and in which the nitrocellulose has a nitrogen content not exceeding 12.6 per cent; the nitrocellulose may be in the form of chips;

Note: Plasticized nitrocellulose, non-pigmented, containing not less than 12 per cent and less than 18 per cent butyl phthalate or a plasticizer at least equivalent in effect is a substance of Class la (see marginal 2102, 4°).

(c) plasticized nitrocellulose, pigmented, containing not less than 18 per cent plasticizer (butyl phthalate or a plasticizer at least equivalent in effect), in which the nitrocellulose has a nitrogen content not exceeding 12.6 per cent and which contains not less than 40 per cent nitrocellulose; the nitrocellulose may be in the form of chips.

Note: Plasticized nitrocellulose, pigmented, containing less than 40 per cent-nitrocellulose is not subject to the provisions of ADR.

For (a), (b) and (c): weakly-nitrated nitrocellulose and plasticized nitrocellulose, pigmented or not, are not to be accepted for carriage unless they satisfy the stability and safery conditions of Appendix A.1 or the conditions set forth above regarding the nature and quantity of the additional substances.

For (a), see also Appendix A.1, marginal 3101, for (b) and (c), see also Appendix A.1, marginal 3102, 1.

8° Red phosphorus (amorphous), phosphorus sesquisulphide and phosphorus pentasulphide.

Note: Phosphorus pentasulphide not free from white or yellow phosphorus is not to be accepted for carriage.

9° Ground rubber, rubber dust.

10° Dust of coal, lignite, lignite coke and peat, artificially prepared (e.g. by pulverization or other processes), and coke from carbonized lignite rendered inert (i.e. not liable to spontaneous ignition).

MNote: 1. Natural dusts obtained as residues in the production of coal, coke, lignite or peat are not subject to the provisions of ADR.

2. Coke from carbonized lignite not rendered completely inert is not to be accepted for carriage.

11° (a) Crude naphthalene with a melting point below 75°C;

(b) pure naphthalene and crude naphthalene with a melting point of 75°C or over;

(c) Naphthalene in the melted state.

for (a) and (b), see also marginal 240la.

Naphthalene in balls of flakes [11° (a) and (b) is subject neither to the provisions for this Class contained in this Annex nor to those contained in Annex B if it is packed, not more than 1 kg per box, in tightly-closed fibreboard or wooden boxes and these boxes are enclosed, not more than 10 per case, in wooden cases. 2401a

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and arranged as to prevent any loss of the contents. 2402

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Solid substances shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Cushioning materials shall be suited to the nature of the contents; in particular, they must be absorbent when the contents are liquid or might exude liquid.

2. Packing of a single substance

(1) Sulphur of 2° (a) shall be packed in stout in stout bags made of paper or of closely-woven jute. 2403

(2) Sulphur in the melted state, of 2° (b), may not be carried otherwise than in tanks.

Celloidin (3°) shall be so packed as to prevent its desiccation. 2404

(1) Celluloid in slabs, sheets, rods or tubes, and fabrics coated with nitrocellulose, (4°), shall be enclosed: 2405

(a) in firmly-closed wooden packagings, or

(b) in strong paper wrappings which shall be placed

1. in crates; or

2. between frames made of boards, the edges of the frames extending beyond the paper wrapping and the frames being bound together with iron bands; or

3. in wrappings of closely-woven fabric.

(2) A package must not weigh more than:

75 kg in the case of celluloid in slabs, sheets or tubes and of fabrics coated with nitrocellulose, if the outer packaging is made of in fabrics conformity with (1) (b) 3;

120 kg in all other cases.

Film celluloid in rolls and developed celluloid films (5°) shall be enclosed in wooden packagings or in fibreboard boxes. 2406

(1) Celluloid waste and celluloid-film waste (6°) shall be enclosed in wooden packagings or in two strong bags made of coarse, closely woven jute canvas, the bags being fireproofed so as not to ignite even on contact with a flame and having strong and continuous seams. These bags shall be placed one inside the other; after filling, their openings shall be separately and several times folded over and closely stitched so as to prevent any escape of the contents. However, celluloid waste may be packed in a single bag if the celluloid waste is first packed in strong packing paper or in a suitable plastics material and it is certified in the transport document that the celluloid waste does not contain any waste in the form of dust. 2407

(2) Packages having a raw-canvas or jute packaging must not weigh more than 40 kg in single packaging not more than 80 kg in double packaging.

(3) For the particulars in the transport document, see marginal 2416(2).

(1) Substances of 7°(a) shall be packed: 2408

(a) in wooden receptacles or in drums made of impermeable fibreboard; these receptacles and drums shall have a lining impermeable to the liquids they contain; their closures must be leak-proof: or

(b) in bags impermeable to the vapours from the liquids they contain (e.g. bags made of rubber or of a suitable plastics material not readily inflammable), placed in a wooden case or in a metal receptacle; or

(c) in zinc-lined or lead-lined iron drums; or

(d) in receptacles made of tin-plate, zinc sheet or aluminium sheet and secured by cushioning materials in wooden cases.

(2) Nitrocellulose of 7°(a), if petted exclusively with water, may be packed in fibreboard drums; this fibreboard must have undergone a special treatment to render it completely impermeable; the closures of the drums shall be water-vapour proof.

(3) Nitrocellulose of 7°(a), with added xylene, may not be packed otherwise than in metal receptacles.

(4) Substances of 7°(b) and (c shall be packed:

(a) in wooden packagings lined with stout paper or zinc sheet or aluminium sheet; or

(b) in strong fibreboard drums or provided that the substances are dustfree and that this is certified in the transport document, in fibreboard cases which have been rendered impermeable; or

(c) in sheet-metal packagings.

(5) For substances of 7°, metal receptacles must be so constructed that, by reason of the method of assembly of their walls, of their mode of closure, or of the presence of a safety device, they yield when the internal pressure reaches a value not greater than 3 kg/cm^2; the presence of these closures or safety devices must not impair the strength of the receptacle nor impair its closure.

(6) A package must not weigh more than 75 kg or, if it can be rolled, not more than 300 kg; however, a fibre board drum must not weigh more than 75 kg and a fibreboard case not more than 35 kg.

(7) For the particulars in the transport document, see marginal 2416(3).

(1) Red phosphorus and phosphorus pentasulphide (8°) shall be packed: 2409

(a) in receptacles made of sheet iron or tin-plate, which shall be placed in a strong wooden case; a package must not weigh more than 100 kg; or

(b) in receptacles made of glass or stoneware not less than 3 mm thick, or of a suitable plastics material, each containing not more than 12.5 kg of substance. These receptacles shall be secured with cushioning materials in a strong wooden case; a package must not weigh more than 100 kg; or

(c) in metal receptacles which, if with their contents they weigh more than 200 kg, shall be fitted with reinforcing hoops at their ends, and with rolling hoops.

(2) Phosphorus sesquisulphide (8°) shall be packed in leak-proof metal receptacles, which shall be secured by cushioning materials in wooden cases with closely-fitting sides. A package must not weigh more than 75 kg.

Substances of 9° shall be packed in firmly-closing leak-proof receptacles. 2410

(1) Substances of 10° shall be packed in metal or wooden receptacles or in strong bags. 2411

(2) Wooden receptacles and bags are not, however, to be accepted for coal dust, lignite dust or peat dust artificially prepared unless the dust has been completely cooled after drying by heat.

(3) For the particulars in the transport document, see marginal 2416(4).

(1) Naphthalene of 11°(a) shall be packed in firmly-closed wooden or metal receptacles. 2412

(2) Naphthalene of 11°(b) shall be packed in wooden or metal receptacles, or in stout fibreboard cases, or in strong bags made of textile or of four-ply paper or of a suitable plastics material.

Where fibreboard cases are used, a package must not weigh more than 30 kg.

(3) Naphthalene in the melted state [11°(c)] must not be carried otherwise than in tanks.

3. Mixed packing

(1) Substances grouped under the same item number may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question. A package containing celluloid rods and tubes packed together in a textile wrapping must not weigh more than 75 kg. 2413

(2) If smaller quantities are not prescribed in the section entitled "Packing of a single substance", substances of this Class, in quantities not exceeding 6 kg for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances belonging to other Classes (if mixed packing is likewise allowed in the case of such substances), or with other goods, subject to the following special conditions.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions contained in marginals 2001 (5) and 2002 (6) and (7) must be observed.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

Item No.	Description of substance	Maximum quantity per receptacle	Maximum quantity per package	Special provisions
2°(a)	Sulphur	5 kg	5 kg	Must not be packed together with chlorates, permanganates, perchlorates, or peroxides (other than solutions of hydrogen peroxide)
7°(a)	Weakly-nitrated nitrocellulose (such as collodion cotton)	100 g	1 kg	Must not be packed together with substances of Classes 4.2 and 5.1
8°	Red (emorphous phosphorus)	5 kg	5 kg	
8°	Phosphorus sesquisulphide	Mixed packing not allowed		

4. Marking and danger labels on packages (see Appendix A.9)

(1) Packages containing substances of 4° to 8° shall bear a label conforming to model No. 2B.

However, if substances of 4° to 7° are packed in wrappings made of closely woven fabric in accordance with marginal 2405 (1) (b) 3., in fibreboard boxes or cases in accordance with marginals 2406 and 2408 (4) (b), in jute bags in accordance with marginal 2407 (1) or in fibreboard drums in accordance with marginal 2408 (1) (a), (2) and 4 (b), the packages shall bear two labels conforming to model No. 2B.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) In the case of consignments carried as a full load, label No. 2B need not be affixed to the packages.

B. Particulars in the transport document

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2401. Where the name of the substance is not indicated in the case of 1°, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials "ADR" or "RID" [e.g. 4.1, 7° (a), ADR].

(2) In the case of celluloid waste (6°) packed in stout packing paper or in a suitable plastics material and placed, so packed, in bags made of closely-woven raw canvas or jute, the following must be certified in the transport document: "Contains no waste in dust form".

(3) In the case of substances of 7° (b) and (c) packed in fibreboard cases, the following must be certified in the transport document: "Substances free from dust".

(4) In the case of coal dust, lignite dust or peat dust (10°) artificially prepared and packed in wooden receptacles or in bags [see marginal 2411(2)], the following must be certified in the transport document: "Substances completely cooled after drying by heat".

Empty packagings

No provisions.

CLASS 4.2 SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION

1. List of substances

Among the substances and articles covered by the heading of Class 4.2 only those listed in marginal 2431 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

1° White or yellow phosphorus.

2° Compounds of phosphorus with alkali metals or alkaline-earth metals, e.g., sodium phosphide, calcium phosphide, strontium phosphide.

Note: Compounds of phosphorus with the so-called heavy metals, such as iron, copper, tin, etc., but with the exception of zinc (zinc phosphide is a substance of Class 6.1 – see marginal 2601 33°), are not subject to the provisions of ADR.

3° Zinc alkyls, magnesium alkyls, aluminium alkyls and halides and hydrides of aluminium alkyls. See also marginal 2431a under (a).

4° Nitrocellulose-film waste, free from gelatine, in reels, sheets or strips.

Note: Nitrocellulose-film waste free from gelatine is not to be accepted for carriage if it is dusty or includes dusty portions.

5° (a) Used rags and waste;

(b) Greasy or oily fabrics, wicks, cord or thread;

(c) The following greasy or oily substances: wool, hair (and horsehair), artificial wool, reclaimed wool (also called wool shoddy), cotton, recarded cotton, artificial fibres (rayon, etc.), silk, flax, hemp and jute, also in the form of spinning or weaving waste.

For (a), (b) and (c), see also marginal 2431a under (b).

Note: Wetted substances of 5° (b) and (c) are not to be accepted for carriage.

6° (a) Dust and powder of aluminium or zinc and mixtures of dust of powder of aluminium and zinc, also when greasy or oily; powder of zirconium and titanium; dust from blast-furnace filters;

(b) Dust, powder and fine shavings of magnesium and of magnesium alloys with a magnesium content of more than 80 per cent, all free from particles likely to promote ignition;

(c) The following salts of dithionous (hydrosulphurous) acid (H_2SO_4): dithionites (hydrosulphites) of sodium, potassium, calcium and zinc;

(d) Metals in a pyrophoric form.

For (a), see also marginal 2431a under (b) and (c); for (b) and (c), see also marginal 2431a under (b).

7° Freshly calcined soot. See also marginal 2431a under (b).

8° Newly-quenched charcoal, powdered, granulated or in lumps.

See also marginal 2431a under (b) and Class 4.1, marginal 2401, 1°.

Note: By "newly-quenched charcoal" is meant:

in the case of charcoal in lumps, charcoal which has been quenched less than four days previously;

in the case of powdered charcoal and of granulated charcoal in a granule size of less than 8 mm, charcoal which has been quenched less than eight days previously and has been air-cooled in thin layers or by a process ensuring an equivalent degree of cooling.

9° Mixtures of granulated or porous combustible substances with constituents still liable to spontaneous oxidation, such as linseed oil or other natural drying oils, boiled or with added drying compounds, resin, resin oil, petroleum residues, etc. (e.g. the substance known as cork waste, lupuline), and oily residues from the bleaching of soya oil.

See also marginal 2431a under (b) and Class 4.1, marginal 2401, 1°.

10° Paper, cardboard and products made of paper or cardboard (e.g. cardboard wrappings and cardboard rings), wood-fibre sheets, skein of thread, fabrics, string, thread, spinning or weaving wastes, are impregnated with oils, greases, natural drying oils, boiled or with added drying compounds or other impregnating substances liable to spontaneous oxidation. See also marginal 2431a under (b) and Class 4.1, marginal 2401, 1°.

Note: Substances of 10° are not to be accepted for carriage if their humidity exceeds the hygroscopic humidity.

11° The substance with an iron oxide base having been used for purifying lighting gas (spent oxide of iron).

Note: If the substance which has been used for purifying lighting gas (spent oxide of iron) is, after storage and aeration, no longer liable to spontaneous ignition, and if this is certified in the transport document by the entry: "Substance not liable to spontaneous ignition", it is not subject to the provisions of ADR.

12° Used yeast bags, uncleaned. See also marginal 2431a under (b).

13° Empty sodium nitrate bags made of a textile fabric.

Note: Textile bags from which all the nitrate impregnating them has been completely removed by washing are not subject to the provisions of ADR.

14° Empty iron drums, uncleaned, and empty tanks, uncleaned, which have contained phosphorus of 1°.

15° Empty receptacles, uncleaned, which have contained substances of 3°.

Note: re 14° and 15°: Empty packagings which have contained other substances of Class 4.2 are not subject to the provisions of ADR.

2431a Dangerous substances handed over for carriage in conformity with the following provisions are subject neither to the provisions for this Class contained in this Annex nor to those contained in Annex B:

(a) solutions of substances of 3° in a concentration not exceeding 10 per cent in solvents with a boiling point not lower than 95°C, if their condition is such as to exclude any danger of spontaneous ignition and if this is certified in the transport document by the entry: "Substance not liable to spontaneous ignition"; see, however, Class 3;

(b) substances of 5° - 10° and 12° (excluding, however, those of 6° (d)), if their condition is such as to exclude any danger of spontaneous ignition and if this is certified in the transport document by the entry: "Substance not liable to spontaneous ignition"; for the substances of 8° certain substances of 9° and 10°, however, see Class 4.1 marginal 2401, 1°;

(c) dust and powder of aluminium or zinc [6°(a)], e.g. packed together with varnish for use in the manufacture of colours, if packed with care in quantities not exceeding 1 kg.

2. Provisions

A. Packages

1. General conditions of packing

2432 (1) Packagings shall be so closed and arranged as to prevent any loss of the contents.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents nor form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosing during carriage and to meet the normal requirements of carriage. In particular, in the case of substances in the liquid state of immersed in a liquid or in solution, receptacles and their closures must, unless the section headed "Packing of a single substance or of articles of the same kind" provides otherwise, be able to withstand any pressure which, the pressure of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Solid substances shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled "Packing of a single substance or of articles of the same kind", inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The thickness of the walls must be not less than 3 mm in the case of receptacles which, with their contents, weigh more than 35 kg, and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

(5) When receptacles made of glass, porcelain, stonewave of similar materials are prescribed or allowed, they must be secured by cushioning materials in protective packagings.

Cushioning materials shall be suited to the nature of the contents; in particular, they shall be dry and absorbent when the content are liquid or might exude liquid.

2. Packing of a single substance or of articles of the same kind

2433 (1) Phosphorus of 1° shall be packed:

(a) in leak-proof tin-plate receptacles hermetically closed and placed in wooden cases; or

(b) in sheet-iron drums closing hermetically. Press-on lids shall not be allowed. The sheet-iron constituting the body, bottom and lid shall not be less than 1.5 mm thick. A package must not weigh more than 500 kg. If it weighs more than 100 kg, it shall be fitted with rolling hoops or strengthening ribs, and shall be welded; or

(c) not more than 250 g per receptacle, in hermetically-closed glass receptacles secured by cushioning materials in leak-proof tin-plate receptacles closed by soldering and secured, likewise by cushioning materials, in wooden cases.

(2) Receptacles and drums containing phosphorus shall be filled with water.

(2) Receptacles and drums containing phosphorus shall be filled with water.

2434 (1) Substances of 2° shall be packed in leak-proof tin-plate receptacles hermetically closed and placed in wooden cases.

(2) Substances of 2° may also be packed, not more than 2 kg per receptacle, in receptacles made of glass, porcelain, stoneware or similar materials, secured by cushioning materials in wooden cases.

2435 (1) Substances of 3° shall be packed in receptacles made either of metal or of glass, porcelain, stoneware or similar materials, hermetically closed. Receptacles must not be filled beyond 90 per cent of their capacity.

(2) Metal receptacles shall be secured by cushioning materials in protective packagings which, if they are not closed, shall be covered. If the covering consists of readily-inflammable substances, it shall be rendered sufficiently fire-resistant to prevent its catching alight in contact with a flame. If the protective packaging is not closed, the package shall be fitted with means of handling nad shall not weigh more than 75 kg.

(3) Receptacles made of glass, porcelain, stoneware or similar materials shall have a capacity of not more than 5 litres and shall be secured by cushioning materials in leak-proof sheet-metal receptacles hermetically closed.

(4) Substances of 3° may also be packed in hermetically-closed drums made of corrosion-resistant steel and having a capacity of not more than 300 litres and a wall thickness of not less than 3 mm. The drums must withstand a test pressure of 10 kg/cm^2 and satisfy the conditions of marginal 2211 (1) and (2) (b). The closure of the filling and emptying device must be ensured by a protective cap. Receptacles must not be filled beyond 90 per cent of their capacity; however, with the liquid at a mean temperature of 50° C, a free space of 5 per cent must remain for safety purposes. When handed over for carriage, the liquid must be under a layer of inert gas at a pressure not exceeding 0.5 kg/cm^2. Receptacles shall be tested in conformity with the provisions of marginal 2216 (2) and (3). The tests shall be repeated every 5 years. The receptacles shall bear the following particulars in clearly legible and indelible characters:

1. the name of the substance in full, the name or mark of the maker or owner, and the number of the receptacle;

2. the tare of the receptacle, including fittings and accessories;

3. the test pressure, the date (month, year) of the last test undergone, and the stamp of the expert who carried out the tests and inspections;

4. the capacity of the receptacle and the maximum filling allowed;

5. the wording: «Do not open during carriage; liable to spontaneous ignition».

A package must not weigh more than 400 kg.

2436 (1) Substances of 4° shall be packed in bags placed in drums made of impermeable fibreboard or in receptacles

made of zinc sheet or aluminium sheet. The sides of metal receptacles shall be lined with fibreboard. The bottoms and lids of fibreboard drums and metal receptacles shall be lined with wood.

(2) Metal receptacles shall be fitted with closures or safety devices yielding when the internal pressure reaches a value not greater than 3 kg/cm^2; the presence of these closures or safety devices must impair the strength of the receptacle nor impair its closure.

(3) A package must not weigh more than 75 kg.

(1) Substances of 5° (a) shall be tightly compressed and 2437
be placed in leak-proof metal receptacles.

(2) Substances of 5° (b) and (c) shall be tightly compressed and be packed either in wooden or fibreboard cases or in paper or textile wrappings firmly secured.

(1) Substances of 6o (a) shall be enclosed in tightly- 2438
closing leak-proof receptacles made of wood or metal. However, zirconium shall be enclosed only in metal or glass receptacles, which shall be secured by cushioning materials in strong wooden cases. If the cushioning materials are inflammable, they shall be fireproofed.

(2) Substances of 6o (b) shall be enclosed in tightly-closing leak-proof iron drums or in wooden cases with a sheet-metal lining rendered leak-proof (by soldering, for example) or in boxes made of tin-plate or thin aluminium sheet and so closing as to be leak-proof; these drums, cases or boxes shall be placed in wooden cases. For substances of 6o (b) handed over individually for carriage in boxes made of tin-plate or aluminium sheet, a wrapping of corrugated fibreboard will suffice instead of a wooden case; a package of this nature must not weigh more than 12 kg.

(3) Substances of 6o (c) shall be packed in air-tight sheet-metal receptacles or air-tight iron drums. In the case of sheet-metal receptacles, a package must not weigh more than 50 kg.

(4) Substances of 6o (d) shall be packed in receptacles made of metal, glass or a suitable plastics material and so closing as to be gas-tight. The stoppers used for closure shall be held in position by an additional device (such as a cap, crown, seal or binding) capable of preventing any loosening during carriage. The substances shall be dispatched under a protective liquid (such as methanol) or a protective gas.

Metal receptacles shall be placed in a wooden packing case. A package must not weigh more than 50 kg.

Glass receptacles shall be secured by cushioning materials in fibreboard or metal packagings; the cushioning materials must be incombustible. Receptacles made of a plastics material shall be placed in fibreboard or metal packagings. Packagings containing receptacles made of glass or a plastics material shall be placed in a wooden packing case. A package must not weigh more than 25 kg.

Substances of 7o - 10o and 12o shall be enclosed in 2439
tightly-closing packages. Wooden packagings used for substances of 7o and 8o shall be provided with a leak-proof lining.

The substance having been used for purifying lighting 2440
gas (spent oxide of iron) (11o) shall be packed in tightly-closing sheet-metal receptacles.

Empty sodium nitrate bags (13o) shall be made up into 2441
tightly-packed bundles securely fastened with string and placed either in a wooden case or in a wrapping consisting either of several thicknesses of stout paper or of waterproofed fabric.

3. Mixed packing

(1) Substances grouped under the same item number 2442
may be included in the same package. The inner packagings shall conform to conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance or of articles of the same kind substances of this Class, in quantities not exceeding 6 kg in the case solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances delonging to other Classes (if mixed packing is likewise allowed in the case of such substances), or with other goods, subject to the following special conditions.

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions of marginal 2001 (5) and 2002 (6) and (7) must be observed.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

Item No.	Description of substance	Maximum quantity per receptacle	Maximum quantity per package	Special provisions
1o	White or yellow phosphorus	Mixed packing not allowed		
2o	Phosphides			
3o	Zinc alkyls, etc.			
6o (a) (b) and (d)	Dust and powder of aluminium or zinc	3 kg	3 kg	Must not be packed together with weakly-nitrated nitrocellulose and red phosphorus of Class 4.1, nor with bifluorides
	Dust, powder and fine shavings of magnesium			
	Metals in a pyrophoric form			
4o, 5o, 6o (c) 7o - 12o	all substances			

4. Marking and danger labels on packages (See Appendix A.9)

(1) Packages containing substances of 1o to 4o or 6o shall bear a label conforming to model No. 2C. 2443

However, if substances of 4o are packed in drums made of impermeable fibreboard in conformity with marginal 2436 (1), the packages, shall bear two labels conforming to model No. 2C.

(2) Drums containing phosphorus of 1o and having a screw-cap lid shall, unless they are fitted with a device maintaining them upright, bear in addition, high up in two diametrically opposite places, two labels conforming to model No. 8.

(3) Packages containing fragile receptacles not visible from the outside shall bear labels conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(4) In the case of consignments carried as a full load, label No. 2C as prescribed under (1), need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10500.

B. Particulars in the transport document

The description of the goods in the transport document must conform to one of the names underlined in marginal 2431. Where the name of the substance is not indicated in the case of 2°, 3°, 9° and 10°, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 4.2,5° (a), ADR]. 2444 2445

C. Empty packagings

(1) Receptacles and tanks of 14o and receptacles of 15o must be closed in the same manner and leak-proof in the same degree as though they were full. 2446 2452

(2) The description in the transport document must be: «Empty receptacle (or empty tank), 4.2, 14o (or 15o), ADR (or RID)». This description must be underlined in red. 2453

CLASS 4.3 SUBSTANCES WHICH GIVE OFF INFLAMMABLE GASES ON CONTACT CT WITH WATER

1. List of substances

Among the substances and articles covered by the heading of Class 4.3 only those listed in marginal 2471 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considerer as substances and articles of DR. 2454 2469 2470

1° (a) Alkali and alkaline-earth metals, e.g. sodium, potassium, calcium, as well as alkali metal alloys, alkaline-earth metal alloys and alloys of alkali and alkaline-earth metals; 2471

(b) alkali-metal amalgams and alkaline-earth metal amalgams;

(c) alkali-metal dispersions.

2° (a) Calcium carbide and aluminium carbide

(b) alkali-metal and alkaline-earth metal hydrides (e.g. lithium hydride, calcium hydride), mixed hydrides, and boron hydrides and aluminium hydrides of alkali metals and alkaline-earth metals;

(c) alkali silicides;

(d) calcium silicide, in powder, grains or lumps, containing more than 50 per cent silicon, manganese calcium silicide (silicomanganese-calcium);

(e) alloys of magnesium with manganese.

3° Amides of alkali metals and alkaline-earth metals, e.g. sodamide (sodium amide). See also marginal 2471a.

Note: Calcium cyanamide is not subject to the provisions of DR.

4° Trichlorosilane (silicochloroform).

5° Empty receptacles, uncleaned, and empty tanks, uncleaned, which have contained substances of Class 4.3.

Sodamide (3°) in quantities not exceeding 200 g per package is not subject to the provisions for this Class contained in this Annex or in Annex B if it is packed in receptacles which are so closed as to be leak-proof and which cannot be attacked by the contents, and if these receptacles are packed with care in a strong, leak-proof wooden packaging with a leak-proof closure. 2471a

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and leak-proof as to prevent the ingress of moisture and any loss of the contentes. 2472

(2) The materials of which the receptacles and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith. Receptacles must in all cases be free from moisture.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, in the case of solids immersed in a liquid, receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Solid substances shall be firmly secured in their packagings, and inner packagings shall be firmly secured in outer packagings.

Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The thickness of the walls must in no case be less than 2 mm.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

35) Cushioning materials shall be suited to the nature of the contents.

2. Packing of a single substance

(1) Substances of 1o shall be packed: 2473

(a) in receptacles made of sheet-iron, lead-lined sheet-iron or tin-plate. For substances of 1o (b), however, receptacles made of lead-lined sheet-iron or of tin-plate are not to be accepted. These receptacles, with the exception of iron drums, must be placed in wooden packing cases or in protective iron hampers; or

(b) not more than 1 kg per receptacle, in receptacles made of glass or stoneware. Not more than 5 of these receptacles shall be packed in a wooden packing case having a leak-proof lining of ordinary sheet-iron, lead-lined sheet-iron, or tin-plate, assembled by soldering. For glass receptacles containing quantities not exceeding 250 g, the lined wooden case may be replaced by an outer receptacle made of ordinary sheet-iron, lead-lined sheet-iron, or tin-plate. Glass receptacles shall be secured in the outer packagings by incombustible cushioning materials.

(2) If a substance of 1o (a) in not packed in a welded metal receptacle with a lid hermetically closed by soldering, then:

(a) it must be completely covered by mineral oil whose flash-point is above 50° C, or be sufficiently sprinkled to ensure that the lumps are coated with this oil; or

(b) the air in the receptacle must be completely replaced by a protective gas (e.g. nitrogen) and the receptacle so closed as to be gas-tight; or

(c) the substance must be poured into the receptacle, which must be filled to the brim and so closed, after cooling, as to be gas-tight.

(3) Iron receptacles must have sides not less than 1.25 mm thick. If, with their contents, they weigh more than 75 kg, they must be hard-soldered or welded. If they weigh more than 125 kg, they must in addition be fitted with end and rolling hoops or with rolling flanges.

(1) Substances of 2o shall be packed: 2474

(a) in receptacles made of sheet-iron, lead-lined sheet-iron or tin-plate. For substances of 2o (b) and (c) a receptacle must not contain more than 10 kg. Those receptacles, with the exception of iron drums, must be placed in wooden packing cases or in protective iron hampers; or

(b) not more than 1 kg per receptacle, in receptacles made of glass or stoneware or of a suitable plastics material. Not more than 5 of these receptacles shall be packed in a wooden packing case with a leak-proof lining of ordinary sheet-iron, lead-lined sheet-iron or tin-plate, assembled by soldering. For glass receptacles containing quantities not exceeding 250 g, the lined wooden case may be replaced by an outer receptacle made of ordinary sheet-iron, lead-lined sheet-iron or tin-plate. Glass receptacles shall be secured in the packing cases by incombustible cuchioning materials.

(2) A package must not weigh mor than 75 kg if it contains substances of 2° (b) or (c) and not more than 125 kg if it contains substances of 2° (d) or (e).

Amides (3°) shall be packed, not more than 10 kg per box or drum, in hermetically-closed metal boxes or drums, which shall be placed in wooden cases. A package must not weigh more than 75 kg. 2475

(1) Trichlorosilane (4°) must be packed in receptacles made of corrosion-resistant steel and having a capacity not exceeding 500 litres. The receptacles must be hermetically closed; the closing device must be specially protected by a cap. The receptacles must be constructed as pressure vessels for a working pressure of 4 kg/cm² and be tested in conformity with the regulations governing pressure vessels in force in the country of departure. Receptacles with a capacity not exceeding 250 litres must have a wall thickness of not less than 2.5 mm, and those with a higher capacity a wall thickness of not less than 3 mm. 2476

(2) If filling is based on weight, the degree of filling must not exceed 1.14 kg/l. If it is carried out by visual check, the degree of filling shall not exceed 84.5 per cent.

3. Mixed packing

(1) The substances grouped under the same item number may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question. 2477

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance», substances of this Class, in quantities not exceeding 6 kg in the case of solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances belonging to other Classes (if mixed packing is likewise permitted in the case of such substances), or with other goods, subject to the following special conditions.

Class 4.3

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions contained in marginals 2001(5) and 2002(6) and (7) must be observed. 2477

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

Item No.	Description of substance	Maximum quantity per receptacle	Maximum quantity per package	Special provisions
1°(a)	Alakli and alkaline - earth metals (e.g. sodium, potassium, calcium, barium			The limits of 500 g or 1 kg apply to alkali metals and alkaline - earth metals of 1°(a), and to alkali metal and alkaline - earth metal hydrides of 2°(b), in respect of the aggregate weight of these substances. Alkali metals and alkaline - earth metals, and substances of 2° (b), may not be packed together with acids, nor with liquids containign water.
	- in fragile receptacles	500 g	500 g	
	- in other receptacles	1 kg	1 kg	
2°(a)	Calcium carbide	Mixed packing not allowed		
2°(b)	Alkali metal and alkaline - earth metal hydrides (e.g. lithium hydride, calcium hydride), mixed hydrides, boron hydrides and aluminium hydrides			
	- in fragile receptacles	500 g	500 g	
	- in other receptacles	1 kg	1 kg	
4°	Trichlorosilane	Mixed packing not allowed		

4. Marking and danger labels on packages (see Appendix A.9)

(1) Every package containing substances of Class 4.3 2478 shall bear a label of model No. 2D and a label conforming to model No. 7.

(2) Every package containing trichlorosilane of 4° shall bear in addition a label conforming to model No. 2A.

(3) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No.8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

B. Particulars in the transport document

The description of the goods in the transport document 2480 must conform to one of the names underlined in marginal 2471. Where the name of the substance is not indicated in the case of 1°, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g.4.3 2°(a), ADR].

2481-2497

C. Empty packagings

(1) Receptacles and tanks of 5ο must be closed in same 2498 manner and be leak-proof in the same degree as though they were full.

(2) The description in the transport document must be: «Empty receptacle (or empty tank), 4.3. 5°, ADR (or RID)». This descpription must be underlined in red.

2499

CLASS 5.1 OXIDIZING SUBSTANCES

1. List of substances

Among the substances and articles coverd by the heading of Class 5.1, those listed in marginal 2501 are subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

Note: Unless specifically listed in class la or Class Lc, mixtures of oxidizing substances with combustible sustances are not to be accepted for carriage if they are capable of exploding on contact with a flame or are more sensitive to shock and to friction than dinitrobenzene.

1ο Stabilized, aqueous solutions of hydrogen peroxide containing more than 60 per cent hydrogen peroxide, and stabilized hydrogen peroxide.

Note: 1. For aqueous solutions of hydrogen peroxide contaiining not more than 60 per cent hudrogen peroxide, see marginal 2801, 41°.

2. Aqueous solutions of hydrogen peroxide containing more than 60 per cent hydrogen peroxide, not stabilized, and hydrogen peroxide, not stabilized, are not to be accepted for carriage.

2ο Totranitromethane, free from combustible impurities.

Note: Tetranitromethane not free from combustible impurities is not to be accepted for carriage.

3° Perchloric acid in aqueous solutions containing more than 50 per cent but not more than 72,5 per cent perchloric acid $(HClO)_4$.

See also marginal 2501a, under (a).

Note: Perchloric acid in aqueous solutions containing not more than 50 per cent perchloric acid $(HClO)_4$ in a substance of Class 8 (see marginal 2801, 4°). Aqueous solutions of perchloric acid containing more than 72.5 per cent perchloric acid are not to be accepted for carriage; the same applies to mixtures of perchloric acid with any liquid other than water.

4ο (a) Chlorates; inorganic chlorate weed - killers consisting of mixtures of sodium chlorate, potassium chlorate of calcium chlorate with a hygroscopic chloride (such as magnesium chloride or calcium chloride);

Note: Ammonium chlorate is not to be accepted for carriage.

(b) perchlorates (with the exception of ammonium perchlo- 2501 rate, see 5°)

(c) sodium and potassium chlorites;

(d) mixtures of chlorates perchlorates and chlorites of (a), (b) and (c) with one another.

For (a), (b), (c) and (d), see also marginal 2501a, under (b).

5° Ammonium perchlorate. See also marginal 2501a, under (b).

6° (a) Ammonium nitrate not containing combustible substances in a higher proportion than 0.4 per cent;

Note: Ammonium nitrate containing more than 0.4 per cent combustible substances is not to be accepted for carriage unless it is a constituent of an explosive of 12° or 14ο of marginal 2101.

(b) mixtures of ammonium nitrate with ammonium sulphate or ammonium phosphate containing more than 40 per cent nitrate but not more than 0.4 per cent combustible substances;

(c) mixtures of ammonium nitrate with an inert substance (e.g. infusorial earth, calcium carbonate, potassiumchloride) containing more than 65 per cent nitrate but not more than 0.4 per cent combustible substances.

For (a), (b), see also marginal 2501a, under (b).

Note: 1. Mixtures of ammonium nitrate with ammonium sulphate or ammonium phosphate containing not more than 40 per cent nitrate, and mixtures of ammonium nitrate with an inert inorganic substance containing not more than 65 per cent nitrate, are not subject to the provisions of ADR.

2. In the mixtures referred to under (c), only inorganic substances which are neither combustible not oxidizing may be considered as inert.

3. Compound fortilizers in which the total content of 2500 nitrogen as nitrate and as ammonia does not exceed 14 per cent or in which the nitrogen content as nitrate does not exceed 7 per cent are not subject to the prosivions of ADR.

7° (a) Sodium nitrate;

(b) mixturen of ammonium nitrate with nitrates of sodium, potassium, calcium or magnesium;

(c) barium nitrate, lead nitrate.

For (a), (b) and (c), see also marginal 2501a, under (b).

Note: 1. If they do not contain more than 10 per cent ammonium nitrate, mixtures of ammonium nitrate with calcium nitrate or with magnesium nitrate or with both are not subject to the provisions of ADR.

2. Empty textile bags which have contained sodium nitrate and have not been entirely freed from the nitrate impregnating them are articles of Class 4.3 (see marginal 2431, 13°).

8° Inorganic nitrites. See also marginal 2501a, under (b).

Note: Ammonium nitrite and mixtures of an inorganic nitrite with an ammonium salt are not to be accepted for carriage.

9° (a) Peroxides of alkali metals and mixtures containing peroxides of alkali metals which are not more dangerous than sodium peroxide;

(b) dioxides and other peroxides of alkaline - earth metals, e.g. barium dioxide;

(c) permanganates of sodium, potassium, calcium and barium.

For (a), (b) and (c), see also marginal 2501a, under (b).

Note: Ammonium permanganate, and mixtures of a permanganate with an ammonium salt, are not to be accepted for carriage.

10° Chromium trioxide (chromic anhydride; also called chromic acid).

See also marginal 2501a, under (b).

11° Empty packagings, uncleaned, and empty tanks, uncleaned, which have contained substances of Class 5.1.

Note: Empty packagings and empty tanks which have contained a chlorate, a perchlorate, a chlorite (4° and 5°), an inorganic nitrite (8°) or substances of 9° and 10°, with residues from their previous contents adhering to the outside, are not to be accepted for carriage.

Class 5.1

2501a Substances handed over for carriage in conformity with the following provisions are subject neither to the provisions for this Class contained in this Annex nor to those contained in Annex B.

(a) substances of 3o, in quantities not exceeding 200 g per receptacle, on condition that they are packed in receptacles so closed as to be leak-proof and not capable of being attacked by the contents, and that receptacles are packed, not more than 10 per case, in a wooden case with inert absorbent cushioning materials;

(b) substances of 4°-10°, in quantities not exceeding 10 kg, packed not more than 2 kg per receptacle in receptacles so closed as to be leak-proof and not capable of being attacked by the contents, these receptacles being enclosed in strong, leak - proof packagings made of wood or sheet - metal and having leak - proof closures.

2. Provisions

A. Packages

1. General conditions of pagking

2502 (1) Receptacles shall be so closed and arranged as to prevent any loss of the contents.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents, or cause the contents to decompose, or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and storng in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, where substances are in the liquid state, receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other flass receptacles must be free from faults liable to impair their strength, in particular, internal stresses must have been suitably relieved. The walls must be not less than 3 mm thick in the case of receptacles weighing, with their contents, more than 35 kg and not less than 2 mm in the case of other receptacles.

2502 The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

(5) When receptacles made of glass, porcelain, stoneware or similar materials are prescribed or allowed, they must be secured by cushioning materials in protective packagings, Gushioning materials must be incombustible (asbestos, glass wool, absorbent earth, infusorial earth, etc.) and incapable of forming dangerous compounds with the contents of the receptacles. If the contents are liquid, the cushioning materials shall also be absorbent and proportionate in quantity to the volume of the liquid; this interior absorbent layer must not, however, be less than 4 cm thick at any point.

lacking of a single substance

2503 (1) Aqueous solutions of hydrogen peroxide, and hydrogen peroxide of 1o, shall be packed in drums or other receptacles made of aluminium of at least 99.5 per cent purity or of special steel not liable to cause the hydrogen peroxide to decompose. These receptacles shall be fitted with means of handling; they must be able to remain upright in a stable fashion and must:

(a) be fitted in their upper part with a closing device ensuring equality of the internal and the atmosperic pressure; this closing device must in all circumstances prevent any escape of the liquid and any entry of foreign matter into the receptacle and must be protected by a vented cap; or

(b) be able to withstand an internal pressure of 2.5 kg/cm^2 and be fitted in the upper part with a safety device yielding when the excess of internal pressure is 1 kg/cm^2 at most.

(2) Receptacles shall not be filled beyond 90 per cent of their capacity.

(3) A package must not weigh more than 90 kg.

2504 Tetranitromethane (2o) shall be contained in bottles made of glass, porcelain, stoneware or similar materials or of a suitable plastics material, with incombustible stoppers, placed inside a wooden case with complete sides; fragile receptacles shall be secured therein by absorbent - earth cushioning. Receptacles shall not be filled beyond 93 per cent of their capacity.

2505 Perchloric acid in aqueous solutions (3o) shall be contained in glass receptacles, which shall be filled to not more than 93 per cent of their capacity. The receptacles shall be secured by absorbent and incombustible cushioning materials in incombustible protective packagings impermeable to liquids and capable of retaining the contents of the receptacles. The closure of the receptacles shall be protected by caps if the protective packagings are not completely closed.

Glass bottles closed by glass stoppers may also be secured by absorbent and incombustible cushioning materials in wooden cases with complete sides.

Packages containing fragile receptacles and carried otherwise than as a full load must not weigh more than 75 kg and shall be fitted with means of handling.

2506 (1) Substances of 4° and 5° and solutions of substances of 4° shall be packed in receptacles made of glass, of a suitable plastics material, or of metal; solid substances of 4° (b) may also be enclosed in hardwood casks.

(2) Fragile receptacles and receptacles made of a plastics material must be secured by cushioning materials in wooden or metal protective packagings. They may also be secured separately by incombustible cushioning materials in non-fragile intormediate receptacles which must in, turn be firmly placed or secured by cushioning materials in protective packagings. Each receptacle must contain not more than 5 kg of substance. In the case of receptacles whose contents are liquid, the cushioning materials must be absorbent.

(3) In the case of receptacles made of a plastics material and containing solutions of substances of 4o, the protective packagings may be dispensed with if the walls are not less than 4 mm thick at every point, the walls are strengthened by strong reinforcing rims, the ends are strengthened, the upper part is provided with two strong handholds, and the opening is fitted with a screw-threaded closure.

(4) Receptacles for liquids shall not be filled beyond 95 per cent of their capacity.

(5) Packages containing fragile receptacles or receptacles made of a plastics material [see (2) and (3)], if they contain liquids, and packages containing fragile receptacles or receptacles made of a plastical material [see (2)], if they contain only solid substances and are carried otherwise than as a full load, must not weigh more than 75 kg. Packages carried otherwise than as a full load shall be fitted with means of handling.

2506 (6) Packages which can be rolled must not weigh more than 400 kg; if they weigh more than 275 kg they shall be fitted with rolling hoops.

(7) Receptacles containing solid chlorates other than those referred to under (8) must not contain any combustible material other than a small pad of waxed paper.

(8) If the chlorate is in the form of tablets, with or without a suitable binder, and is packed in bottles containing not more than 200 g, a sufficient quantity of cotton - wool may be used to prevent excessive no ement of the tablets in the bottle. The bottles shall be packed in fitreboard boxes placed in an intermediate packaging separate from the outer packaging. An intermediate packaging may not contain more than 1 kg or a package more than 6 kg of chlorate.

(1) Substances of 6°, 7°, and 8° shall be packed:
(a) in drums or cases; or
(b) in strong bags made of closely - woven fabric or of stout paper of at least five plies or, in quantities not exceeding 50 kg, in bags made of a suitable plastics material sufficiently thick and strong to prevent any loss of the contents.

If the substance is more hygroscopic than sodium nitrate, bags made of closely - woven fabric or of stout paper of five plies must be lined with a suitable plastics material or be rendered impermeable by suitable means.

Packages which can be rolled must not weigh more than 400 kg; if they weigh more than 275 kg they shall be fitted with rolling hoops.

(1) Substances of 9° (a) shall be packed: 2507
(a) in steel drums; or
(b) in receptacles made of sheet-metal, lead-lined sheet-iron, or tinplate, secured in wooden packing cases having a metal lining rendered leak-proof, e.g. by soldering.

When carried as a full load, substances of 9°(a) may be packed in tin-plate receptacles placed solely in protective iron hampers.

(2) Receptacles containing substances of 9°(a) must be so closed and leak-proof as to prevent moisture from entering.

(3) Substances of 9°(b) and (c) shall be packed:
(a) in incombustible receptacles fitted with an incombustible hermetic closure. If the incombustible receptacles are fragile, each shall be secured separately by cushioning materials in a wooden case lined with stout paper; or 2508
(b) in hardwood casks with closely-fitting stave, lined with stout paper.

(4) Packages containing fragile receptacles and carried otherwise than as a full load must not weigh more than 75 kg and shall be fitted with means of handling.

Packages capable or rolling must not weigh more than 400 kg; they must be fitted with rolling hoops if they weigh more than 275 kg.

(1) Chromium trioxide (10°) shall be packed; 2509
(a) in receptacles made of glass, porcelain, stoneware or similar materials, tightly stoppered, and secured in a wooden case by inert and absorbent cushioning materials; or
(b) in metal drums.

(2) Packages containing fragile receptacles carried otherwise than as a full load must not weigh more than 75 kg and shall be fitted with means of handling.

Packages capable of rolling must not weigh more than 400 kg; they must be fitted with rolling hoops if they weigh more than 275 kg.

3. Mixed packing

(1) Substances grouped under the same letter may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question. 2510

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance», substances of this Class, in quantities not exceeding 6 kg in the case of solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances belonging to other classes (if mixed packing is likewise allowed in the case of such substances), or with other goods, subject to the following special conditions.

Class 5.1

The inner packaging must satisfy the general and special conditions of packing. In addition, the general provisions of marginals 2001 (5) and 2002 (6) and (7)) must be observed. 2510

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

Item No.	Description of substance	Maximum quantity per receptacle	Maximum quantity per package	Special provisions
1o	Hydrogen peroxide and aqueous solutions of hydrogen peroxide containing more than 60% hydrogen peroxide.	Mixed packing	not allowed.	
2o	Tetranitromethane			
3o	Perchloric acid			
4o	Solutions of substances of 4o			
4o(a)	Chlorates			Must not be packed together with weaklynitrated
	-in fragile receptacles	1 kg	2.75 kg	nitrocellulose, red phosphorus,
	-in other receptacles	5 kg	5 kg	bifluorides, liquid halogenated irritants, hydrochloric acid, sulphuric acid, chlorosulphonic acid, acetic acid, benzoic acid, salicylic acid, formic acid, nitric acid, free sulphonic acids, mixed nitrating acids, sulphur, hydrazine. Must be separated from uncombined carbon.

Item No.	Description of substance	Maximum quantity per receptacle	Maximum quantity per package	Special provisions
				(in any form), hypophosphites, ammonia and its compounds, triethanolamine, aniline, xylidine, toluidine, or inflammable liquids having a flash-point below 21 °C.
4o(b) and 5o	Perchlorates	5 kg	5 kg	Must not be packed together with weakly-nitrated nitrocellulose, red phosphorus, bibluorides, liquid halogenated irritants, hydrochloric acid, sulphuric acid, chlorosulphonic acid, nitric acid, mixed nitrating acids, aniline, pyridine, xylidine, toluidine, sulphur, hydrazine
4o(c) and 6o,7o, 8o	All substances			Must not be packed together with weakly-nitrated nitrocellulose or red phosphorus.
9o(a) and (b)	Peroxides -in fragile receptacles -in other receptacles	500 g 5 kg	2.5 kg 5 kg	Same substances prohibited as in the case of perchlorates, and also: aluminium dust, powder or granules, acetic acid; aqueous liquids, inflammable liquids of Classes 3 and 6.1 substances of Class 4.1; metallic peroxides must not be packed in the same package with solutions of hydrogen peroxide. The limitation of 2.5 kg applies to peroxides of 9o(a) and (b) for all of these substances. The use of sawdust or other organic filling materials is prohibited.
9o(c)	Permanganates	5 kg	5 kg	Same substances prohibited as in the case of chlorates, and also: solutions of hydrogen peroxide, glycerine, glycols. Must be separated from the same substances as indicated in the case of chlorates.
10o	Chromic anhydride (chromic acid)	4.5 kg	4.5 kg	The use of sawdust or other organic filling materials is prohibited.

Class 5.1

4. Marking and danger labels on packages (see Appendix A.9) 2511

(1) Packages containing substances of Class 5.1 shall bear a label of model No. 3. However, packages containing substances of 1o to 5o or 8o to 10o shall bear two labels conforming to model No.3.

Packages containing substances of 3o shall in addition bear a label conforming to model No. 5.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile rereptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) In the case of consignments carried as a full load, labels Nos. 3 and 5, as prescribed under (1), need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10 500.

B. Particular in the transport document 2512

The description of the goods in the transport document must conform to one of the names underlined in marginal 2501; it must be underlined in red and followed by particulars of the Ciass, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 5.1, 4o (a) ADR] 2513

2514-2520

C. Empty packagings

(1) Packagings and tanks of 11o must be closed in the same manner and leak-proof in the same degree as though they were full. 2521

(2) The description in the transport document must be: «Empty packaging, 5.1, 11°, ADR (or RID)». This description must be underlined in red.

(3) Empty textile bags, uncleaned, which have contained sodium nitrate [7o (a)] are subject to the provisions of Class 4.2 (see marginal 2441).

2522-2549

CLASS 5.2
ORGANIC PEROXIDES

1. List of substances

Among the substances and articles covered by the heading of Class 5.2, only those listed in marginal 2551 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR. 2550

Note: Organic peroxides which may explode on contact with a flame or which are more sensitive to shock and to friction than dinitrobenzene are not to be accepted for carriage unless they are specifically listed in Class 1a (see marginal 2101, 10o and Appendix A.1, marginal 3112; also marginal 2551, Group E, below).

Group A 2551

1o Ditertiary butyl peroxide.

2o Tertiary butyl hydroperoxide with not less than 20 per cent ditertiary butyl peroxide and not less than 20 per cent phlegmatizer.

Note: Tertiary butyl hydroperoxide with not less than

20 per cent ditertiary butyl peroxide but without phlegmatizer is listed under 31o.

3o Tertiary butyl peracetate with not less than 30 per cent phlegmatizer.

4o Tertiary butyl perbenzoate.

5o Tertiary butyl permaleate with not less than 50 per cent phlegmatizer.

6o Ditertiary butyl diperphtalate with not less than 50 per cent phlegmatizer.

7o 2,2-bis (tertiary butyl peroxy) butane with not less than 50 per cent phlegmatizer.

8o Benzoyl peroxide:

(a) with not less than 10 per cent water;

(b) with not less than 30 per cent phlegmatizer.

Class 5.2

Notes: 1. Benzoyl peroxide in the dry state or with less than 10 per cent water or less than 30 per cent phlegmatizer is a substance of Class 1a [see marginal 2101 10o (a)]. 2551

2. Benzoyl peroxide containing not less than 70 per cent dry and inert solids is no subject to the provisions of ADR.

9o Cyclohexanone peroxides [1-hydroxy-1-hydroperoxydicyclohexyl peroxide and bis (1-hydroxycyclohexyl) peroxide and mixtures of these two compounds]:

(a) with not less than 5 er cent water;

(b) with not less than 30 per cent phlegmatizer.

Notes: 1. Cyclohexanone peroxides and their mixtures in the dry state or with less than 5 per cent water or less than 30 per cent phlegmatizer are substances of Class 1a [see marginal 2101, 10o (b)].

2. Cyclohexanone peroxides and their mixtures containing not less than 70 per cent dry and inert solids are not subject to the provisions of ADR.

10o a, a - Dimethylbenzyl hydroperoxide (cumyl hydroperoxide) with a peroxide content not exceeding 95 per cent.

11o Dilauroyl peroxide.

12o 1, 2, 3, 4-Tetraxxdro-1-naphtyl hydroperoxide.

13o 2,4-Dichlorobenzoyl peroxide:

(a) with not less than 10 per cent water;

(b) with not less than 30 per cent phlegmatizer.

14o p-Menthanyl hydroperoxide with a peroxide content not exceeding 95 per cent (remainder alcohols and ketones).

15o 2,6,6-Trimethyl norpinanyle hydroperoxide (pinanyl hydroperoxide; pinane hydroperoxide) with a peroxide content not exceeding 95 per cent (remainder: alcohols and ketones).

16o Di-(a, a - dimethylbenzyl) peroxide with a peroxide content not exceeding 95 per cent.

Note: Di-(a, oc-dimethylbenzyl)

Dicumyl peroxide containing 60 per cent or more dry and inert solids is not subject to the provisions of ADR.

Class 5.2

17o Parachlorobenzoyl peroxide: 2551

(a) with not less than 10 per cent water;

(b) with not less than 30 per cent phlegmatizer.

Note: 1. Parachlorobenzoyl peroxide in the dry state or with less than 10 per cent water or less than 30 per cent phlegmatizer is a substance of Class 1a [see marginal 2101, 10o(c)].

2. Parachlorobenzoyl peroxide containing 70 per cent or more dry and inert solids is not subject to the provisions of ADR.

18o Di-isopropylbenzene hydroperoxide (isopropylcumyl hydroperoxide) with 45 per cent of a mixture of alcohol and ketone.

19o 4-Methylpentan-2-one peroxide (isobutylmethylketone peroxide) with not less than 40 per cent phlegmatizer.

20o Tertiary butyl (a, a-1-dimethylbenzyl) peroxide with not more than 95 per cent peroxide.

21o Diacetyl peroxide with not less than 75 per cent phlegmatizer.

22o Acetyl benzoyl peroxide with not less than 60 per cent phlegmatizer.

Note: re 1o to 22o. Substances which are inert to organic peroxides and have a flash-point not lower than 100°C and a boiling-point not lower than 150°C are deemed to be phlegmatizing substances. Substances of Group A may also be diluted with solvents which are inert to these substances.

Group B

30o Butanone peroxide (ethyl methyl ketone peroxide):

(a) with not less than 50 per cent phlegmatizer;

(b) in solutions containing not more than 12 per cent of this peroxide in solvents which are inert to it.

31o Tertiary butyl hydroperoxide:

(a) with not less than 20 per cent tertiary butyl peroxide, without phlegmatizer;

(b)in solutions containing not more than 12 per cent of this hydroperoxide in solvents which are inert to it.

Class 5.2

Note: re 30o and 31o. Substances which are inert to organic peroxides and have a flash-point not lower than 100°C and a boiling-point not lower than 150°C are deemed to be phlegmatizing substances. 2551

Group C

35o Peracetic acid containing not more than 40 per cent peracetic acid and not less than 45 per cent acetic acid and not less than 10 per cent water.

Note: re Groups A, B and C. Mixtures of products listed in Groups A, and C are to be accepted for carriage subject to the conditions laid down for Group C if they contain peracetic acid, and in other cases subject to the conditions laid down for Group B.

Group D

40o Sampels of phlegmatized organic peroxides not listed in Groups A, B or C, or of their solutions, are to be accepted in quantities not exceeding 1 kg per package on condition that their stability in storage is at least equal to that of the substances listed in Groups A and B.

Group E

Note: Group E comprises organic peroxides which decompose easily at normal temperatures and must therefore be carried only under conditions of adequate refrigeration. Although of an explosive nature as defined by the Note on Class 5.2, a few organic peroxides are included in Group E because they can be safely carried in a refrigerated state and in order to avoid any confusion regarding their handling.

45o Dioctanoyl peroxide (dicapryly 1 peroxide) of technical purity.

46o Acetyl cyclohexane sulphonyl peroxide:

(a) containing not less than 30 per cent water;

(b) in solution with not less than 80 per cent solvent;

(c) in solution with not less than 70 per cent phlegmatizer.

47o Diisopropyl peroxydicarbonate:

(a) of technical purity;

(b) in solution with not less than 50 per cent phlegmatizer or solvent.

Class 5.2

48o Dipropionyl peroxide in solution with not less than 75 per cent solvent. 2551

49ο Tertiary butyl perpivalate:

(a) of technical purity;

(b) in solution with not less than 25 per cent phlegmatizer or solvent.

50ο Bis-(3,5,5-trimethylhexanoyl) peroxide in solution with not less than 20 per cent phlegmatizer.

51ο Dipelargonyl peroxide of technical purity.

52ο Tertiary butyl per-2-ethylhexanoate of technical purity.

53ο Di-2-ethylhexyl-peroxydicarbonate in solution with not less than 55 per cent phlegmatizer or solvent.

54ο Didecancyl peroxide of technical purity.

55ο Tertiary butyl perisobutyrate in solution with not less than 25 per cent solvent.

Notes: 1. Substances which are inert to organic peroxides and have a flash-point not lower than 100°C and a boiling point not lower than 150°C are deemed to be phlegmatizing substances.

2. The solvents referred to are substances which are inert to organic peroxides and which also satisfy one of the following conditions:

(a) they are not inflammable and have a boiling point of not less than 85°C; or

(b) they are not inflammable and have a boiling point of less than 85°C but not less than 60°C, in which case hermetically closed containers must be used; or

(c) they have a flash-point of not less than 21°C and a boiling point of not less than 85°C; or

(d) they have a flash-point of less than 21°C but not less than 5°C and a boiling point of not less than 60°C, in which case hermetically closed containers must be used.

Class 5.2

Group F

2551 99ο Empty packagings, uncleaned, and empty tanks uncleaned, which have contained substances of Class 5.2.

2. Provisions

A. Packages

1. General conditions of packing

2552 (1) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(2) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. Inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(3) Cushioning materials must not be readily inflammable; in addition they shall be suited to the nature of the contents and must not cause the peroxides to decompose.

2. Packing of a single substance

a. Packing of substances of Group A

2553 Receptacles shall be so closed and leak-proof as to prevent any loss of the contents.

2554 (1) Substances of 1° to 7°, 8°, 9° (b) 10° to 12°, 13°(b), 14° to 16°, 17°(b) and 18° to 22° and their solutions must be packed:

(a) in hot-dipped tinned receptacles or in receptacles made of aluminium not less than 99.5 per cent pure; or

(b) in receptacles, made of a suitable plastics material, which shall be placed in protective packagins; or

(c) not more than 2 litres per bottle, in tightly-closing glass bottles which shall be secured by cushioning materials in a protective packaging so as to be protected against breakage.

(2) Substances of 1ο to 3ο, 5ο to 7ο, 8ο (b), 9ο (b), 10ο to 12°, 13° (b), 16°, 18° and 20° may also be packed in hot-tipped galvanized receptacles.

(3) Substances of 8ο (a), 9ο (a), 13 (a) and 17ο (a) shall be contained, not more than 5 kg per pagkaging, in water tight pagkaking placed in a wooden case.

(4) Pasty and solid peroxides may also be packed in bags, made of a suitable plastics material, placed in suitable protective packagings. The thickness of the packing material shall be sufficient to prevent any loss of the contents from the bags in normal carriage. Solid peroxides may be packed, not more than 1 kg per receptacle, in paraffin – waxed fibreboard receptacles placed in a wooden case; however, in the case of cyklohexanone peroxides of 9ο (a) the contents of a receptacle shall be limited to 500 g.

(5) Substances of 10ο and of 14ο to 18ο may also be packed in receptacles made of sheet – steel.

(6) with the exception of bags made of a suitable plastics material, receptacles containing liquid or pasty organic peroxides must not be filled beyond 93 per cent of their capacity.

(7) A package must not weigh more than 50 kg. Packages weighing more than 15 kg shall be fitted with means of handling.

b. Packing of substances of Group B 2555

(1) Receptacles filled with substances of 30° (a) and 31° (a) shall be fitted with a venting device allowing compensation between the internal pressure and the atmospheric pressure and in all circumstances – even in the event of expansion of the liquid through heating – preventing the liquid from splashing out and impurities from entering the receptacle. For substances of 30ο (b) and 31ο (b), only receptacles so closed and leakproof as to prevent any loss of the contents shall be accepted.

(2) Packages shall be fitted with a base which keeps them securely upright without danger of falling.

2556 (1) Substances of 30ο (a) and 31ο (a) shall be packed:

(a) in not – dipped tinned or hot – dipped galvanized receptacles or in receptacles made of aluminium not less than 99 – 5 per cent pure; or

(b) in receptacles, made of a suitable plastics material, placed in protective pagkagings. The strength of these receptacles shall be sufficient to prevent any loss of the contents in normal carriage; or

(c) not more than 2 litres per bottle, in glass bottles, which shall be secured by cushioning materials in protective packagings so as to be protected against breakage.

(2) Receptacles containing liquid or pasty organic peroxides must not be filled beyond 90 per cent of their capasity.

(3) A package must not weigh more than 40 kg. Packages weighing more than 15 kg shall be fitted with means of handling.

(4) Sustances of 30ο (b) and 31ο (b) may be forwarded only in quantities not exceeding 5 kg in receptacles as specified in (1 but not equipped with a venting device (in glass bottles, only in quantities not exceeding 1.5 litre) The receptacles must not be filled beyond 75 per of their capasity.

c. Packing of substances of Group C 2557

1. Substances of 35ο and mixtures containing peracetic acid shall be packed, not more than 25 kg per receptacle, in thick walled glass receptacles, or in receptacles made of a suitable plastics material, fitted with a special closure made of a suitable plastics material, capable of being sealed, in communication with the atmosphere through an opening situated above the level of the liquid, and in all circumstances – even in the enent of expansion of the liquid through heating – preventing the liquid from splashing out and impurities from entering the receptacle.

(2) Glass receptacles shall be firmly secured, by clean mica powder or glass wool used as cushioning materials, in protective pagkagings made of sheet – steel or of aluminium, capable of being closed, and fitted with means of handling and with a base which keeps them securely upright without risk of falling; the receptacles shall be secured even if the walls of the protective packagings are not complete. Receptacles made of a suitable plastics material

must be placed in close – fitting protective packagings made of sheet – steel and capable of being closed.

d. Packing of substances of Croup D 2558

Substances of Crour D shall be packed, in quantities not exceeding 1 kg per package, in hot – dipped tinned receptacles, or in receptacles made of aluminium not less than 99.5 per cent pure, or in bottles made of a suitable plastics material injection – moulded or blown and having a sufficient wall thickness, or in glass bottles placed in protective packagings made of sheet – steel, aluminium or wood. The glass bottles shall be firlmy secured in the protective packagings by clean mica power or glass wool used as cushioning materials. Solid compounds may also be packed in bags, made of a suitable plastics material of sufficient thickness, likewise placed in protective packagings made of sheet – steel, aluminium, or wood. If the peroxides give off gases at temperatyre lower than 40° C, the receptacles must satisfy the conditions of marginal 2555.

e. Packing of substances of Group E 2559

1. Packages containing substances of Croup E shall be fitted with a venting device allowing compensation between the internal pressure and the atmospheric pressure and in all circumstances – even in the event of expansion of the liquid through heating preventing the liquid from splashing out and impurities from entering the receptacle.

2. Receptacles containing liquid organic peroxides must not be filled beyond 95 per cent of their capacity.

1. Substances of 45o, 51o and 54o shall be packed, not more than 50 kg per receptacle or bag, in receptacles or bags, made of a suitable plastics material, which shall be placed in suitable protective pagkagings in quantities not exceeding 50 kg per packaging.

2. Substances of 46o (a) shall be packed, not more than 5 kg per bag, in bagks made of a suitable plastics material, which shall be placed, not more than 20 kg packaring and either singly or in groups, in suitable protective packagings.

3. Substances of 47o (a) shall be packed.

a) not more than 1 kg per receptacle, in receptacles, made of a suitable plastics material;

b) not more that 3 kg per bowl, in bowls made of aluminium not less than 99.5 per cent pure, with plastics lids.

The protective packagings must not contain more than 10 kg of the substance.

4. Substances of 46o (b) and (c), 47o (b), 48o, 49o(b), 50o, 52o, 53o and 55o shall be packed, not more than 25 kg per receptacle, in receptacles made of a suitable plastics material, which shall be placed not more than 50 kg per packaging (but not more than 25 kg per packaging in the case of substances of 52o), in protective packagings.

5. Substances of 49o (a) shall be packed, not more than 10 kg per receptacles, in receptacles made of a suitable plastics material, which shall be placed, not more than 40 kg per packaging, in protective packagings.

6. Packages weighing more than 35 kg which contain substances of Group E shall be fitted with means of handling.

f. Packing of substances in small quantities.

Substances of 1° to 22°, 30° and 31°, forwarded in small quantities, may also be packed as follows: 2561

a) Liquids

not more than 1 kg per package, in bottles, made of aluminium, a suitable plastics material, or glass, with stoppers, made of a suitable plastics material or with yoke or screw closures having, in either case, an elastic gasket. The bottles shall be secured, by clean mica powder or glass wool used as cushioning materials, in fibreboard or wooden boxes. The filling material must be sufficient in quantity to absorb the whole of the liquid. The bottles must not be filled beyond 75 per cent of their capasity;

b) pasty or powdered substances

not more than 1 kg per package, in aluminium boxes or in fibreboard or wooden boxes (the two latter being lined with aluminium or with a suitable plastics material) with a strong closure. A free space of 10 per cent shall be left in the packagings.

3. Mixed packing 2562

Substances of Class 5.2 may not be included in the same package either with other substances or articles of ADR or with other goods. Substances of Grour C Must not be included in the same package with substances of Groups A, B or E.

4. Marking and danger labels on packages (see Appendix A. 9) 2563

1. Every package containing substances of Class 5.2. shall bear a label conforming to model No 3.

Packages containing substances of 46o (a), 47o (a) and 49o (a) shall also bear a label conforming to model No 1.

2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No 8; packages containing substances of 30o, 31o, 35o, 40o and 45o to 55o shall also bear label conforming to model No 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

2564

B. Particulars in the transpost document 2565

The description of the goods in the transport document must conform to one of the names underlined in marginal 2551; it must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» (e. g. 5.2., 8o (a) ADR).

2566–

C. Empty packagings 2569

1. Peleptacles ant tanks of 99o must be closed in the same manner and leak – proof in the same degree as though they were full. 2570

2. The description in the transport document must be «Empty receptacle, 5.2, 99o ADR (or RID)». This despription must be underlined in red.

CLASS 6.1. TOXIC SUBSTANCES

1. List of substances

1. Among the substances and articles covered by the heading of Class 6.1, those which are listed in marginal 2601 or are covered by a collective heading of that marginal are subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR. 2600

2. Substances of Class 6.1. which polymerize easily are not to be accepted for carriage unless the necessary precautions have been taken to prevent their polymerization during carriage.

3. The flash 6 point referred to below shall be determined in the manner described in Appendix A.3.

A. Toxic substances having a flash – point below 21° C and a boiling point below 200° C 2601

1. Hydrocuanic acid and inflammable volatile substances having a similar toxic effect, such as:

a) hydrocyanic acid containing not more than 3 per cent water (absorbed by an inert porous substance or in the liquid state), on condition that the filling of the receptacles was carried out less than one year previously;

Note: Hydrocyanic acid not satisfying these conditions is not to be accepted for carriage.

b) aqueous solutions of hydrocyanic acid containing not more than 20 per cent hydrocyanic acid (HCN).

Note: Solutions of hydrocyanic acid containing more than 20 per cent hydrocyanic acid (HCN) are not to be accepted for carriage.

2. Nitriles (organic cyanides), such as:

a) actylonitrile;

b) acetonitrile (methyl cyanide);

c) isobutyronitrile (isobutyric nitrile).

3. Other nitrogenous organic substances, such as:

ethyleneimine and propyleneimine containing not more than 0.003 per cent total chlorine, and their aqueous solutions; normal butyl isocyanate, tertiary butyl isocyanate, isobutyl isocyanate and isopropyl isocyanate.

Note: Ethyleneimine and propyleneimine of any other nature are not to be accepted for carriage.

4. Halogenated organic, substances such as:

a) allyl chloride;

b) methyl chloroformate;

c) ethyl chloroformate.

5. Metal carbonyls, such as:

a) nickel carbonyl (nickel tetracarbonyl 1);

b) iron carbonyl (iron pentacarbonyl).

B. Toxic substances having a flash − point of 21° C or a over, and non − inflammable toxic substances, both having a boiling point below 200° C

11° Nitrogenous organic substances, such as:

a) 2 − cyanopropan − 2 − 01 (acetone cyanohydrin);

b) aniline

12° Halogenated organic substances. such as:

a) 1 − chloro − 2, 3 − epoxypropane (epichlorohydrin);

b) glycol chlorohydrin (2 − chloroethanol);

c) acetylene tetrachloride (1, 1, 2, 2−tetrachloroethane);

d) chloropicrin;

Note: Mixtures of chloropicrin with methyl chloride or methyl bromide are substances of Class 2 if the vapour pressure of the mixture at 50° C exceeds 3 Kg/cm² [see marginal 2201 4o (bt)].

e) trichloromethanesulphenyl chloride;

f) 2, 2−dichlorodiethyl ether, (chloroethyl ether, 2−chloroetyl ether.

13° Oxyrenated organic substances, such as:

a) allyl alcohol;

b) dimethyl sulphate;

c) phenol.

14° Lead alkyls, such as tetraethyl lead, tetramethyl lead and mixtures of lead alkyls with halogenated organic compounds, e.g. ethyl fluid.

C. Toxic organic substances having a boiling point of 200° C or over.

21. Nitrogenous organic substances, such as:

a) 2−bromophenylacetonitrile (bromobenzyl cyanide);

b) phenylcarbylamine chloride;

c) 2, 4−diisocyanatotoluene;

d) allyl isothiocyanate;

e) chloroanilines;

f) mononitrionalines and dinitroanilines;

g) naphthylamines;

h) 2, 4−diaminotoluene;

i) dinitrobenzenes;

k) chloronitrobenzenes;

l) mononitritoluenes;

m) dinitrotoluenes;

n) nitroxylenes;

o) toluidines;

p) xylidines

22° Oxygenated organic substances not covered by 21o and 23o, such as:

a) cresols;

b) xylenols.

23° Halogenated organic substances not covered by 21o, such as: 2601

a) xylyl bromide:

b) phenacyl chloride (ω−chloro aceto phenone);

c) phenacyl bromide (ω−bromoacetophenone);

d) 4−chloro aceto phenone (methyl p−chlorophenylketone);

e) symmetical dichloroacetone.

D. Inorganic substances which may release toxic gases on contact with acids (but see under E for silicon alloys).

31° Inorganic cyanides

a) cyanides and complex cyanides in a solid form;

b) solutions of inorganic cyanides;

c) preparations of inorganic cyanides.

Note: Ferrocyanides and ferricyanides are not subjest to the provisions of ADR.

32° The following azides:

a) sodium azide;

b) barium azide with not less than 50 per cent water or alcohols, and aqueous solutions of barium azide.

Note: Barium azide in the dry state or with less than 50 per cent water or alcohols is not to be accepted for carriage.

33. Zinc phosphide

Note: Zinc phosphide capable of spontaneous ignition or, under the effect of moisture, of releasing toxic gases is not to be accepted for carriage.

E. Silicon alloys capable of releasing toxic gases.

41° (a) Ferro − silicon and mangano − silicon with more than 30 per cent and less than 70 per cent silicon;

(b) ferro-silicon alloys with aluminium, manganese, calcium or more than one of these metals, with a total content of silicon and of elements other than iron and manganese greater than 30 per cont but less than 70 per cent,

all the substances of 41° having been stored for not less than three days in a dry place open to the air.

Note: 1. Ferro-silicon and mangano-silicon briquettes, whatever their silicon content, are not subject to the provisions of ADR.

2. Substances of 41° are not subject to the provisions of ADR if they are not liable to release dangerous gases under the effect of moisture during carriage and the sender so certifies in the transport document.

3. Substances of 41° which have not been stored for not less than three days in a dry place open to the air are not to be accepted for carriage.

F. Other toxic inorganic substances.

51° Beryllium in powder form; beryllium compounds in powder form.

52° Arsenical compounds, such as:

(a) oxides of arsenic;

(b) sulphides of arsenic.

Note: With regard to arsenical substances and preparations used as pesticides, see under 81° (i), 82° (i) and 83° (i).

53° mercury compounds, such as:

Mercuric chloride (corrosive sublimate), except cinna bar and mercurous chloride (calomel).

Note: With regard to mercurial substances and preparations used as pesticides, seeunder 81° (f), 82° (f) and 83° (f).

54° Thallium compounds

Note: With regard to substances and preparations containing thallium and used as pesticides, see under 81° (h), 82° (h) and 83° (h).

G. Halogenated organic substances having a harmful or irritant effect.

61° Halogenated organic substances, volatile, inflammable or non-inflammable, having a flash-point of 21°C or over and a boiling point below 200°C, such as:

(a) ethylene dibromide (symmetrical dibromoethane);
(b) chloroacetone;
(c) bromoacetone;
(d) 1,2 -dibromobutan-3-0ne;
(e) methyl chloroacetate;
(f) ethyl chloroacetate;
(g) methyl bromoacetate;
(h) ethyl bromoacetate;
(i) 1,1--dichloro- 1-nitroethane;
(k) benzyl chloride;
(l) 1-chloro- 1-nitropropane.

62° Halogenated organic substances of low volatility having a boiling point of 200°C or over and not covered by 23°, such as:

(a) benzyl iodide;

(b) acetylene tetrabromide (1, 1, 2, 2-tetrabromoethane).

H. Inorganic substances having a harmful effect.

71° Barium compounds, such as barium oxide, barium hydroxide, barium sulphide and other barium salts (except barium sulphate and barium titanate).

Note: Barium chlorate, perchlorate, nitrate, nitrite, dioxide and permanganate are substances of Class 5.1 [see marginal 2501 under 4°(a) and (b), 7°(c), 8° and 9° (b) and (c)].

72° Lead compounds, such as lead oxides, lead salts including lead acetate, lead pigments (e.g. white lead and lead chromate), except lead titanate and lead sulphide (galena).

Note: Lead chlorate, lead perchlorate and lead nitrate are substances of Class 5.1 [see marginal 2501 4° (a) and (b) and 7° (c)].

73° Residues and wastes containing compounds of antimony or of lead or of both, e.g. ashes of lead or of antimony or of lead and antimony: lead sludges containing less than 3 per cent free acid.

Note: Lead sludges containing 3 per cent or more free acid are substances of Class 8 [see marginal 2801, 1° (e)].

74° Vanadium compounds in powder form, such as vanadium pentoxide and the vandates.

Note: Vanadium chlorate and vanadium perchlorate are substances of Class 5.1 [see marginal 2501, 4° (a) and (b)].

75° Antimony compounds, such as antimony oxides and antimony salts, except stibnite.

Note: Antimony chlorate and antimony perchlorate are substances of Class 5.1 [see marginal 2501, 4° (a) and (b). Antimony pentachloride, antimony trichloride and antimony pentafluoride are substances of Class 8 [see marginal 2801 11° (a), 12° and 15° (b)].

Ι. Substances and preparations used as pesticides

81° Substances and preparations presenting a risk of very severe poisoning:

(a) organo-phosphorus compounds, such as: azinphos-ethyl, azinphosmethyl, demeton-O+S, dimefox, endothion, HETP, mecarbam, methylparathion, mevinphos, parathion, phosphamidon, sulfotep and TEPP, and preparations containing more than 10 per cent of these substances.

(b) Halogenated organic compounds, such as: aldrin, dieldrin, heptachlor, and preparations containing more than 10 per cent of these substances.

(c) Nitrated organic compounds, such as: 4,6 -dinitropenol, dinoseb, dinitrohenyl acetate, dinotro-o-cresol, and preparations containing more than 50 per cent of these substances.

(d) Carbamates and derivatives of urea, such as: ANTU, isolan, and preparations containing more than 25 per cent of these substances.

(e) Alkaloids, such as: nicotine, brucine, strychnine, or their salts, and preparations containing more than 10 per cent of these substances.

(f) Organic compounds of metals, such as:

1. organic mercurial compoundes, and preparations containing more than 5 per cent of these substances;

2. trialkyl and triaryl compounds of tin, and preparations containing more than 25 per cent of these substances.

(g) Other organic compounds, such as: cumachlor, sodium fluoracetate, fluoracetamide, pindone, warfarin, and preparations containing more than 5 per cent of these substances.

(h) Inorganic compounds of metals, such as: thallium compounds, and preparations containing more than 10 per cent of these substances.

(i) Other inogranic compounds, such as: compounds of arsenic, and preparations containing more than 10 per cent of these substances.

82° Substances and preparations presenting a risk of severe poisoning:

(a) Organo-phosphorus compounds, such as:

1. demeton-O+S-methyl, dioxathion, ethion, fenthion, phenkapton, thiometon, and preparations containing more than 25 per cent of these substances;

2. proparations of azinphos-ethyl, azinphos-methyl, demeton-O+S, dimefox, endothion, HETP, mecarbam, methylparathion, mevinphos, parathion, phosphamidon, sulfotep and TEPP, containing more than 2.5 per cent but not more than 10 per active substance.

(b) Halogenated organic compounds, such as:

1. toxaphene, pentachlorophenol, and preparations containing more than 20 per cent of these substances;

2. gamma?BHC (gammexane), DDT, and preparations containing more than 50 per cent of these substances.

(c) Preparations of nitrated organic compounds, such as:

1. preparations of 4,6-dinitrophenol, dinoseb, dinitrophenyl acetate and dinitro-o-cresol, containing more than 10 per cent but not more than 50 per cent active substance;

2. preparations of binapacryl, containing more than 50 p er cent active substance.

(d) Carbamates and derivatives of urea, such as:

1. dimethan, urbazid, and preparations containing more than 25 per cent of these substances;

2. preparations of ANTU and isolan, containing more than 5 per cent but not more than 25 per cent active substance.

(e) Preparations of alkaloids, such as: preparations of nicotine, brucine, and strychnine, or their salts, containing more than 2.5 per cent but not more than 10 per cent active substance.

(f) Preparations of organic compounds of metals, such as:

1. organic mercurial preparations, containing more than 1 per cent but not more than 5 per cent active substance;

2. preparations of trialkyl and triaryl compounds of tin, containing more than 5 per cent but not more than 25 per cent active substance.

(g) Preparations of other organic compounds, such as:

1. preparations of cumachlor, sodium fluaracetate, pindone and warfarin, containing more than 1 per cent but not more than 5 per cent active substance;

2. preparations of fluoracetamide, containing not more than 5 per cent active substance;

(h) Preparations of inorganic compounds of metals, such as: Preparation of thallium compounds, containing more than 2.5 per cent but not more than 10 per cent active substance.

(i) Preparations of other inorganic compounds, such as: Preparations of compounds of arsenic, containing more than 2.5 per cent but not more than 10 per cent active substance.

83° Harmful substances and preparations:

(a) Organo-phosphorus compounds, such as:

1. diazinon, dimethoate, trichlorfon, malathion, and preparation containing more than 5 per cent of these substances;

2. preparations of demeton-O+S-methyl, dioaxathion, ethion, fenthion, phenkapton and thiometon, containing more than 2.5 per cent but not more than 25 per cent active substance;

3. preparations of azinphos-ethyl, azinphos-methyl, demeton-O+S, dimefox, endothion, HETP, mecarbam, methylparathion, mevinphos, parathion, phosphamidon, sulfotep and TEPP, containing not more than 2.5 per cent active substance.

(b) Preparations of halogenated organic compounds, such as:

1. preparations of toxaphene and pentachlorophenol, containing more than 5 per cent but not more than 20 per cent active substance;

2. preparations of gamma-BHC (gammexane) and DDT, containing more than 10 per cent but not more than 50 per cent active substance.

3. preparations of aldrin, dieldrin and heptachlor, containing more than 2.5 per cent but not more than 10 per cent active substance.

(c) Preparations of nitrated organic compounds, such as:

1. preparations of binapacryl, containing more than 10 per cent but not more than 50 per cent active substance;

2. preparations of 4,6 -dinitrophenol, dinoseb, dinitrophenyl acetate and dinitro-o-cresol, containing more than 2.5 per cent but not more than 10 per cent active substance.

(d) Preparations of carbamates and derivatives of urea, such as:

1. preparations of ANTU and isolan, containing more than 1 per cent but not more than 5 per cent active substance;

2. preparations of dimethan and urbazid, containing more than 2.5 per cent but not more than 25 per cent active substance.

(e) Preparations of alkaloids, such as: preparations of nicotine, brucine and strychnine, or their salts, containing not more than 2.5 per cent active substance.

(f) Preparations of organic compounds of metalls, such as:

1. preparations of organic mercurial compounds, containing not more than 1 per cent active substance;

2. preparations of trialkyl and riaryl compounds of tin, containing more than 1 per cent but not more than 5 per cent active substance.

(g) Preparations of other organic compounds, such as:

preparations of cumachlor, sodium fluoracetate, pindone and warfarin, containing not more than 1 per cent active substance.

(h) Preparations of inorganic compounds of metals, such as:

preparations of thallium compounds, containing not more than 2.5 per cent active substance.

(i) Preparations of other inorganic compounds, such as:

preparations of compounds of arsenic, containing not more than 2.5 per cent active substance.

84° (a) cereal grains and seeds impregnated with one or more of the pesticides or other toxic substances of Class 6.1, used as pesticides;

(b) dressed seeds treated with pesticides or with other toxic substances of Class 6.1, but not used as pesticides.

K. Empty packagings:

91° Empty packagings, uncleaned, empty tanks, uncleaned, and empty bags, uncleaned, which have contained substances of 1°-5°, 11°-14°, 21°-23°, 31°-33°, 41°, 51°-54°, 81° and 82°.

92°. Empty packagings, uncleaned, empty tanks, uncleaned, and empty bags, uncleaned, which have contained substances of 61°, 62°, 71°-75°, 83° and 84°.

Note: 91° and 92°. Empty packagings with residues from their previous contents adhering to the outside are not to be accepted for carriage.

Class 6.1

2. Provisions

A. Packages 2602

1: General conditions of packing

(1) Packagings shall be so closed and arranged as to prevent any loss of the contents. For the special provision relating to substances of 41° see marginal 2618.

(2) The materials of which the packagings and their closures are made must not be liable to attack by the contents or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular, where substances are in the liquid state or in solution, or have been wetted by a liquid, the receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The thickness of the walls must be not less than 3 mm in the case of receptacles which, with their contents, weigh more than 35 kg, and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage, unless the said closure comprises two plugs, one placed over other, one of them being screw-threaded.

(5) When receptacles made of glass, porcelain, stoneware or similar materials are prescribed or allowed, they must be secured by cushioning materials in protective packagings. Cushioning materials shall be suited to the nature of the contents; in particular, they shall be absorbent when the contents are liquid.

(6) When handed over for carriage, packages must not be contaminated on the outside by toxic substances.

2. Packing of a single substance 2603

(1) Hydrocyanic acid and inflammable volatile substances having a similar toxic effect [1° (a)] shall be packed:

(a) when completely absorbed by an inert porous material: in strong sheet-steel boxed, with a capacity of not more than 7.5 litres, entirely filled with the porous material, which must be of such a nature that it does not shake down or form dangerous spaces, even after prolonged use or under impact, at temperatures up to 50°C. The boxes must be able to withstand a pressure of 6 kg/cm^2 and must, when filled at 15°C, still be leak-proof at 50°C. The date of filling shall be stamped on the lid of each box. The boxes shall be placed in packing cases with sides not less than 18 mm thick in such a manner that they cannot come into contact with one another. The total capacity of the boxes in one packing case must not exceed 120 litres and the package must not weigh more that 120 kg;

(b) When liquid but not absorbed by a porous material: in carbon-steel receptacles. These shall conform to the spirit of the provisions relating to such receptacles in Class 2, marginals 2211, 2212(1), 2213, 2215 and 2218, with the following derogations and special requirements:

The internal pressure to be applied for the hydraulic pressure test must be 100 kg/cm^2.

The pressure test shall be repeated every two years, when a meticulous inspection of the inside of the receptacle shall also be carried out and the receptacle's weight determined.

In addition to the marks prescribed in marginal 2218(1) (a)-(c) and (e)-(g), the receptacles must bear the date (month, year) of the most recent filling.

The maximum filling allowed for the receptacles is 0.55 kg liquid per litre of capacity.

(c) With regard to the particulars in the transport document, see marginal 2634(2).

(2) Aqueous solutions of hydrocyanic acid [1o (b)] shall be packed in flame-sealed glass ampoules containing not more than 50 g, or in glass-stoppered glass bottles so closed as to be leak-proof and containing not more than 250 g. The ampoules and bottles shall be secured by absorbent cushioning materials in soft-soldered tin-plate boxes or in protective cases with a soft-soldered tin-plate lining. A package comprising a tin-plate box must not Weigh more than 15 kg or contain more than 3 kg hydrocyanic acid solution; a package comprising a case must not weigh more than 75 kg.

(1) Substances of 2o shall be packed: 2604

(a) 1. in sheet-steel canisters with walls not less than 1mm thick an a capacity not exceeding 60 litres, the

openings being closed two plugs, one placed over the other, one of them being screwthreaded. The sheet-steel canisters must have welded lengthwise seams, two reinforcing ribs in the walls, and a protective rim below the joint recessed at the bottom. Canisters with a capacity of 40 to 60 litres must have their bottoms welded on and be fitted with means of handling on the side; or

2. in all-welded steel drums with walls not less than 1.25 mm thick fitted with rolling hoops and reinforcing ribs and having the openings closed by two plugs, one placed over the other, one of them being screw-threaded;

(b) acrylonitrile may also be packed:

1. in aluminium bottles of a capacity not exceeding 2 litres, secured by infusorial-earth cushioning in sheet-metal receptacle whose lids shall be firmly stuck down by means of suitable adhesive strips. The sheet-metal receptacles shall be placed, with filling material, in wooden cases. A package must not weigh more than 75 kg; or

2. in non-returnable metal drums (new packagings intended to be use only once); these drums, whose walls shall not be less than 1.2 mm thick, shall be provided with a screw-threaded plug fitted with a gasket. The plug shall be situated on one of the ends be protected by the rim of the drum. The drums may have a body with ends recessed, the joints being strengthened by chimb reinforcements; if they do not possess rolling hoops they must provided with reinforcing ribs. A package must not weigh more than 200 kg. Carriage in non-returnable drums shall take place only as a full load on open vehicles; or

3. in non-returnable steel drums (new packagings intended to be use only once) having sides made of sheet steel 1.24 mm thick, end made of sheet steel 1.5 mm thick, and a tare weight of 22.5 kg; the drums must be provided with reinforcing ribs. The body sea shall be welded and the ends shall be double-seamed by welting the body, with a polyethylene liner inserted. Two screw-plug closure units, one of 50.8 mm (2 ??) and one of 19.05 mm (3/4 ??) shall be double-seamed by welting to one of the ends, with a synthetic-rubber liner inserted. Thin sheet-steel caps shall placed over the closure units;

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(c) acetonitrile may also be packed in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of capacity not exceeding 1 litre, with the openings closed by two plugs, one placed over the other, one of them being screw - threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling.

(2) Receptacles containing acrylonitrile or acetonitrile must not be filled beyond 95 per cent, and receptacles containing Isobutyronitrile not beyond 92 per cent, of their capacity.

(1) Substances of 3o shall be packed in receptacles made of sheet - steel of sufficient thickness, which shall be closed by a screw - threaded bung or plug rendered leak - proof both to liquid and to vapour by means of a suitable gasket. The receptacles must be capable of withstanding an internal pressure of 3 kg/cm^2. Each receptacle shall be secured by absorbent cushioning materials in a strong and leak - proof protective metal packaging. The protective packaging shall be hermetically closed and its closure shall be secured against any inadvertent opening. The degree of filling shall not exceed 0.67 kg per litre of capacity of the receptacle. 2605

(2) A package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling.

Substances of 4° shall be packed: 2606

(a) in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres, with the openings closed by two plugs, one placed over the other, one of them being screw - threaded. These receptacles small be secured by absorbent cushioning materials in a wooden case or some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 75 kg. Package weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame - sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be lilled beyond 93 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in metal receptacles having, if necessary, a suitable lining, the receptacles having a capacity not exceeding 15 litres and having the openings closed by two plugs, one placed over the other, one of the being screw - threaded. These receptacles shall be secured by absorb cushioning materials in a wooden case or some other outer packaging sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in welded metal drums having, if necessary, a suitable lining, the drums having the openings closed by two plugs, one placed over the other, one of them being screw - threaded. The drums must not be filled beyond 93 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be equipped with rolling hoops;

(e) in receptacles made of strong black sheet - iron or tin - plate and hermetically closed. A tin - plate receptacle must not, with its contents, weigh more than 6 kg. These receptacles shall be secured by absorbent cushioning materials, either singly or in groups, in a wooden packing case. Such a package must not weigh more than 75 kg.

(1) Substances of 5o shall be packed in metal receptacles. The receptacles must be fitted with completely leak - proof closing devices, which shall be secured against mechanical damage by protective caps. Steel receptacles must have walls not less than 3 mm thick and receptacles made of other materials must have walls at least thick enough to ensure equivale mechanical strength. A package must not contain more than 25 kg of liquid. The maximum filling allowed shall be 1 kg of liquid per litre of capacity. 2607

(2) Receptacles shall be tested before being put into service for the first time. The test pressure to be applied for the hydraulic pressure test shall be not less than 10 kg/cm^2. The pressure test shall be repeated every five years and shall include a meticulous inspection of the inside of the receptacle and a check of the tare weight. Metal receptacles shall bear the following particulars in clearly legible and indelible characters:

(a) the name of the product in full (the names of both substances may al be shown side by side);

(b) the name of the owner of the receptacle;

(c) the tare of the receptacle, including such fittings and accessories valves, protective caps, etc.;

(d) the date (month, year) of the acceptance test and the subsequent tests, and the expert' s stamp;

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(e) the maximum permissible filling per receptacle in kg;

(f) the internal pressure (test pressure) to be applied for the hydraulic pressure test. 2608

(1) Substances of 11° (a) shall be packed:

(a) in sheet - steel canisters with walls not less than 1 mm thick and a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over the other, one of them being screw - threaded. The sheet - steel canistern must have welded lengthwise seams, two reinforcing ribs in the walls, and a protective rim below the joint recessed at the bottom. Canisters with a capacity of 40 to 60 litres must have their bottoms welded on and be fitted with means of handling on the side; or

(b) in all - welded steel drums with walls not less than 1.25 mm thick, fitted with rolling hoops and reinforcing ribs and having the openings closed by two plugs, one placed over the other, one of them being screw - threaded.

(2) Substances of 11° (b) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg. other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in metal receptacles having, if necessary, a suitable lining, the receptacles having a capacity not exceeding 15 litres and having the openings closed by two plugs, one placed over the other, one of them being screw - threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(c) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. II If they weigh, with their contents, more than 275 kg they shall be fitted with rolling hoops; or

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(d) in hermetically - closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg.

(1) Substances of 12° (a) and (b) shall be packed: 2609

(a) not more than 5 litres per bottle, in glass bottles placed separately with absorbent materials, in a strong tin - plate receptacle; in the case of 1 - chloro - 2, 3 - epoxypropane, black sheet - iron may be used instead of tin - plate. The receptacles shall be secured by absorbent cushioning materials in a wooden packing case. A package must not weigh more than 75 kg; or

(b) not more than 5 litres per receptacle, in receptacles, made of stout tin - plate, with leak - proof closures; in the case of 1 - chloro - 2, 3 - epoxypropane black sheet - iron may be used instead of tin - plate. The receptacles shall be secured by absorbent cushioning materials or wood - wool cushioning in a wooden packing case. A package must not weigh more than 75 kg; or

(c) in welded steel drums with the openings closed by two plugs, one placed over the other, one of them being screw- threaded, the drums being fitted with rolling hoops. In the case of glycol chlorohydrin (2 - chloroethanol) it is also permissible to use welded canisters with the openings closed by two plugs, one placed over the other, one of them being screw - threaded, the canisters being fitted with means of handling, being of sheet steel 1 mm thick galvanized on both sides, and having a capacity not exceeding 60 litres;

(d) the receptacles must not be filled beyond 93 per cent of their capacity.

(2) Substances of 12° (c) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling or

(b) in flame - sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoule must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

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(c) in hermetically - closed canisters made of a sutable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity; or

(d) in hermetically - closed metal drums having, if necessary, a suitable inner lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(3) Substances of 12° (d) and (e) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stone - ware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg. other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame sealed flass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically - clossed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or (d) in hermetically -closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(4) Substances of 12° (e) may also be packed in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity.

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(5) Substances of 12° (f) shall be packed:

(a) in hermetically - closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(b) in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 93 per cent of their capacity; or

(c) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 93 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(1) Substances of 13° (a) and (b) shall be packed: 2610

(a) in flame - sealed glass ampoules or in hermetically - closed glass bottles for this purpose a stopper made of cork coated with paraffin wax, or ground - glass stopper,

may be used. The ampoules and bootles must not be filled beyond 93 per cent of their capacity and must not weigh, with their contents, more than 3 kg. They shall be wrapped in corrugated fibreboard and secured by a sufficient quantity of inert and absorbent cushioning materials (infusorial earth or similar materials) in soft - soldered tin - plate boxes or in wooden cases lined with a tin - plate lining assembled by soft soldering. A package comprising a tin - plate box must not weigh more than 15 kg and a package comprising a wooden case not more than 75 kg; or

(b) in soldered or seamless sheet metal receptacles or in receptacles made of a suitable plastics material. These receptacles shall be hermetically - closed; they must not be filled beyond 93 per cent of their capacity and must not weigh, with their contents, more than 50 kg; if they are made of thin sheet - metal, e.g. tin - plate, they must not weigh, with their contents, more than 6 kg. The sheet - metal or plastics receptacles shall be secured by a sufficient quantity of inert and absorbent cushioning materials ((e.g. infusorial earth or similar materials) in protective receptacles fitted with means of handling. Such a package must not weigh more than 100 kg; or

(c) in hermetically - closed welded or seamless metal drums fitted with bands and rolling hoops and not filled beyond 93 per cent of their capacity.

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(2) Substances of 13° (c) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stone - ware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically - closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically - closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops or

(d) in hermetically - closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg or

(e) in bags made of a suitable plastics material, so closed as to be leak - proof, and placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg.

Substances of 14° sall de packed:

(a) in welded steel drums with openings closed by two plugs, one placed over the other, one of them being screw - threaded, the drums being fitted with rolling hoops. The drums must not be filled beyond 95 per cent of their capacity; or

(b) in receptacles made of strong black sheet - iron or of tin - plate and hermeticaly closed. A tin - plate receptacle must not, with its content, weigh more than 6 kg. These receptacles shall be secured by absorbent cushioning materials in a wooden packing case. Such a package must not weigh more than 75 kg.

(1) Substances of 21° (a), (b), (c) and (d), and liquids of 21° (e) and (f), shall de packed:

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(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must a not weigh more than 75 kg. Packages wighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame - sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling, or

(c) in hermetically - closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Much a package must not weigh more than 100 kg; or

(d) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must mot be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(2) Substances of 21° (b), (c) and liquids of 21° (e) and (f) may also be packed in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity.

(3) Substances of 21° (e) and (f) in the solid state, and substances of 21° (g), (h), (i) and (k), shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substange. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically - closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically - closed metal drums having, if necessary, a suitable lining. If the drums weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(4) Substances of 21° (e) and (f) in the solid state, and substances of 21° (g) and (h), may also be packed:

(a) in bags made of a suitable plastics material, so
2611 closed as to be leakproof, and placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically - closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg.

(5) Substances of 21° (g) may also be packed in hermetically - closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of
2612 some other material of sufficient strength.

(6) Substances of 21o (1), (m), (n), (o) and (p) shall be packed:

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 3, kg, other than those forwarded as a full

load, shall be fitted with means of handling; or

(b) in flame - sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically - closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically - closed canisters made of a suitable metal, welded or hard - soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity; or

(e) in hermetically - closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(7) 4 - nitrotoluene [21° (1)] may also be packed:

(a) in bags made of a suitable plastics material, so closed as to be leak - proof, and placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically - closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg; or

(c) in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material, so closed as to be leak - proof. Such a package must not weigh more than 55 kg.

(8) Substances of 21° (o) in flakes may also be packed in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material and so closed as to be leak - proof. Such a package must not weigh more than 55 kg.

Substances of 22° shall be packed: 2613

(a) in hermetically - closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically-closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg or

(c) in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically-closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

(e) in bags made of a suitable material, so closed as to be leak-proof, and placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in hermetically-closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg.

(1) liquids of 23° shall be packed: 2614

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame-sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighting more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically-closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning material in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically-closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If they weigh, with their contents, more than 275 kg, they shall be fitted with rolling hoops.

(2) Solids of 23° shall be packed in the same way as substances of 22°.

(1) Substances of 31° (a) and solid preparations of 31° (c) shall be packed: 2615

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically-closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically-closed receptacles, made of a suitable plastics material of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

(e) in hermetically-closed wooden casks of sufficient strength, with suitable lining. Such a package must not weigh more than 250 kg.

(2) Substances of 31° (b) and liquid preparations of 31° (c) shall be packed:

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full

load, shall be fitted with means of handling; or

(b) in flame-sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically-closed metal receptacles having, if necessary, a suitable lining, and having a capasity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically-closed canisters made of a suitable metal, welded or hard-soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity; or

(e) in hermetically-closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops.

(1) Sodium azide [32°(a)] shall be packed in receptacles made of black sheet-iron or tin-plate.

(2) Substance of 32°(b) shall be packed in receptacles made of glass or of a suitable plastics material. A receptacle must not contain more than 10 kg of barium azide nor more than 20 litres of barium azide solution. The receptacles shall be secured separately, by absorbent cushioning materials, in case or in iron hampers with complete sides; the volume of the cushioning material must be at least equal to that of the content of the receptacle. Where hampers are used, the cushioning materials, if readily inflammable, shall be fireproofed sufficiently to prevent ignition on contact with a flame.

Zinc phosphide (33°) shall be packed in metal receptacles secured in wooden cases. A package must not weigh more than 75 kg. 2617

Substances of 41° shall be enclosed in wooden or metal packaging which may be fitted with a device allowing gases to escape. Finely granulated substances may also be packed in bags. 2618

Substances of 51° shall be packed: 2619

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically-closed metal receptacles having, if necessary, a suitable lining, and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically-closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

(e) in bags made of a suitable plastics material, so closed as to be leak-proof, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in hermetically-closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg.

(1) Substances of 52° shall be packed: 2620

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware, or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each; receptacles made plastics material may, if forwarded as a full load, contain up to 10 kg of substance. The receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically-closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically-closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

(e) in bags made of a suitable plastics material, so closed at to be leak-proof, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in receptacles made of wood or paperboard, lined with a vapour-tight plastics material and hermetically closed. Such a package must not weigh more than 75 kg; or

(g) in hermetically-closed metal receptacles. Such a package must not weigh more than 75 kg.

(2) When forwarded as a full load, the substances may also be packed:

(a) in hermetically-closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg; or

(b) in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material, so closed as to be leak-proof. Such a package must not weigh more than 55 kg.

(1) Solids of 53° shall be packed: 2621

(a) not more than 10 kg per bag, in bags made of paper of two plies; or

(b) in bags made of a suitable plastics material; or

(c) in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material; or

(d) in steel receptacles or in strong wooden casks or in wooden cases fitted with strengthening bands.

Re (a), (b) and (c): The receptacles and bags shall be secured by cushioning materials in wooden outer packagings.

(2) Liquids or substances in solution of 53° shall be packed:

(a) in receptacles made of glass, porcelain, stoneware or similar materials. These receptacles shall be secured by cushioning materials in protective packagings which, if not cases, shall be fitted with means of handling; or

(b) in metal receptacles.

(3) A package containing fragile receptacles or bags made of a plastics material must not weigh more than 75 kg.

Thallium compounds (54°) shall be packed: 2622

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwar-

ded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in tin-plate receptacles; or

(c) in wooden cases fitted with strengthening bands; or

(d) in wooden cases fitted with iron hoops or strong wooden hoops.

(1) Substances of 61° and 62°, other than those of 61°(1), shall be packed: 2623

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding five litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in flame-sealed glass ampoules containing not more than 100 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(c) in hermetically-closed metal receptacles having, if necessary, a suitable lining, and having a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically-closed canisters made of a suitable metal, welded or hard-soldered, having a capacity not exceeding 60 litres, and fitted with means of handling. The canisters must not be filled beyond 95 per cent of their capacity; or

(e) in hermetically-closed metal drums having, if necessary, a suitable lining. The drums must not be filled beyond 95 per cent of their capacity. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(f) in hermetically-closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles must not be filled beyond 95 per cent of their capacity.

(2) Substances of 61° (1) shall be packed:

(a) in all-welded steel drums with walls not less than 1.25 mm thick, fitted with rolling hoops and reinforcing ribs and having the openings closed by two plugs, one placed over the other, one of them being screw-threaded; or

(b) in sheet-steel canisters with walls not less than 1 mm thick and a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over the other, one of them being screw-threaded. The sheet-steel canisters must have welded lengthwise seams, two reinforcing ribs in the walls, and a protective rim below the joint recessed at the bottom. Canisters with a capacity of 40 to 60 litres must have their bottoms welded on and be fitted with means of handling on the side; or

(c) in aluminium bottles of a capacity not exceeding 2 litres, secured by infusorial-earth cushioning in sheet-metal receptacles whoce lids shall be firmly stuck down by means of suitable adhesive strips. The sheet-metal receptacles shall be placed, with filling materials, in wooden cases. A package must not weigh more than 75 kg; or

(d) in non-returnable metal drums (new packagings intended to be used only once); these drums, whose walls shall be not less than 1.2 mm thick, shall be provided with a screw-threaded plug fitted with a gasket. The plug shall be situated in one of the ends of the drum and be protected by the rim. The drums may have a body with ends recessed, the joints being strengthened by climb reinforcements; if they do not possess rolling hoops they must be provided with reinforcing ribs. A package must not weigh more than 200 kg. Carriage in non-returnable drums shall take place only as a full load on open vehicles; or

(e) in non-returnable steel drums (new packagings intended to be used only once) having sides made of sheet steel 1.24 mm thick, ends made of sheet steel 1.5 mm thick, and a tare weight of 22.5 kg; the drums must be provided with reinforcing ribs. The body seam shall be welded and the ends shall be double-seamed by welting to the body, with a polyethylene liner inserted. Two screw-plug closure units, one of 50.8 mm (2) and one of 19.05 mm (3/4), shall be double-seamed by welting to one of the ends, with a synthetic-rubber liner inserted. Thin-sheet-steel caps shall be placed over the closure units.

(3) The receptacles referred to under (2)(2) to (e) must not be filled beyond 93 per cent of their capacity.

Substances of 71° shall be packed: 2624

(a) in iron or wooden packagings; or

(b) in bags made of stout paper of at least two plies, or made of jute, lined with a bag made of a suitable plastics material, so closed as to be leak-proof.

(1) Substances of 72° and 73° shall be packed: 2625

(a) in hermetically-closed receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in steel or wooden packagings; or

(c) in bags made of stout paper of at least 2 plies. However, bags for lead acetate must be made:

1. of hemp lined with a suitable plastics material or with stout crepe paper stuck on with bitumen; such a bag, with its contents, must not weigh more than 30 kg; or

2. of stout paper of at least two plies, lined with a bag made of suitable plastics material; such a bag, with its contents, must not weigh more than 30 kg; or

3. of stout paper of at least five plies, lined with a bag made of suitable plastics material; such a bag, with its contents, must not weigh more than 55 kg; or

4. of stout paper of at least three plies, placed in jute bags; such a bag, with its contents, must not weigh more than 55 kg; or

(d) in bags made of suitable plastics material, so closed as to be leak-proof, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg.

(2) Substances of 72° may also be packed in receptacles made of tin-plate or of sheet-steel.

Substances of 74° and 75° shall be packed: 2626

(a) in hermetically-closed receptacles made of glass, porcelain stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptables shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in steel or wooden packagings; or

(c) in bags made of stout paper of at least 2 plies, or in jute bags; or

(d) in receptacles made of tin-plate or sheet-steel.

Pesticides of 81° shall be packed: 2627

(a) in solid or paste form:

1. in hermetically-closed receptacles made of glass, porcelain stoneware or similar materials, or of a suitable plastics material, which must not contain more than 5 kg each. Receptacles made of plastics material may, if forwarded as a full load, contain up to 10 kg of substance. These receptables shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

2. in hermetically-closed metal receptacles having, if necessary, a suitable lining and which must not contain more than 15 kg each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

Class 6.1

3. in hermetically - closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; 2627

4. in hermetically - closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength; or

5. in bags made of a suitable plastics material, so closed as to be leak-proof, which shall be placed in a wooden case or in some other outer packaging of sufficient strenght. Such a package must not weigh more than 75 kg; or

6. in receptacles made of wood or paperboard, lined with a vapour-tight plastics material and hermetically closed. Such a package must not weigh more than 75 kg; or

7. in hermetically-closed metal receptacles. Such a package must not weigh more than 75 kg;

8. arsenical compounds forwarded as a full load may also be packed in hermetically-closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh more than 250 kg;

9. preparations may also be enclosed in packagings ready for use, which shall be firmly packed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg;

(b) in liquid form:

1. in receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, of a capacity not exceeding 5 litres, with the opening closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

2. in flame-sealed glass ampoules containing not more than 50 g, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The ampoules must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or 2627

3. in metal receptacles having, if necessary, a suitable lining, the receptacles having a capacity not exceeding 15 litres and having the openings closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity. Such a package must not weigh more than 100 kg; or

4. in canisters made of a suitable metal, welded or hard-soldered, with walls not less than 0.5 mm thick and a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over the other, one of them being screw-threaded, the canisters being fitted with means of handling. The canisters must not be filled beyond 93 per cent of their capacity; or

5. in hermetically-closed metal drums having, if necessary, a suitable lining. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops. The drums must not be filled beyond 93 per cent of their capacity; or

6. in receptacles made of a suitable plastics material, of a capacity not exceeding 60 litres, the openings being closed by two plugs, one placed over th other, one of them being screw-threaded. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles must not be filled beyond 93 per cent of their capacity.

Pesticides of 82o shall be packed: 2628

(a) in solid form:

1. in the same way as solids of 81o;

2. when forwarded as a full load, also in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material, so closed as to be leak-proof. Such a package must not weigh more than 55 kg;

(b) in liquid form:

in the same way as liquids of 81o.

Pesticides of 83o shall be packed: 2629

(a) in solid form:

1. in the same way as solids of 81o; or

2. in jute bags rendered impermeable to moisture by a lining made of a suitable material, stuck on with bitumen, or in jute bags lined with a bag made of a suitable plastics material, so closed as to be leak-proof. Such a package must not weigh more than 55 kg; or

3. in the case of preparations, and of other pesticides if they are forwarded as a full load, in bags made of stout paper of four plies, lined with a bag made of a suitable plastics material and hermetically closed. Such a package must not weigh more than 55 kg; or

4. in the case of solid arsenical compounds:

i. in double-walled wooden casks lined with stout paper; or

ii. in fibreboard boxes placed in a wooden case; or

iii. not more than 12.5 kg per bag, in double bags, made of stout paper or of a suitable plastics material, which shall be placed either in a wooden case lined with stout paper or tightly in a stout case made of double-faced corrugated fibreboard or of solid fibreboard of equivalent strength, the case being lined with stout paper. All joints and flaps shall be covered over with adhesive strips. A package comprising a fibreboard case must not weigh more than 30 kg.

5. in the case of arsenical compounds forwarded as a complete load:

i. in ordinary wooden packagings lined with stout paper; or

ii. not more than 25 kg per bag, in two-ply paper bags, or in bags made of a suitable plastics material, which shall be placed separately in bags made of jute or of a similar material lined with crepe paper; or

iii. in bags made of paper of at least three plies or in two-ply paper bags lined a bag made of a suitable plastics material. Such a package must not weigh more than 20 kg; or

iv. in two-ply paper bags or in bags made of a suitable plastic material, which shall be placed in four-ply paper bags. Such a package must not weigh more than 60 kg.

In cases as referred to under iii. and iv. above, each consignment must be accompanied by empty bags in the proportion of 1 for every 20 bags containing arsenical substances, these empty bags being intended to accommodate such quantity of substances as may escape from bags damaged during carriage.

(b) inliquid form:
1. in the same way as liquids of 81o; or
2. in the case of preparations:

i. in hermetically-closed cylindrical receptacles made of glass, porcelain, stoneware or similar materials, of a capacity not exceeding 25 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strenght. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

ii. in hermetically-closed glass carboys, of a capacity not exceeding 25 litres, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength, or which shall be well secured in iron or wicker hampers. The carboys must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

iii. in receptacles, made of a suitable plastics material, with walls not less than 4 mm thick and a capacity non exceeding 60 litrs, the openings being closed by two plugs, one placed over the other, one of them being screw-threaded, the recepatcles having to protective packaging if the competent authority of the country of departure so allows. The receptacles must not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

Substances of 84° shall be packed: 2630
(a) in the same way as solids of 81°; or
(b) in the case of substances of 84° (a) very conspicuously coloured, in bags made of paper of at least two plies, or of a suitable plastics material, which shall be placed in textile bags; or
(c) in the case of substances of 84°(b), in closely-woven jute bags.

3. Mixed packing

(1) Substances grouped under the same item number 2631
may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section headed «Packing of a single substance», substances of this Class, in quantities not exceeding 6 kg in the case of solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with dangerous substances belonging to other Classes (if mixed packing is likewise allowed in the case of such substances), or with other goods, subject to the following special conditions:

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions of marginals 2001 (5) and 2002 (6) and (7) must be observed.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Special conditions:

Item No	Description of Substance	Maximum quantity per receptade	per package	Special provisions
1°(a)	Hydrocyanic acid	mixed pacuing not allowed		
1°(b)	Solutions of hydrocyanic acid containing not more than 4% hydrocyanic acid (solutions containing more than 4% are prohibited)	1 litre	1litre	Must not be packed together with any other acid
2°	Acrylonitrile, acetonitrile, isobutyronitrile	1 litre	1 litre	Must not be packed together with substances of Classes 5.1 and 8. Glass receptacles must be secured by cushioning materials in protective receptacles
5°(a)	Nickel carbonyl	mixed pacuing not allowed		
11°(a)	2-cyanopropan-2-ol	1 litre	1 litre	Must not be packed together with substacnes of Classes 5.1 and 8. Glass receptacles must be secured by cusioning materials in protective receptacles
13°(b)	Dimentyl sulphate	1 litre	3 litres	
31°(a)	Cyanides in a solid form - in fragile receptacles - in other receptacles	 500g 5 kg	 500g 5 kg	Must not be packed together with substances of an acid nature
31°(b)	Solutions of inogranic cya nides	1 litre	3 litres	
41°(b)	Ferro-silicon alloys with aluminium	2.5 kg	2.5 kg	

4. Marking and danger labels on packages (see Appendix A.9) 2632

(1) Packages containing substances of 1° - 5°, 11° - 14°, 21° - 23°, 31° - 33°, 41°, 51° - 54°, 81° and 82° shall bear a label conforming to model No. 4; packages containing substances of 2°, 4°(a), 5° and 11°(a) shall bear, in addition a label conformating to model No. 2A. Packages containing substances of 61°, 62°, 71°-75°, 83° and 84° shall bear a label conforming to model No. 4A.

(2) Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) In the case of consignments forwarded as a full load, labels Nos. 2A, 4 or 4A need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10500.

B. Particulars in the transport document 2633

(1) In the case of substances which are referred to by name in the list of substances (marginal 2601), the description of the goods in the transport document must conform to the name underlined in marginal 2601. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 6.1, 1o(a), ADR]. 2634

In the case of substances which are not referred to by name in the list of substances (marginal 2601), the trade name or the chemical name must be used. This description must be underlined in red and followed by particulars of the Class and item number (together with the letter, if any) of the substance presenting a comparable degree of danger, and the initials «ADR» [e.g. 6.1, 21°(m), ADR].

(2) In the case of hydrocyanic acid [1o(a)] the following must be certified in the transport document: «The nature of the goods, and the packaging, are in conformity with the provisions of ADR».

(3) In the case of substances of 41°, the following must be certified in the transport document: «Stored in the open air and in a dry place for not less than three days».

(4) In the case of consignments of substances which polymeriz easily, the following must be certified in the transport document: «The necessary steps have been taken to prevent polymerization during carriage», 2634

2635-2642

C. Empty packagings

(1) Bags of 91° and 92° must be packed in cases or in impermeable bags preventing any loss of substances. 2643

(2) Other packagings and tanks of 91° and 92° must be closed the same manner and leak-proof in the same degree as though they were full.

(3) Packagings of 91° forwarded otherwise than as a full load, tanks, and packed bags of 91° shall bear labels conforming to model No. 4; packed bags of 92° shall bear labels conforming to model No. 4A (see Appendix A.9).

(4) The description in the transport document must be: «Empty packaging, 6.1, 91° (or 92°), ADR (or RID). This description must be underlined in red.

2644-2649

CLASS 6.2 REPUGNANT SUBSTANCES AND SUBSTANCES LIABLE TO CAUSE INFECTION

1. List of substances

Among the substances and articles covered by the heading of Class 6.2, only those listed in marginal 2651 are to be accepted for carriage, and then only subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR. 2650

1° (a) Fresh tendons, clippings of fresh skins not limed or salted, trimmings from fresh tendons or from clippings of fresh skins; Note: Clippings of wet fresh skins, limed or salted, are not subject to the provisions of ADR. 2651

(b) fresh horns, claws or hoofs not cleansed of bone and soft adhering parts, fresh bones not cleansed of flesh or other soft adhering parts;

(c) undressed pig's bristles and hair.

2° Fresh skins, unsalted or salted, from which effensive quantities of blood or brine drip.

Note: Properly salted skins containing only a small quantity of moisture are not subject to the provisions of ADR.

3° Cleaned or dried bones, cleaned or dried horns, claws or hoofs.

Note: Dry bones divested of fat, not giving off any putrid odour, are not subject to the provisions of ADR.

4° Fresh calf rennets, cleansed of all traces of edible matter.

Note: Dried calf rennets not giving of an offensive odour are not subject to the provisions of ADR.

5° Compressed residues arising from the manufacture of skin glue (calcareous residues, residues from the liming of skin clippings, or residues used as fertilizers).

6° Non-compressed residues arising from the manufacture of skin glue

7° Non-infected urine protected against decomposition.

8° Anatomical pieces, entrails and glands.

(a) non infected

(b) infected

9o Manure. 2651

10° Excrement.

11° Other animal substances, repugnant or liable to cause infection, not already specifically mentioned in 1° to 10°.

12° Empty packagings and empty bags which have contained substances of 1° to 8°, 10° and 11°, and sheets which have been used to cover substances of Class 6.2.

Note: If uncleaned, these packagings, bags and sheets are not to be accepted for carriage.

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and leak-proof as to prevent any loss of the contents. 2652

(2) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal requirements of carriage. In particular where substances are in the liquid state or are liable to ferment, receptacles and their closures must, unless the section headed «Packing of a single substance» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference betwen the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage.

(3) No trace of the contents must adhere to the outside of packages.

2. Packing of a single substance

Substances of 1o shall be packed: 2653

(a) if forwarded otherwise than as a full load:

1. in metal receptacles fitted with a safety closure capable of yielding to internal pressure, or in casks, small vats or cases; or

2. in the case of substances of 1o (c) in the dry state, also i bags, on condition that the bad odour can be removed by disinfection. In the case of substances not in the dry state, packing in bags is allowed only from 1 November to 15 April;

(b) if forwarded as a full load:

1. in the packagings specified in (a) 1. above; or

2. on condition that the bad odour can be removed by disinfection, in bags impregnated with suitable disinfectants.

Substances of 2° shall be packed: 2654

(a) if forwarded otherwise than as a full load:

1. in casks, small vats or cases; or

2. during the months from November to February inclusive, in bags impregnated with suitable disinfectants, on condition that the bad odour can be removed by disinfection;

(b) if forwarded as a full load:

1. in the packagings specified in (a) 1. above; or

2. on condition that the bad odour be removed by disinfection, in bags impregnated with suitable disinfectants.

Substances of 3° shall be packed in casks, small vats, cases, metal receptacles or bags. 2655

Substances of 4° shall be packed: 2656

(a) if forwarded otherwise than as a full load:

in casks, small vats, cases, metal receptacles or bags;

(b) if forwarded as a full load: in any suitable packagings.

Substances of 5° and 6o shall be packed in casks, small vats, cases or metal receptacles. 2657

Substances of 7° shall be packed in hermetically closed receptacles made of galvanized sheet-steel. 2658

(1) Substances of 8° shall be packed in metal receptacles fitted with a safety closure capable of yielding to internal pressure, in casks or small vats; substances of 8o (a) may also be packed in cases. 2659

(2) Substances of 8° may also be packed as follows:

(a) substances of 8° (a), in receptacles made of glass, porcelain, stoneware, metal or a suitable plastics material. These receptacles shall be placed, either singly or in groups, in a strong wooden case, with absorbent cushioning materials if the receptacles are fragile. If the substances to be carried are immersed in a preserving fluid, the absorbent materials shall be sufficient in quantity to absorb all the fluid. The preserving fluid must not be inflammable. Packages weighing more than 30 kg shall be fitted with means of handling;

(b) substances of 8° (b), in suitable receptacles placed with cushioning materials in a strong wooden case having a metal lining rendered leak-prood e.g. by soldering. Packages weighing more than 30 kg shall be fitted with means of handling;

Substances of 9° shall be forwarded only in bulk. 2660

Substances of 10° shall be packed in receptacles made of sheet-metal. 2661

Substances of 11° shall be packed in metal receptacles fitted with a safety closure capable of yielding to internal pressure, or in casks, small vats or cases. 2662

3. Mixed packing

Substances listed under an item number of marginal 2651 may be included in the same package only with substances listed under the same item number,and then only on condition that the packagings prescribed in sections A.1 and 2 above are used. 2663

4. Marking and danger labels on packages (see Appendix A.9)

Packages containing fragile receptacles not visible from the outside shall bear a label conforming to model No.9. If the fragile receptacles contain liqnids, the packages shall in addition, except in the case of sealed ampoules, bear labels comforming to model No.8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner with other packagings are used. 2664

2665

B. Particulars in the transport document 2666

The description of the goods in the transport document must conform to one of the names underlined in marginal 2651. Where the name the substance is not indicated, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or †«RID» [d.g. 6.2, 1o (a), ADR].

2667
–2672

Empty packagings 2673

(1) Articles of 12o shall be cleaned and treated with suitable disinfectants.

(2) The description in the transport document must be:

«Empty packaging (or empty bag, or sheet), 6.2, 12o, ADR (or RID)».

This description must be underlined in red. 2674

2699

CLASS 7

RADIOACTIVE SUBSTANCES

Introduction

(1) Scope 2700

(a) Among the substances with a specific activity of more than 0.002 microcurie per gramme and articles containing such substances, only those indicated in the schedules of marginal 2703 are to be accepted for carriage and then only under the conditions set out in the appropriate schedules of the said marginal and in appendix A.6 (marginals 3600 to 3699).

(b) The substances and articles referred to in (a) are substances and articles of ADR

NOTE. Cardiac pacemakers containing radioactive substances, when they have been surgically implanted in medical patients, or radiopharmaceuticals being carried inside patients in the course of medical treatment, are not subject to ADR.

(2) Definitions and explanations

A_1 and A_2

«A_1» means the maximum activity of special form radioactive substances permitted in a Type A package. «A_2» means the maximum activity of radioactive substances, other than special form radioactive substances, permitted in a Type A package. These values either are listed in Appendix A.6 table XXi or may be derived in accordance with the procedure described in marginals 3690 and 3691 of Appendix A.6.

Allowable number of packages

«Allowable number[1] of packages» means the maximum number of Fissile Class II or Fissile Class III packages wich may be grouped together in one place during carriage or during transit storage.

* 1) When the group is made up of packages of different designs, the maximum number of packages shall be such that the following formula is satisfied:

$\frac{n_1}{N_1} + \frac{n_2}{N_2} + \frac{n_3}{N_3} + \ldots$ shall not exceed 1. In this formula,

n_1, n_2, n_3 ... are the numbers of packages for which the corresponding allowable numbers are N_1, N_2, N_3... respectively.

Containment system

«containment system» means the components of the packaging specified by designer as intended to retain the radioactive substance during carriage.

Design

«Desing» means the description of a special form substance, or of a package or a packaging of a particular kind, which enables it to be fully identified. The description may include specifications, enginnering drawings, reports demonstrating compliance with regulatory requirements, and other relevant documentation.

Fissile substances

«Fissile substance» means plutonium-238, plutonium-239, plutonium-241, uranium-233, uranium-235, and all substances containing any of these radionuclides. Unirradiated natural and depleted uranium do not come under this definition.

Low-level solid radioactive substances

«Low-level solid radiactive substance» (LLS) means any of the following:

(a) Solids (e.g. consolidated wastes, activated substances) in which:

(i) the activity in normal carriage is and remains distributed throughout the solid or the collection of solids or is and remains uniformly distributed in a solid compact binding agent (such as concrets, bitumen, ceramic);

(ii) the activity is and remains insoluble so that even under loss of packaging the loss of radioactive substance per package resulting from the effects of wind, rain, etc., of from total immersion in water is limited to less than 0.1 A_2 in a period of one week; and

(iii) the activity averaged throughout the radioactive subtance does not exceed 2×10^{-3} A_2/g.

(b) Articles of non-radioactive substance which are contaminated with a radioactive substance, provided that the radioactive contamination is in a non-readily-dispersible from and that the level of contamination averaged over 1 m^2 (or over the area of the surface if that area is less than 1 m^2) does not exceed

20uCi/cm^2 for beta and gamma emitters and the low-toxicity alpha emitters indicated in Table XIX of Appendix A.6; and 2 uCi/cm^2 for other alpha emitters.

Low specific activity substances (1)

«Low specific activity substances (1)» (LSA) means any of the following:

(a) Uranium or thorium ores and physical or chemical concentrates of those ores;

(b) Unirradiated natural or depleted uranium or unirradiated natural thorium;

(c) Tritium oxide in aqueous solutions, provided that the concentration does not exceed 10 Ci/litre;

(d) Substances in which the activity is uniformly distributed and which if they were reduced to their minimum volume in conditions likely to be encountered in carriage, such as dissolution in water with subsequent recrystallization; precipitation; evaporation; combustion; abrasion; etc., would have an average specific activity of not more than 10^{-4} A_2/g;

(e) Articles on non-radioactive substance which are contaminated with a radioactive substance, provided that the non-fixed surface contamination does not exceed ten times the values in Table XIX of Appendix A.6 and that the contaminated article or the contamination on the article, if it was reduced to its minimum volume in conditions likely to be encountered in carriage, such as dissolution in water with subsequent recrystallization; precipitation; evaporation; combustion; abrasion; etc., would have an average specific activity of not more than 10^{-4} A_2/g.

Low specific activity substances (II)

«Low specific activity substances (II)» (LSA) means any of the following:

(a) Substances in which the activity in normal carriage is and remains uniformly distributed and in which the average specific activity does not exceed 10^{-4} A_2/g;

(b) Articles of non-radioactive substance which are contaminated with a radioactive substance, provided that the radioactive contamination is in a non-readily-dispersible form and that the level of contamination averaged over 1 m^2 (of over the area of the surface if that area is less than 1 m^2) does not exceed

1 uCi/$cm^2$for beta and gramma emitters and the low-toxicity alpha emitters indicated in Table XIX of Appendix A.6; and 0.1 uCi/cm^2 for other alpha emitters.

Maximum normal operating pressure

«Maximum normal operating pressure» means the maximum pressure above atmospheric pressure at mean sea-level that would develop in the containment system in a period of one year in conditions of temperature and solar radiation corresponding to environmental conditions of transport in the absence of venting, external cooling by an ancillary system, or operational controle during carriage.

Multilateral approval

«Multilateral approval» means approval by the competent authority of the country of origin and by the competent authority of each country in whose territory the consignment is to be carried.

Package

«Type A package» means a type A packaging together with its limited radioactive contents. As the contents of a Type A package are limited to A_1 or A_2, such a package does not require approval by the competent authority.

«Type B(U) package» means a Type B packaging, together with its radioactive contents, which since it is designed in accordance with specified design and containment criteria requires unilateral approval only of the package design and of any stowage provisions that may be necessary for heat dissipation.

«Type B(M) package» means A Type B packaging, together with its radioactive contents, which since its design fails to meet one or more of the specific additional design criteria for Type B(U) packages (see marginal 3603 of Appendix A.6) requires multilateral approval of the package design and, in certain circumstances, of the conditions of despatch.

Packaging

«Packaging» means the assembly of components necessary to ensure compliance with the packaging requirements of this Class. It may, in particular, consist of one or more receptacles, absorbent materials, spacing structures, radiation shielding, and devices for cooling, for absorbing mechanical shocks and for thermal insulation. These devices may include the vehicle with the tie-down system when these are intended to form an integral part of the packaging.

«Type A packaging» means a packaging which in normal carriage is able to prevent any loss or dispersal of the radioactive content and to retain its shielding function. The conditions of normal carriage shall be reproduced by the tests prescribed in marginal 3635 and 3636 of Appendix A.6, which tests the packaging shall be shown to have passed.

«Type B packaging» means a packaging which is able

to withstand not only the conditions of normal carriage, as a Type A packaging does, but also a transport accident. The conditions of such an accident shall be reproduced by the tests prescribed in marginals 3635 to 3637 of Appendix A.6, which tests the packaging, shall shown to have passed in the conditions likewise prescribed.

Radiation leve

«Radiation level» means the corresponding radiation dose-equivalent rate expressed in millirem per hour. Radiation levels may be determined by instruments, combined with the use of conversion tables where necessary of by calculation. Measured or calculated neutron flux densities may be converted into radiation levels by using the date given in the following table.

Neutron flux densities to be regarded as equivalent to a radiation level of 1 mrem/h

Energy of neutron	Flux density equivalent to 1 mrem/h ($n/cm^2 \cdot s$)
Thermal	268
5 keV	228
20 keV	112
100 keV	32
500 keV	12
1 MeV	7.2
5 MeV	7.2
10 MeV	6.8

Note: Equivalent flux densities for energies between those listed above should obtained by linear interpolation.

Radioactive contents

«Radioactive contents» means the radioactive substance together with any contaminated solids, liquids or gases in the package.

Special form radioactive substance

«Special form radioactive substance» means either a non-dispersible solid radioactive substance or a sealed capsule containing a radioactive substance. The sealed capsule shall be so constructed that it can be opened only by destroying it. The special form radioactive substance shall meet the following requirements:

(a) It shall have at least on dimension of not less than 5 mm; and

(b) It shall comply with the relevant test requirements specified in marginals 3640 to 3642 of Appendix A.6.

In general, the «special form» concept enables substances exhibiting a higher activity level to be included in a Type A package.

Specific activity

The «specific activity» of a radionuclide means that radionuclide's activity per unit mass. The specific activity of a substance in which the radionuclides are essentially uniformly distributed is that substance's activity per unit mass.

Trasnport index

The «transport index» of a package means:

(a) The number expressing the maximum radiation level in millirem per hour at i m from the external surface of the package; or

(b) In the case of packages of Fissile Class II or Fissile Class III, the higher of the following numbers:

the number expressing the maximum radiation level as under (a) above; and the number obtained by dividing 50 b the allowable number of such packages.

The «transport index» of a container means either;

the sum of the transport indices of all packages within the container, except that for containers carrying Fissile Class III packages, the transport index shall be 50 unless the sum of the transport indices of the packages necessitates a higher figure.

or for containers not carrying Fissile Class II or III packages and under full load, the number expressing the maximum radiation level in mrem/h at 1 m from the external surface of the container multiplied by the value in the following table appropriate to the maximum cross-sectional area of the container.

Multiplication factors

Size of load	Multiplication factor
Measurement (cross-sectional area measurements of the load perpendicular to the direction of interest).	
1 m^2 and less	1
Ø 1 m^2 to 5 m^2	3
Ø 5 m^2 to 20 m^2	6
Ø 20 m^2 to 100 m^2	19

(c) The figure expressing the transport index shall be rounded upwards to the first decimal place.

Uncompressed gas

«Uncompressed gas» means a gas at a pressure not exceeding the ambient atmospheric pressure at the time when the containment sytem is closed.

Unilateral approval

«Unilateral approval» means approval by the competent authority of the country of origin only. If the country of origin is not a party to ADR, the approval shall require validation by the competent authority of the first ADR country reached by the consignment.

Unirradiated uranium

«Unirradiated uranium» means uranium containing not more than 10^{-6} g plutonium per g uranium-235 and a fission product activity of not more than 0.25 mCi per g uranium-235. 2700

Unirradiated thorium

«Unirradiated thorium» means thorium containing not more than 10^{-7} g of uranium-233 per g of thorium-232.

Uranium; natural, depleted, enriched

«Natural uranium» means chemically-separated uranium with the naturally-occurring distribution of uranium isotopes (appromixately 99.28 per cent uranium-238 and 0.72 per cent uranium-235). «Depleted uranium» means uranium containing less than 0.72 per cent uranium-235, the remainder being uranium-238. «Enriched uranium» means uranium containing more than 0.72 per cent uranium-235, the remainder being uranium-238. In all cases a very small amount of uranium-234 is present.

(3) Prohibitions on mixed loading

Substances of class 7 contained in packages bearing a label conforming with models Nos. 6A, 6B or 6C shall not be loaded in the same vehicle together with substances and articles of Classes 1a (marginal 2101), 1b (marginal 2131) or 1c (marginal 2171) contained in packages bearing one or two labels conforming with model No. 1.

The substances and articles of this class contain one or more of the radionuclides referred to in chapter VI of Appendix A.6 (marginals 3690 and 3691).

The list hereunder specifies the different types of consignment:

1. Empty packages which have contained radioactive substances;
2. Articles manufactured from natural or depleted uranium or natural thorium;
3. Small quantities of radioactive substances;
4. Instruments and manufactured articles;
5. Low specific activity substances LSA (I)
6. Low specific activity substances LSA (II)
7. Low-level solid radioactive substances;
8. Radioactive substances in Type A packages;
9. Radioactive substances in Type B(U) packages;
10. Radioactive substances in Type B(M) packages;
11. Fissile substances;
12. Radioactive substances carried under special arrangement.

1. Substances

Empty packages: with have contained radioactive substances.

2. Packaging/Package

(a) Packaging shall be in accordance with the requirements given in marginal 3600 of Appendix A.6, and shall be securely closed and in good condition.

(b) Permitted internal contamination levels: not more than 100 times those levels set out in paragraph 5.

(c) Where an empty packaging includes natural or depleted uranium or natural thorium in its structure its surface shall be covered with a substantial, inactive sheath made of metal or some other resistant material.

Schedule 1

Danger labels on package.

None

Note: Anty labe indicating a danger shall be covered or removed.

3. Packages maximum radiation level

0.5 mrem/h at the surface of the package.

4. Mixed packing

No provisions.

5. Contamination on packages

Non-fixed external contamination limits:

Beta/gamma/low-toxicity alpha emitters	10^{-4} uCi/cm^2
Natural/depleted uranium/ natural thorium	10^{-3} uCi/cm^2
Other alpha emitters	10^{-5} uCi/cm^2

For full details, see marginal 3651 of Appendix A.6.

6. Marking on packages

(a) Packages shall be plainly and durably marked with the weight if over 50 kg.

(b) Any marking indicating a radioactive danger shall not be visible.

7. Transport documents

The transport document shall include the description «Radioactive substances (Empty packages), 7, schedule 1, ADR», with the name underlined in red.

8. Storage and despatch

No provisions.

9. Carriage of packages in vehicles and containers

No provisions.

10. Carriage in bulk in vehicles and containers

Not applicable.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers

None.

13. Prohibitions on mixed loading

No provisions.

2701

14. Decontamination of vehicles, tank vehicles, tank containers and containers

No provisions.

2702

15. Other provisions

None.

1. Substances

Articles manufactured from natural or depleted uranium or natural thorium.

The outer surface of the uranium or thorium shall be covered by a substantial, inactive sheath made of metal or some other resistant material.

Schedule 2

Danger labels on packages.

None.

NOTE: Such articles may for example be unused packagings intendeded for the transport of radioactive substances.

2. Packaging/Package

2703

Packaging shall be in accordance with the requirements given in marginal 3600 of Appendix A.6.

3. Package maximum radiation level

0,5 mrem/h at the surface of the package.

4. Mixed packing

No provisions.

5. Contamination on packages

Non-fixed external contamination limits:

Beta/gamma/low-toxicity alpha emitters	10^{-4} uCi/cm^2
Natural/depleted uranium/ natural thorium	10^{-3} uCi/cm^2
Other alpha emitters	10^{-5} uCi/cm^2

For full details see marginal 3651 of Appendix A.6.

6. Marking on packages

None.

7. Transport documents

The transport document shall include the description «Radioactive substances (Manufactured articles), 7, schedule 2, ADR», with the name underlined in red.

8. Storage and despatch

No provisions.

9. Carriage of packages in vehicles and containers

No provisions.

10. Carriage in bulk in vehicles and containers

Not applicable.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers

None.

13. Prohibitions on mixed loading

No provisions.

14. Decontamination of vehicles, tank vehicles, tank containers and containers

No provisions.

15. Other provisions

None.

1. Substances

Small quantities of radioactive substances in amounts which do not exceed those given in the table below and which do not contain more than 15 g of uranium-235.

Schedule 3

Danger labels on packages.

None (but see paragraph 15).

Nature of substances	Package limits
Solids and gases	
Special form	10^{-3} A1
Other forms	10^{-3} A2
Tritium	20 Ci*
Liquids	
Tritium oxide in aqueous solutions	
less than 0.1 Ci/l	1000 Ci
between 0.1 Ci/l and 1.0 Ci/l	100 Ci
greater than 1.0 Ci/l	1 Ci
Other liquids	10^{-4} A2

For mixtures of radionuclides, see marginal 3691 of Appendix A.6.

2. Packaging/Package

(a) Packaging shall be in accordance with the requirements given in marginal 3600 of Appendix A.6.

(b) During transport there shall be no leakage of radioactive substances.

3. Package maximum radiation level

0.5 mrem/h at the surface of the package.

4. Mixed packing

No provisions.

5. Contamination on packages

Non-fixed external contamination limits:

Beta/gamma/low-toxicity alpha emitters	10^{-4} uCi/cm^2
Natural/depleted uranium/ natural thorium	10^{-3} uCi/cm^2
Other alpha emitters	10^{-5} uCi/cm^2

For full details, see marginal 3651 of Appendix A.6.

6. Marking on packages

The outermost surface of the containment system shall be marked «RADIOACTIVE» as a warning on opening the package.

7. Transport documents

The transport document shall include the description «Radioactive substances (Small quantities), 7, schedule 3, ADR», with the name underlined in red.

8. Storage and despatch

No provisions.

9. Carriage of packages in vehicles and containers

No provisions.

10. Carriage in bulk in vehicles and containers

Not permitted.

11. Carriage in tank vehicles and tank containers

Not permitted.

12. Placards and labels on vehicles tank vehicles, tank containers and containers

None.

13. Prohivitions on mixed loading

No provisions.

14. Decontamination of vehicles, tank vehicles, tank contaiiners and containers

See marginal 3695 (3) of Appendix A.6.

15. Other provisions

(a) Accident provisions - see marginal 3695 (1) of Appendix A.6.

(b) Decontamination in storage - see marginal 3695 (2) of Appendix A.6.

(c) Radioactive substances which possess other hazardous properties shall also comply with the provisions of the appropriate class.

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* The values for tritium also apply to tritium in activated luminous paint and tritium adsorbed on solid carriers.

1. Substances

Instruments and Manufactured articles such as clocks, electronic tubes or apparatus, having radioactive substances as a component part, whose activity does not exceed the amounts given in the table below and which do not contain more than 15 g. of uranium-235.

Nature of substances	Item limits	Package limits
Solids		
Special form	10^{-2} A^1	A^1
Other forms	10^{-2} A^2	A^2
Liquids	10^{-3} A^2	10^{-1} A^2
Gases		
Tritium	20 Ci*	200 Ci*
Special form	10^{-3} A^1	10^{-2} A^1
Other forms	10^{-3} A^2	10^{-2} A^2

For mixtures of radionuclides, see marginal 3691 of Appendix A.6.

2. Packaging/Package

(a) Packaging shall be in accordance with the requirements given in marginal 3600 of Appendix A.6.

(b) The instruments and articles shall be securely packed.

3 Package maximum radiation level

0.5 mrem/h at the surface of the package and 10 mrem/h at 10 cm from any point on the external surface of any unpacked instrument or article.

4. Mixed packing

No provisions.

5. Contamination on packages

Non-fixed external contamination limits:

Beta/gamma/ low-toxicity alpha emitters	10^{-4} uCi/cm^2
Natural/depleted uranium/ natural thorium	10^{-3} uCi/cm^2
Other alpha emitters	10^{-5} uCi/cm^2

For full details, see marginal 3651 of Appendix A.6.

6. Marking on packages

Each instrument or article (except radioluminescent timepieces or devices) shall bear the marking «RADIOACTIVE».

7. Transport Documents

The transport document shall include the description «Radioactive substances (Instruments) or (Manufactured articles), 7, schedule 4, ADR», with the name underlined in red.

8. Storage and despatch

No provisions.

9. Carriage of packages in vehicles and containers

No provisions.

10. Carriage in bulk vehicles and containers

Not applicable.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and Labels on vehicles tank vehicles, tank containers and containers

None.

13. Prohibitions on mixed loading

No provisions.

14. Decontamination of vehicles, tank vehicles, tank contaiiners and containers

See marginal 3695 (3) of Appendix A.6.

15. Other provisions

(a) Accident provisions - see marginal 3695 (1) of Appendix A.6.

(b) Decontamination in storage - see marginal 3695 (2) of Appendix A.6.

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* The values for tritium also apply to tritium in activated luminous paint and tritium adsorbed on solid carriers.

Class 7

1. Substances

Low specific activity substances LSA(I), belonging to one of the following groups as defined fully in marginal 2700(2):

(i) uranium or thorium ores or concentrates (sub-papa (a) of definition)

(ii) unirradiated natural or depleted uranium or unirradiated natural thorium (sub-papa (b) of definition)

(iii) tritium oxide in aqueous solutions - concentration 10 Ci/l or less. (sub-para (c) of definition)

(iv) substances with uniform activity under minimum volume conditions of not more than 10-4 A2/g (sub-para (d) of definition).

(v) Non-radioactive articles contaminated to not more than 10 times the package limits set in para 5 below and so that the specific activity under minimum volume conditions never exceeds 10-4 A2/g (sub-para (e) of definition).

Schedule 5

Danger labels on packages (see Appendix A.9). 2703

Unless transported as a full a load, labels to models 6A, 6B or 6C shall be affixed externally to two opposite sides, see marginals 3653 to 3655 of Appendix A.6 for package category. The contents shall be described on the labels as «Radioactive LSA». Subsidiary labelling:

(i) for thorium nitrate and uranium nitrate - model No. 3 labels are required.

(ii) for uranium hexafluoride - model No. 4 labels are required.

If fissile substances are present the requirements of schedule II shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Packages transported other than as full load-packaging shall be in accordance with the requirements of marginal 3600, marginal 3650 to 3655 and marginal 3656(1) to (4) of Appendix A.6.

Substances of paragraph 1(ii) above in massive solid form shall be packed so as to prevent abrasion, and in other solid forms shall be contained in a substantial sheath.

3. Package maximum radiation level

200 mrem/h at the surface of the package and 10 mrem/h at 1 metre from that surface (see marginals 3653 to 3655 of Appendix A.6).

Except in the case of a full load when the limit is 1,000 mrem/h at the surface of the package and may exceed 10 mrem/h at 1 metre from that surface (see marginal 3659(7) of Appendix A.6).

2703

4. Mixed packing

See marginal 3650 of Appendix A.6.

5. Contamination on packages

(a) Non-fixed external contamination limits for packages carried other than full load.

Beta/gamma/low-toxicity alpha emmiters 10^{-4} μCi/cm²

Natural/depleted uranium/natural thorium 10^{-3} μCi/cm²

Other alpha emitters 10^{-5} μCi/cm²

For full details, see marginal 3651 of Appendix A.6.

(b) For packages carried in a full load - No provisions.

6. Marking on packages

Packages transported as full load - stencilled or otherwise marked «RADIOACTIVE LSA».

Package transported other than full load - plainly and durably marked with the weight if over 50 kg.

7. Transport documents

The transport document shall include the description «Radioactive substances (Low specific activity LSA (I)), 7, schedule 5, ADR», with the name underline in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

8. Storage and despatch

(a) Storage and segregation from other dangerous goods - see marginal 3658 (1) Appendix A.6.

(b) Storage and sepregation from packages labelled «FOTO» - see marginal 240000 of Appendix B.4 for segregation table.

(c) Total transport index limitation for storage, no limit except in the case Fissile Class II or III packages, see marginal 3658 (2) to (5) of Appendix.

9. Carriage of packages in vehicles and containers

(a) Segregation from packages labelled «FOTO» - see marginal 240001 of Appendix B.4 for segregation Table.

(b) Total transport index limitation - 50. This limit does not apply to a load, provided that if Fissile Class II or III packages are present the allowable number is not exceeded, (see marginal 3659(5) of Appendix A.6).

(c) Maximum radiation levels for vehicles and large containers in the case of a full load 2703

200 mrem/h at surface

10 mrem/h at 2 metres from surface

(see marginal 3659(1) of Appendix A.7)

Also, for vehicles - 2 mrem/h in any normally occupied position - see marginal 3659(8) of Appendix A.6.

(d) Packages not in conformity with the requirements of marginal 3600 shall be transported as full load, and the limits in the following table shall not be exceeded:

Nature of substances	Vehicle or large container activity limit
Solids	No limit
Tritium oxide in aqueous solutions	50,000 Ci
Other liquids and gases	100 x A_2

10. Carriage in bulk in vehicles and containers

Permitted under full load provided that, after loading, external surfaces of vehicles are carefully cleaned by the consignor and provided that no leakage can occur under normal transport. Quantity limits as in the table in paragraph 9 above.

11. Carriage in tank-vehicles and tank-containers

(a) Carriage in tank-vehicles: permitted for liquids or solids other than uranium hexafluoride and substances liable to sportaneous ignition (see Appendix A.6, marginal 3660);

(b) Carriage in tank-containers: permitted for liquids or solids, including natural or depleted uranium hexafluoride (see Appendix A.6, marginal 3661).

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4)

Containers - labels to models 6A, 6B or 6C on all four sides. Vehicles and large contaiers - placards to model in Appendix B.4 marginal 240 010 on each lateral side and on rear wall of vehicle (see marginals 3659(6) and 71 500).

Subsidiary labelling

(i) for thorium nitrate and uranium nitrate - model No. 3 labels are required

(ii) for uranium hexafluoride - model No. 4 labels are required.

13. Prohibitions on mixed loading 2703

See marginal 2700(3).

14. Decontaminated of vehicles, tank vehicles, tank containers and containers

(a) For full load consignments, after unloading, vehicles to be decontaminated by the consignec to the levels in Table XIX of Appendix A.6 unless to be used for carrying

the same substances. See also marginal 3695(4) of Appendix A.6.

(b) For non-full load consignements, see marginal 3695(3) of Appendix A.6.

15. Other provisions

(a) Accident provisions - see marginal 3695(1) of Appendix A6.

(b) Decontamination in storage - see marginal 3695(2) of Appendix A.6.

1. Substances

Low specific activity substances LSA(II) belonging to either of the following groups as difened fully in marginal 2700(2):

(i) substances with uniform activity of not more than 10^{-4} A2/g. (sub-para (a) of definition).

(ii) non-radioactive articles contaminated non-dispersibly to a level not exceeding 1 $\mu Ci/cm^2$ for beta and gamma emitters and low toxicity alpha emitters, or O.1 $\mu Ci/cm^2$ for other alpha emitters (sub-para (b) of definition).

If fissile substances are present the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Packaging shall be in accordance with the requirements of marginal 3600, marginal 3650 and marginal 3651 of Appendix A.6.

3. Package maximum radiation level

Closed vehicles under conditions of marginal 3659(7) (a) of Appendix A.6 - 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at one metre from that surface. All other vehicles not under the conditions of marginal 3659 (7)(a) of Appendix A.6 - 200 mrem/h at the surface of the package and 10 mrem/h at one metre from that surface.

4. Mixed packing

See marginal 3650 of Appendix A.6.

5. Contamination on packages

Non-fixed external contamination limits:

Beta/gamma/low toxicity alpha emitters	10^{-4} UCi/cm^2
Natural/depleted uranium/natural thorium	10^{-3}UCi/cm^2
Other alpha emitters	10^{-5}UCi/cm^2

For full details, see marginal 3651 of Appendix A.6

Schedule 6

Danger labels on packages 2703

None required unless fissile substances are present (see Schedule 11).

2703

6. Maruing on packages

Packages shall be stencilled or otherwise marked «RADIOACTIVE LSA».

7. Transport documents

The transport document shall include the description «Radioactive substances (Low specific activity LSA (II)), 7, schedule 6, ADR, «with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

8. Storage and despatch

Only under full load

9. Carriage of packages in vehicles and containers

(a) Carriage only by full load

(b) If the consignment includes Fissile Class II or III packages the allowable number shall not be exceeded. (see Schedule 11).

(c) Maximum radiation levels for vehicles and large containers

200 mrem/h at surface

10 mrem/h at 2 metres from surface (see marginal 3659(7) of Appendix A.6)

Also, for vehicles - 2 mrem/h in any normally occupied position - (see marginal 3659(8) of Appendix A.6)

(d) The limits in the following table shall not be exceeded:

Nature of substances	Vehicle or large container activity limit
Solids	No limit
Tritium ixode in aqueous solutions	50000 Ci
Other liquids and gases	100 x A_2

10. Carriage in bulk in vehicles and containers

Not permitted.

11. Carriage in tank vehicles and tank containers

Not permitted.

2703

12. Placards and labels on vehicles, tank vehicles, tank contains and containers (see Appendices A.9 and B.4)

Containers - labels to 6A, 6B or 6C on all four sides.

Vehicles and large containers - placards to model in Appendix B.4, marginal 240 010 on each lateral side and on rear wall or vehicle (see marginals 3659(6) and 71 500).

13. Prohibitions on mixed loading

See marginal 2700(3).

14. Decontamination of vehicles, tank vehicles, tank contains and containers

See marginal 36953(3) and (4) or Appendix A.6.

15. Other provisions

Accident provisions - see marginal 3695 (1) of Appendix A.6.

2703

1. Substances

Low level solid radioactive substances LLS belonging to either of the following groups as defined fully in marginal 2700(2):

(i) substances with uniform activity of not more than 2 × 10^{-3} A2/g. (sub para (a) of definition).

(ii) non-radioactive articles contaminated to a level not exceeding 20 UCi/cm^2 for beta and gamma emitters and low toxicity alpha emitters or 2 UCl/cm^2 for other alpha emitters. (sub-para (b) of definition).

If fissile substances are present the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

(a) Packaging shall be in accordance with the requirements of marginals 3600 and 3650 of Appendix A.6 and shall be capable of withstanding the tests set out in marginal 3635(4) and (5) of Appendix A.6.

(b) Under the conditions of the tests set out in (a) there shall be

(i) no loss or dispersal of the radioactive contents

(ii) no increase of the maximum radiation level recorded or calculated at the external surface for the condition before the test.

3. Package maximum radiation level

Closed vehicles under conditions of marginal 3659(7) (a) of Appendix A.6 - 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at one metre from that surface. All other vehicles not under the conditions of marginal 3659(7) (a) of Appendix A.6 - 200 mrem/h at the surface of the package and 10 mrem/h at one metre from that surface.

4. Mixed packing

See marginal 3650 of Appendix A.6.

Schedule 7

Danger labels on packages

None required unless fissile substances are present. (see schedule 11).

5. Contamination on packages

No provisions.

6. Marking on packages

Packages shall be stencilled or otherwise marked «RADIOACTIVE LLS».

7. Transport documents

The transport document shall include the description «Radioactive substances (Low - level solid (LLS), 7, schedule 7, ADR», with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

8. Storage and despatch

Only under full load.

9. Carriage of packages in vehicles and containers

(a) Carriage only by full load

(b) If the consignment contains Fissile Class II or III packages the allowable number shall not be exceeded (see schedule 11).

(c) Maximum radiation levels for vehicles and large containers.

200 mrem/h at surface

10 mrem/h at 2 metres from surface

see marginal 3659(7) of Appendix A.6.

Also, for vehicles - 2 mrem/h in any normally occupied position - see marginal 3659(8) of Appendix A.6.

10. Carriage in bulk in vehicles and containers

Not permitted.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4)

Containers - labels to model 6A, 6B or 6C on all four sides.

Vehicles and large containers - placards to model in Appendix B.4, marginal 240 010 on each lateral side and on rear wall of vehicle (see marginals 3659(6) and 71 500).

13. Prohibitions on mixed loading

See marginal 2700(3).

14. Decontamination of vehicles, tank vehicles, tank containers and containers

After unloading, vehicles to becontaminated by the consignee to the level set in table XIX of Appendix A.6 unless to be used for carrying the same substances. See also marginal 3695(3) and of Appendix A.6.

15. Other provisions

Accident provisions - see marginal 3695 (1) of Appendix A.6.

Schedule 8

Danger labels on packages (see Appendix A.9)

Labels to models 6A, 6B or 6C shall be affixed extemally to two opposite sides, see marginals 3653 to 3655 of Appendix A. 6 for package category.

1. Substances

Radioactive substances in Type A packages up to an activity per package of A_2 or A_1 if in special form.

If fissile substances are present the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Type A, in accordance with the desigh requirements given in marginals 3600 and 3601 of Appendic A.6.

3. Package maximum radiation level

200 mrem/h at the surface of the package and 10 mrem/h at 1 metre from that surface (see marginals 3653 to 3655 of Appendix A.6).

except in the case of a full load, when the limit is 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at 1 metre from that surface (see marginal 3659 (7) of Appendix A?6).

4. Mixed packing

See Marginal 3650 of Appendix A.6.

5. Contamination on packages

Non – fixed extrernal contamination limits:

Beta/gamma/ low – toxicity alpha emitters $10^{-4}\mu Ci/cm^2$

Natural/depleted uranium/natural thorium 10^{-3} $\mu Ci/cm^2$

Other alpha emitters $10^{-5}\mu Cl/cm^2$

For full details, see marginal 3651 or Appendix A.6

6 . Marking on packages

Packages shall be plainly and dyrably marked externally with

I. «Type A»

II. the weight of the package, if over 50 kg.

7. Transport Documents

a)For a summary of the approval and notification requirements – see marginal 2704.

b) The transport document shoud include the description «Radioactive substances in Type A packages, 7, schedule 8, ADR», with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

c) Where advantage is taken of the increased activity per package permitted if the substance is in special form, the unilateral special form design approval certificate shall be in the consignor's possession before the first shipment (see marginal 3671 of Appendix A.6).

8. Storage and despatch

a) Storage and segregation from other dangerous goods

–see marginal 3658 (1) of Appendix A.6.

b) Storage and segregation from packages labelled «FOTO»

–see marginal 240 001 of Appendix B. 4 for segregation table.

c) Total transport index limitation for storage – 50 per group with 6 metres between groups

–see marginal 3658 (2) to (5) of Appendix A.6.

9. Carriage of packages in vehicles and containers

a) Segregation from packages labelled «FOTO»

– see marginal 240 001 of Appendix B.4 for segregation tables.

b) Total transport index limitation – 50. This limitation does not apply to a full load, provided that if Fissile Class II or III packages are present the allowable number is not exceeded. See marginal 3659 (5) of Appendix A.6.

c) Maximum radiation level for vehicles and large containers in the case of a full load.

200mrem/h at surface

10 mrem/h at 2 metres from surface

(See marginal 3659 (7) of Appendix A.6) Also, for vehicles – 2 mrem/h in any normally occupied position – see marginal 3659 (8) of Appendix A.6.

10. Carriage in bulk in vehicles and containers

Not applicable.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4) Containers – labels to model 6A, 6B or 6C on all four sides. Vehicles and large containers – placards to model in Appendix B.4, Marginal 240 1010 each lateral side and on rear wall of vehicle (see marginal 3659 (6) and 71 500).

13. Prohibition on mixed loading

See marginal 2700 (3).

14. Decontamination of vehicles, tank vehicles, tank containers and containers

See marginal 3695 (3) of Appendix A.6.

15. Other provisions

(a) Accident provisions – see marginal 3695 (1) of Appendix A.6.

(b) Decontamination in storage – see marginal 3695 (2) of Appendix A.6.

Schedule 9

Danger labels on packages (see Appenlix A.9)

Labels to models 6A, 6B or 6C shall be affixed externally two opposite sides, see marginals 3653 to 3655 of Appendix A.6 for packages category.

1. Substances

Radioactive substances in Type R (U)

Packages

No limit on the quantity per package except as prescribed in the approval certificates. If fissile substances are present, the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Type B (U), in accordance with the design requirements given in marginals 3600 to 3603 of Appendix A.6 requiring competent authority unilateral approval, see marginal 3672 of Appendix A.6.

3. Package maximum radiation level

200 mrem/h at the surface of the package and 10 mrem/h at 1 metre from that surface. (see Marginale 3653 to 3655 of Appendix A.6).

except in the case of a full load, when the limit is 1000 mrem/h at the surcace of the package and may exceed 10 mrem/h at 1 metre from that surface (see marginal 3659 (7) of Appendix A?6).

4. Mixed packing

See Marginal 3650 of Appendix A.6.

5. Contamination on packages

Non – fixed extrernal contamination limits:

Beta/gamma/ low – toxicity alpha emitters 10^{-4} Ci/cm^2

Natural/depleted uranium/natural thorium 10^{-3} Ci/cm^2

Other alpha emitters 10^{-5} Cl/cm^2

For full detaile, see marginal 3651 or Appendix A.6

6. Marking on packages

Packages shall be plainly and durably marked extrernally with:

a) «TYPE B (U)».

b) competent suthority identification mark.

c) the weight if over 50 kg.

d) the trefoil symbol embossed or stamped on the outermost fire and water – resistant receptacle.

7. Transport Documents

a) For a summary of the approval and notification requirements, see marginal 2704.

b) The transport document shall include the description «Radioactive substances in Type B (U) packages, 7, schedule 9, ADR», with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

c) Unilateral package desigh approval certificate is required, see marginal 3672 of Appendix A.6.

d) Before the shipment of any package the consignor shall be in possesion of all relevant approval certificates.

e) Before the first shipment of a particular design of package, if the activity is greater than 3×10^3 A_2 or 3×10^3 A_1 as appropriate, or 3×10^4 Ci whichever is the lower, the consignor shall ensure than copies of the competent authority approval certificates have been supplied to the competent authorities of countries affected by the movement, see marginal 3682 (1) of Appendix A.6.

f) Prior to each shipment where the activity is greater than 3×10^3 A_2 or 3×10^3 A_1 as appropriate, or 3×10^4 Ci whichever is the lower, the consignor shall notify the competent authorities of all countries affected by the movement, preferably fifteen days in advance as detailed in marginal 3682 of Appendix A.6.

g) Where advantage is taken of the increased activity per package permitted because the substance is in special form, see paras. (e) and (f) above, a unilateral spesial form design approval certificate is required (see marginal 3671 of Appendix A.6).

8. Storage and despatch

a) Any instructions in the competent suthority approval certificate shall be observed.

b) Storage and segregation from other dangerous goods – see marginal 3658 (1) of Appendix A.6.

c) Storage and segregation from packages labelled «FOTO» – see marginal 240 001 Appendix B.4 for segregation table.

d) Total transport index limitation for storage – 50 per group with 6 metres between groups marginal 3658 (2) to (5) of Appendix A.6.

e) The consignor shall have complied with the pre-use and pre-shipment requirements of marginal 3643 and 3644 of Appendix A.6.

use an pre – shipment requirements of marginals 3643 and 3644 of Appendix A.6.

f) The temperature of the accessible surfaces of the package shall not exceed 50° in the shade unless transport is under full load conditions, in which case the limit is 82° C (see marginals 3602 (3) (b)and 3603 (8) of Appendix A.6).

g) If the average surface heat flux from a package exceeds 15W/m^2 then the package shall be transported as a full load.

9. Carriage of packages in vehicles and containers

a) Segregation from package labelled «FOTO» see marginal 240. 001 of Appendix B.4 for segregation table.

b) Total transport index limitation – 50. This limitation does not apply to a full load, provided that if Fissile Class II or III packages are present the allowable number is not exceeded. See marginal 3659 (5) of Appendix A.6.

c) Maximum radiation levels for vehicles and large containers in the case of a full load.

200 mrem/h at surface

10 mrem/h at 2 metres from surface

See marginal 3659 (7) of Appendix A.6. Also for vehicles – 2 mrem/h in any normally occupied position – see marginal 3659 (8) of Appendix A.6.

10. Carriage in bulk in vehicles and containers

Not applicable.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers (see Appendices A.9 and B.4). Containers – Labels to model 6A, 6B or 6C on all four sides.

Vehicles and large containers – placards to model in Appendix B.4 marginal 240 10 on each lateral side and on rear wall of vehicle (see marginals 3659 (6) and 71 500).

13. Prohibition on mixed loading

See marginal 2700 (3)

14. Decontamination of vehicles, tank vehicles, tank containers and containers

See marginal 3695 (3) of Appendix A.6.

15. Other provisions

a) Accident provisions – see marginal 3695 (1) of Appendix A.6.

b) Decontamination in storage – see marginal 3695 (2) of Appendix A.6.

Schedule 10

Danger labels on packages (see Appenlix A.9)

Labels to models 6A, 6B or 6C shall be affixed externally two opposite sides, see marginals 3653 to 3655 of Appendix A.6 for package category.

1. Substances

Radioactive substances in Type B (M)

Packages

that is a Type B package design which fails to meet one or more of the specific additional requiremets for Type B (U) packages (see marginal 3603 of Appendix A.6). No limit on the quantity per package except as prescribed in the approval certificate. If fissile substances are present, the requirements of schedule 11 shall be met in addition to the requirements of this schedule.

2. Packaging/Package

Type B (M), in accordance with the design requirements given in marginal 3604 of Appendix A.6 requiring competent authority multilateral approval, see marginal 3673 of Appendix A.6.

3. Package maximum radiation level

200 mrem/h at the surface of the package and 10 mrem/h at 1 metre from that surface. (see Marginals 3653 to 3655 of Appendix A.6).

except in the case of a full load, when the limit is 1000 mrem/h at the surface of the package and may exceed 10 mrem/h at 1 metre from that surface (see marginal 3659 (7) of Appendix A?6).

4. Mixed packing

See Marginal 3650 of Appendix A.6.

5. Contamination on packages

Non – fixed extrernal contamination limits:

Beta/gamma/ low – toxicity alpha emitters 10^{-4} μCi/cm^2

Natural/depleted uranium/natural thorium 10^{-3} μCi/cm^2

Other alpha emitters 10^{-5} μCl/cm^2

For full detaile, see marginal 3651 or Appendix A.6

6. Marking on packages

Packages shall be plainly and durably marked externally with:

I) «Type B (M)»

II) competent suthority identification mark

III) the weight of the package if over 50 kg

IV) the trefoil symbol embosed or stamped on the outermost fire and water – resistant receprace.

7. Transport Documents

a) For a summary of the approval and notification requirements, see marginal 2704.

b) The transport document shall include the description «Radioactive substances in Type B (M) packages, 7, schedule 10, ADR», with the name underlined in red, and the details specified in marginals 3680 and 3681 of Appendix A.6.

c) Multilateral package design approval certificates are required, see marginal 3673 of Appendix A.6.

d)If the package is designed to allow for continuous venting or if the total activity of the contents exceed 3×10^3 A_2 or 3×10^3 A_1 as appropriate, or 3×10^4 Ci whichever is the lower, multilateral shipment certificates are required unless a competent authority authorizes transport by a specific provision in its package design certifficate, see marginal 3675 of Appendix A.6.

e) Where advantage is taken of the increased activity per package permitted if the subtstance is in special form, see para. (d) above, a unilateral special form design approval certicate is required (see marginal 3671 of Appendix A.6).

f) Prior to each shipment the consignor shall notify the competent authorities of all sountries affected by the movement preferably fifteen days in advanse as detailed in marginal 3682 (2) to (4) of Appendix A.6.

g) Before the shipment of any package, the consignor shall be in possesion of all relevant approval cerfificates.

8. Storage an despatch

a) Any instructions in the competent suthority approval certificates shall be observed.

b) Storage and segregation from other dangerous goods – see marginal 3658 (1) of Appendix A.6.

c) Storage and segregation from package labelled «FOTO» – see marginal 240 001 Appendix B4 for segregation table.

d) Total transport index limitation for storage – 50 per group with 6 metres between groups – see marginal 3658 (2) to (5) of Appendix A.6.

e) The consignor shall have complied with the pre – use and pre – shipment requiremets of marginals 3643 and 3644 of Appendix A.6.

f) If the surface temperature of the package exceed 50° C in the shade the package shall be transported as a full load – see marginal 3602 (4) (b) of Appendix A.6.

g) if the average surface heat flux from a package exceeds 15W/m^2, then the package shall be transported as a full load.

h) Packages specially designed to allow continuous venting – see marginal 3604 (2) of Appendix A.6. shall only be transported under full load.

9. Carriage of packages in vehicles and containers

a) Segregation from packages labelled «FOTO» – see marginal 240 001 of Appendix B4 for segregation table.

b) Total transport index limitation – 50. This limitation does not apply to a full load, provided that if fissile class II or III packages are present the allowable number is not exceeded – see marginal 3659 (5) of Appendix A.6.

c) Maximum tadiation levels for vehicles and large containers in the case of a full load.

200 mrem/h at surface

10 mrem/h at 2m from surface

see marginal 3659 (7) of Appendix A.6. Also, for vehicles 2 mrem/h in any normally occupied position – see marginal 3659 (8) of Appendix A.6.

10. Carriage in bulk in vehicles and containers.

Not applicable.

11. Carriage in tank vehicles and tank containers.

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers

(see Appendix A9 and B4)

Containers - labels to model 6A, 6B or 6C on all four sides.

Vehicles and large containers - placards to model in Appendix B4 marginal 24 010 on each lateral side and on rear wall of vehicle (see marginals 3659(6) and 71 500).

13. Prohibition on mixed loading

See marginal 2700 (3).

14. Decontamination of vehicles, tank vehicles, tank co-

ntainers and containers.

See marginal 3695(3) of Appendix A.6.

15. Other provisions

(a) Accident provisions - see marginal 3695 (1) of Appendix A.6.

(b) Decontamination in storage - see marginal 3695(2) of Appendix A.6.

Schedule 11

Danger labels on packages (see Appendix A9) Fissile Class I - labels to models 6A, 6B or 6C. Fissile Class II - labels models 6B or 6C Fissile Class III - labels to model 6C only. Labels be affixed externally to two opposite sides, see marginals 3653 to 3655 of Appendix A6 for package category.	1. Substances Fissile substances that is uranium - 233, uranium - 235, plutonium - 238, plutonium - 239, plutonium - 241, or any substance containing any of the foregoing, except unirradiated natural and depleted uranium. Fissile substances shall also be consigned in full compliance with the requirements of one of the other schedules, as appropriate to the radioactivity.

2. Packaging/Package

(a) The following substances specified fully in marginal 3610 of Appendix A6 are exempt from the special packaging requirements of this schedule:

(i) Fissile substances in quantity not exceeding 15 g.

(ii) Natural or depleted uranium irradiated in a thermal reactor.

(iii) Dilute hydrogenous solutions in limited concentrations and quantities.

(iv) Enriched uranium with not more than 1 per cent of uranium - 235, which should not form a lattice arrangement if metal or oxide.

(v) Substances distributed at not more than 5 g per 10 litre volume.

(vi) Plutonium where less than 1 kg per package and where not more than 20 per cent by mass consists of plutonium - 239 or 241.

(vii) Enriched uranyl nitrate solution containing uranium with not more than 2 per cent uranium - 235.

(b) Otherwise, packages shall be in accordance with the design requirements of Fissile Class I, II or III given in marginals 3611 to 3624 of Appendix A6 and have competent authority approval, where necessary, as detailed in marginal 3674 of Appendix A6.

3. Package maximum radiation level

See appropriate schedule.

4. Mixed packing

See marginal 3650 of Appendix A6

5. Contamination on packages

See appropriate schedule.

6. Marking on packages

See appropriate schedule.

7. Transport documents

(a) For a summary of the approval and notification requirements - see marginal 2704.

(b) The transport document shall include the details specified in the schedule appropriate to the nature of the contents with the word «Fissile» prefixed to the description and underlined in red.

(c) Unilateral or multilateral package design approval certificates may be required, see marginal 3674 of Appendix A6.

(d) Fissile Class II package designs complying with marginal 3620 of Appendix A6 shall have multilateral shipment approval certificates. Such a package design requires no prior notification unless specified in the competent authority's shipment approval.

(e) Fissile Class III package designs shall have multilateral shipment approval certificates unless a competent authority authorizes transport by a specific provision in its package design certificate, see marginal 3675 of Appendix A6.

(f) Prior to each shipment of a Fissile Class III package which requires multilateral package design approval, see marginal 3674 of Appendix A6 the consignor shall notify the competent authorities of all countries affected by the movement preferably fifteen days in advance as detailed in marginal 3682 (2) to (4) of Appendix A6.

(g) Before the shipment of any package the consignor shall be in possession of any relevant approval certificates.

8. Storage and despatch

(a) Any instructions in the competent authority approval certificates must be observed.

(b) Total transport index limitation for storage - 50 per group with 6 metres between groups - see marginal 3658 (2) to (5) of Appendix A6.

(c) The consignor shall have complied with the pre - use requirements of marginal 3643 of Appendix A6.

9. Carriage of packages in vehicles and containers

(a) Any instruction in the competent authority approval certificates shall be observed.

(b) Total transport index limitation - 50. This limitation does not apply to a full load, provided that if Fissile Class II or III packages are present the allowable number is not exceeded. See marginal 3659(5) of Appendix A6.

10. Cariage in bulk in vehicles and containers

(a) No restrictions for fissile material up to 15 g total or for solutions within certain concentration and quantity limits, see paragraph 2 (a) (i), (iii) and (vii) and marginal 3610 of Appendix A6.

(b) Not applicable for Fissile Class I or II packages.

(c) Permitted under Fissile Class III only if so specified in the competent authority certificate.

11. Carriage in tank vehicles and tank containers

Not applicable.

12. Placards and labels on vehicles, tank vehicles, tank containers and containers

(see Appendices A9 and B.4)

Containers - labels to models 6A, 6B or 6C on all four sides.

Vehicles and large containers - placards to model in Appendix B4 marginal 240 010 on each lateral side and on rear wall of vehicle (see marginals 3659 (6) and 71 500).

13. Prohibitions on mixed loading

See marginal 2700 (3)

14. Decontamination of vehicles, tank vehicles, tank containers and containers

See appropriate schedule.

15. Other provisions

Accident provisions - see marginal 3695 (1) of Appendix A6.

Schedule 12

Danger labels on packages (see Appendix A9) Labels in conformity with model no. 6C shallo be affixed externally to two opposite sides unless otherwise prescribed in the competent authority certificate. See marginal 3655(1) of Appendix A6.	1. Substances Radioactive substances carried under special arrangement If it is not possible to comply with the package design or shipment requirements, consignments shall be transported under a special arrangement which will ensure that the over - all safety level

is no less than it would have been had all the applicable requirements been met.

See marginal 3676 of Appendix A6.

NOTE For a summary of the approval and notification requirements, see marginal 2704.

Summary of approvals and prior notification requirements

(a) Approval of special form substances, and package designs

	Subject of approval	Competent authority whose approval is required
1	Special form substance excepting those items specified in Schedules 3 and 4.	Country of origin
2	Type A, LSA and LLS.	None unless contents are fissile and not exempted from the fissile requirements under marginal 3610 of Appendix A6: Country of origin
3	Type B (U)	Country of origin
3	Type B (M)	Country of origin and all countries en route
5	Fissile packages	
	Package designs complying with marginal 3620, 3623 or 3624 of Appendix A6	None
	Package designs complying with marginal 3616 or 3622 of Appendix A6	Country of origin
	All other package designs	Country of origin and all countries en route

Note: «Country of origin» refers to the country where the design originated. Packages in the fissile classes also fall into one or other of package design categories 2, 3 or 4 above and the relevant provisions also apply to them.

(b) Approval of shipments and prior notification

	Package	Competent authority whose approval is required for each shipment	Prior notification of each shimpent
1.	Type A, LSA and LIS	None	None
2.	Type B (U)	None	Country of origin and all countries en route when contents exceed 3×10^3 A_1 or 3×10^3 A_2, as appropriate or 3×10^4 C_i whichever is lower.
3.	Type B(M) - Continuously venting	Country of origin and all countries en route.	Country of origin and all countries en route.
4.	Type B(M) - Not continuously venting	Country of origin and all countries en route when contents exceed 3×10^3 A_1 or 3×10^3 A_2, as appropriate or 3×10^4 C_i whichever is lower.	Country of origin and all countries en route.
5.	Fissile packages		
	Fissile Class I	None	None
	Fissile Class II	Packages complying with marginal 3620 of Appendix A6 only: Country of origin and all countries en route.	None unless specified in the competent authority shipment approval
	Fissile Class III	Country of origin and all countries en route.	Country of origin and all countries en route.
6.	Packages subject to transport under special arrangements	Country of origin and all countries en route.	Country of origin and all countries en route.

Note: Before shipping a Type B(U) package the contents of which exceed $3 \times 10^3 A_1$ or $3 \times 10^3 A_2$, as appropriate, or $3 \times 10^4 C_i$ whichever is lower, for the first time, the consignor shall ensure that copies of each applicable competent authority certificate applying to the design have been submitted to the competent authority of those countries in whose territory it is to be transported. Country of origin refers to the country where the shipment originated.

Packages in the fissile classes also fall into one or other of the other headings of this Table and the relevant provisions also apply to them.

2705
2799

CLASS 8 CORROSIVE SUBSTANCES

1. List of substances

Among the substances and articles covered by the heading of Class 8 those which are listed in marginal 2801 or are covered by a collective heading of that marginal are subject to the provisions of this Annex and of Annex B. These substances and articles to be accepted for carriage under certain conditions are to be considered as substances and articles of ADR.

A. Acid substances

(a) Inorganic acids

1° Sulphuric acid:

(a) sulphuric acid containing more than 95 per cent pure acid (H_2SO_4), and oleum (fuming sulphuric acid);

(b) sulphuric acid containing more than 75 per cent but not more than 85 per cent pure acid (H_2SO_4);

(c) sulphuric acid containing not more than 75 per cent pure acid (H_2SO_4);

(d) waste sulphuric acid, completely denitrated;

Note: Incompletely denitrated waste sulphuric acid is not to be accepted for carriage.

(e) lead sludge containing sulphuric acid;

Note: Lead sludge containing less than 3 per cent free acid is a substance of Class 6.1 (see marginal 2601, 73°).

(f) storage batteries filled with sulphuric acid.

For (a) to (d), see also marginal 2801a, under (a).

2° Nitric acid:

(a) nitric acid containing more than 70 per cent pure acid (HNO_3;

(b) nitric acid containing more than 55 per cent but not more than 70 per cent pure acid (HNO_3;

(c) nitric acid containing not more than 55 per cent pure acid (HNO_3).

For (a) to (c), see also marginal 2501a, under (a) and (b).

3° Mixed nitrating acids (sulphuric and nitric acids):

(a) mixed nitrating acids containing more than 30 per cent pure nitric acid (HNO_3);

(b) mixed nitrating acids containing not more than 30 per cent pure nitric acid (HNO_3);

Note: For waste mixed nitrating acids, see 1o (d).

For (a) and (b) see also marginal 2801a, under 3a) and (b).

4° Perchloric acid in aqueous solutions containing not more than 50 per cent pure acid ($HCLO_4$). See also marginal 2801a under (a).

Note: Aqueous solutions of perchloric acid containing more than 50 per cent but not more than 72.5 per cent pure acid $HCLO_4$) are substances of Class 5.1 (see marginal 2501, 3°). Solutions containing more than 72.5 per cent pure acid are not to be accepted for carriage; the same applies to mixtures of perchloric acid with any liquid other than water.

5° Solutions of hydrochloric acid, solutions of hydrobromic acid, solutions of hydriodic acid, and mixtures of sulphuric acid and hydrochloric acid. See also marginal 2801a, under (a).

Notes: 1. Mixtures of nitric acid with hydrochloric acid are not to be accepted for carriage.

2. Liquefied anhydrous hydrobromic acid and liquefied hydrochloric acid are substances of Class 2 (see marginal 2201, 3° (at) and 5° (at).

6° Hydrogen fluoride (anhydrous hydrofluoric acid) and aqueous solutions of hydrofluoric acid:

(a) hydrogen fluoride (anhydrous hydrofluoric acid);

(b) aqueous solutions of hydrofluoric acid containing more than 85 per cent hydrogen fluoride;

(c) aqueous solutions of hydrofluoric acid containing more than 60 per cent but not more than 85 per cent hydrogen fluoride;

(d) aqueous solutions of hydrofluoric acid containing not more than 60 per cent hydrogen fluoride.

For (c) and (d), see also marginal 2801a under (a).

7° Fluoboric acid [aqueous solutions containing not more than 78 per cent pure acid (HBF_4)]. See also marginal 2801a under (a).

Note: Solutions of fluoboric acid containing more than 78 per cent pure acid (HBF_4) are not to be accepted for carriage.

8° Fluosilicic acid [hydrofluosilicic acid (H_2SiF_6)]. See also marginal 2801a, under (a).

9° Stabilired sulphur trioxide. See also marginal 2801a, under (a) and (c).

Note: Unstabilized sulphur trioxide is not to be accepted for carriage.

(b) Inorganic halides, acid salts and similar halogenated substances.

11° Liquid halides and similar halogenated substances (except compouds of flourine) which, in contact with moist air or water, give off acid fumes, such as:

(a) antimony pentachloride ($SbCl_5$), chlorosulphonic acid
[$SO_2(OH)Cl$], disulphur dichloride (stabilized) (S_2Cl_2), chromyl chloride (chromium oxychloride) (CrO_2Cl_2), phospheryl chloride (phosphorus oxychloride) ($POCl_3$), phosphorus trichloride (PCl_3), silicon tetrachloride ($SiCl_4$), sulphuryl chloride (SO_2Cl_2), thionyl chloride ($SOCl_2$), titanium tetrachloride ($TiCl_4$) and stannic chloride ($SnCl_4$);

Note: Unstabilized disulphur dichloride is not to be accepted for carriage.

(b) phosphorus tribromide (PBr_3), pyrosulphuryl chloride ($S_2O_5Cl_2$) and thiophosphoryl chloride ($PSCl_3$).

For (a) and (b), see also marginal 2801a, under (a).

12° Solid halides and similar halogenated substances (except compounds of fluorine) which, in contact with moist air or water, give off acid fumes, such as:

aluminium chloride (anhydrous) ($AlCl_3$), antimony trichloride
(technical) ($SbCl_3$), phosphorus pentachloride (PCl_5) and zinc chloride ($Zncl_2$).

See also marginal 2801a, under (a) and (d).

Note: Non-anhydrous aluminium chloride is not to be accepted for carriage.

13° Bisulphates. See also marginal 2801a, under (a).

Note: Bisulphates are not subject to the provisions of ADR if the sender certifies in the transport document that the products are free from free sulphuric acid and are dry.

14° Bromine. See also marginal 2801a, under (a).

15° The following compounds of fluorine:

(a) difluorides;

(b) ammonium fluoride, chromic fluoride, antimony pentafluoride;

(c) boron trifluoride-acetic acid complex, boron trifluoridepropionic acid complex;

(d) bromine trifluoride (BrF_3), bromine pentafluoride (BrF_5).

For (a) to (d), see also marginal 2801a, under (a).

(c) Organic substances:

21° The following acids:

(a) chloracetic acids:

1. monochloroacetic and trichloroacetic acids (solid);

2. dichloroacetic acid (liquid) and mixtures of chloroacetic acids;

(b) formic acid containing not less than 70 per cent pure acid;

(c) glacial acetic acid and its aqueous solutions containing more than 80 per cent pure acid;

(d) propionic acid containing more than 80 per cent pure acid;

(e) acetic anhydride.

For (a) to (e), see also marginal 2801a, under (a).

22° Liquid acid halides, such as:

acetyl chloride and benzoyl chlodire. See also marginal 2801a, under (a).

23° Alkyl and aryl chlorosilanes:

(a) alkyl chlorosilanes and aryl chlorosilanes having a point below 21°C;

(b) alkyl chlorosilanes and aryl chlorosilanes having a point of 21°C or above;

Note: Substances of this item number which give off inflammable gases on contact with water, are not to be accepted for carriage.

For (a) and (b), see also marginal 2801a, under (a).

B. Substances of basic character.

31° (a) Sodium hydroxide and potassium hydroxide (caustic soda, caustic potash), in lumps, in flakes or in powder form: See also marginal 2801a, under (a);

(b) Sodium hydroxide filled in the molten state.

32° Sodium hydroxide and potassium hydroxide in solutions (soda lye, potash lye), also in mixtures (caustic lyes), alkaline solutions of phenol, cresols and xylenols, alkaline residues from oil refineries.

See also marginal 2801a, under (a).

33° Storage batteries filled with alkaline solutions. See also marginal 2801a, under (e).

34° Hydrazine in aqueous solutions containing not more than per cent hydrazine (N_2H_4). See also marginal 2801a, under (a).

Note: Aqueous solutions containing more than 72 per cent hydrazine (N_2H_4) are not to be accepted for carriage.

35° Alkyl and aryl amines and polyamines, such as:

1,2-diaminoethane (ethylenediamine), hexamethylenediamine, triethylenetetramine.

See also marginal 2801a, under (a).

36° Sodium sulphide containing not more than 70 per cent Na_2S.

Note: Sodium sulphide containing more than 70 per cent Na_2S is not to be accepted for carriage.

37° Hypochlorite solutions:

(a) hypochlorite solutions containing more than 50 g available chlorine per litre;

(b) hypochlorite solutions containing not more than 50 g available chlorine per litre.

For (a) and (b), see also marginal 2801a, under (a).

C. Other corrosive substances.

41° Solutions of hydrogen peroxide:

(a) aqueous solutions of hydrogen peroxide containing more than 40 per cent but not more than 60 per cent hydrogen peroxide;

(b) aqueous solutions of hydrogen peroxide containing more than 6 per cent but not more than 40 per cent hydrogen peroxide.

For (a) and (b), see also marginal 2801a, under (a).

Note: Hydrogen peroxide and its aqueous solutions containing more than 60 per cent hydrogen peroxide are substances of Class 5.1 (see marginal 2501, 1°).

D. Empty receptacles and empty tanks

51° Empty packagings, uncleaned, and empty tanks, uncleaned, except those which have contained substances of 13° and 36°.

Substances handed over for carriage in conformity with the following provisions are not subject to the provisions relating to this Class contained in this Annex or in Annex B: 2801a

(a) substances of 1° (a) to (d), 2° (b) and (c), 3° (b), 4°, 5°, 6° (c) and (d), 7° to 9°, 11° to 15°, 21° to 23°, 31° (a), 32°, 34°, 35°, 37° and 41° in quantities not exceeding 1 kg for each substance, on condition that they are packed in leak-proof receptacles incapable of being attacked by the contents and that these receptacles are packed with care in strong, leak-proof wooden packagings with leak-proof closures;

(b) substances of 2° (a) and 3° (a), in quantities not exceeding 200 g for each substance, on condition that they are packed in leak-proof receptacles incapable of being attacked by the contents and that these receptacles are secured, not more than 10 per case, in wooden cases with inert absorbent cushioning materials;

(c) sulphur trioxide (9°), whether or not mixed with a small quantity of phosphoric acid, on condition that it is packed in strong sheet-metal boxes weighing not more than 15 kg, hermetically closed and fitted with a handle;

(d) phosphorus pentachloride (12°) compressed into blocks weighing not more than 10 kg each, on condition that these blocks are packed in welded and air-tight sheet-metal boxes placed, either singly or in groups, in a crate, a case or a container;

(e) metal-cased storage batteries filled with an alkaline solution (33°), on condition that they are so closed as to prevent leakage of the solution and are protected against short circuits.

2. Provisions

A. Packages

1. General conditions of packing

(1) Packagings shall be so closed and arranged as to prevent any loss of the contents. For the special provision relating to storage batteries [1° (f) and 33°], see marginal 2804 and 2816; for hypochlorite solutions of 37° and hydrogen peroxide of 41°, see marginals 2820 and 2821 respectively. 2802

(2) The materials of which the packagings and their closures are made must not be liable to attaek by the contents, or cause the contents to decompose, or form harmful or dangerous compounds therewith.

(3) Packagings, including their closures, must be sufficiently rigid and strong in all their parts to prevent any loosening during carriage and to meet the normal reauirements of carriage. In particular, where substances are in the liquid state or in solution, receptacles and their closures must, unless the section headed «Packing of a single substance or of articles of the same kind» provides otherwise, be able to withstand any pressure which, the presence of air also being taken into account, may arise inside the receptacles in normal carriage. For this purpose a free space must be left, account being taken of the difference between the temperature of the substances at the time of filling and the highest mean temperature which they are likely to reach during carriage. Inner packagings shall be firmly secured in outer packagings. Unless otherwise specified in the section entitled «Packing of a single substance or of articles of the same kind», inner packagings may be enclosed in outer packagings, either singly or in groups.

(4) Bottles and other glass receptacles must be free from faults liable to impair their strength; in particular, internal stresses must have been suitably relieved. The walls must be not less than 3 mm thick in the case of receptacles weighing, with their contents, more than 35 kg and not less than 2 mm in the case of other receptacles.

The tightness of the closure system must be ensured by an additional device (cap, crown, seal, binding, etc.) capable of preventing any loosening of the closure system during carriage.

(5) When receptacles made of glass, porcelain, stoneware or similar materials, or of a suitable plastics material, are prescribed or allowed, they must, in the absence of any provision to the contrary, be provided with protective packagings. Receptacles made of glass, porcelain, stoneware or similar materials shall be carefully secured therein by cushioning materials. Cushioning materials shall be suited to the nature of the contents.

2. Packing of a single substance or of articles of the same kind 2803

(1) Substances of 1° (a) to (c) and 2° to 5° shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than

50 kg, other those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed cylindrical receptacles made of glass, porcelain, stoneware or similar material. These receptacles shall be secured by absorbent cushioning materials in a wooden case or other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(c) in hermetically closed glass carboys, which shall be secured by absorbent cushioning materials in a wooden case or other outer packaging of sufficient strength, or firmly fixed in iron or wicker hampers. The carbons shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

(2) Substances of 1° (a) to (c), 2° and 3° may also be packed in hermetically closed metal drums having a suitable lining in the case of substence of 1° (b), (c), (d) and (e) and a lining only if necessary in the case of substances of 2° and 3°. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg shall be fitted with rolling hoops.

(3) Substances of 1° (a) to (e), 2° and 5° may also be packed in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some material of sufficient sterngth. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

(4) Substances of 5° may also be packed in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres, with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres, or over; the openings shall be closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

(5) In the case of substances of 2° (a), 3° (a) and 4°, the absorbent cushioning materials must be incombustible; in the case of substances of 2° (b), they shall be fire-resistant.

2804 Storage batteries filled with sulphuric acid [1°(f)] shall be secured in battery cases. The batteries shall be protected against short circuits and be secured by absorbent cushioning materials in a wooden packing case. Packing cases shall be fitted with means of handling.

Nevertheless, if the storage batteries are made of a shock-resistant material and their upper part is so designed that the acid cannot splash out in dangerous quantities, the batteries need not be packed, but they must be protected against any short circuits sliding, falling or damage, and be fitted with means of handling. No dangerous quantities of acid must appear on the outside of packages.

Similarly, storage batteries forming part of the equipment of vehicles need not have special packaging if the vehicles are loaded upright on their wheels and secured against falling.

(1) Substances of 6° (c) and (d), 7° and 8° shall be packed.

2805 (a) in hermetically closed metal receptacles, with a suitable lining if necessary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 90 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(b) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 90 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(c) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles shall not be filled beyond 90 per cent of their capacity. Such a package must not weigh more than 100 kg.

(2) Substances of 6°, (a) and (b), shall be packed in receptacles made of carbon steel of suitable alloy steel. The receptacles must be able to withstand a test pressure of 10 kg/cm^2. The following kinds of receptacle shall be accepted:

(a) cylinders with a capacity not exceeding 150 litres;

(b) cylindrical receptacles equipped with rolling hoops and having a capacity of not less than 100 litres and not more than 1,000 litres.

At the test pressure, the stress in the metal at the most severely point of the receptacle shall not exceed three-quarters of the yield stress. By "yield stress" is meant the stress at which a permanent elongation of 2‰ (i.e. 0.2 per cent) of the gauge length on the test-piece has been produced. In addition, the material used for the receptacles must have adequate impact strength down to a temperature of -20°C.

The receptacles must be of seamless construction or welded. For welded receptacles, a steel of fully satisfactory weldability must be used. Welded receptacles are to be accepted only on condition that the manufacturer guarantees the workmanship of the welding and that the competent authority of the country of origin has given its approval.

The wall thickness of the receptacles must not be less than 3 mm.

Openings for filling and discharging receptacles shall be fitted with flap valves or needle-valves. Valves (cocks) of other types may however be accepted if they present equivalent guarantees of safety and have been approved in the country of origin. Nevertheless, whatever the type of valve adopted, its system of attachment shall be strong and such that its satisfactory condition can be verified easily before each filling.

Apart from a manhole, which if provided shall be closed by an effective closure, receptacles shall not be equipped with more than two openings, for filling and discharge.

Valves (cocks) shall be protected by caps having vents. Valves placed inside the neck of the receptacles and protected by a screw-threaded plug, and receptacles carried packed in protective cases, shall not require a cap.

Receptacles shall be subjected, under the supervision of an expert approved by the competent authority, to a hydraulic pressure test at an internal pressure of not less than 10 kg/cm^2 before being placed in service, and subsequently to the following periodic tests:

The pressure test shall be repeated every eight years and shall be accompanied by an internal inspection of the receptacles and a check of their equipment. In addition, the resistance of the receptacles to corrosion shall be checked by means of suitable instruments (e.g. by ultrasound), and the condition of the equipment verified, every two years.

Receptacles shall bear in clearly legible and durable characters:

(a) the name of the substance in full, the name or mark of the maker and the manufacturer's identification number of the receptacle;

(b) the tare of the receptacle, including fittings other than the protective cap;

(c) the test pressure, the date (month, year) of the most recent test undergone and the stamp of the expert who carried out the test and inspections;

(d) the capacity and permissible maximum load of the receptacle.

The permissible maximum weight shall be 0.84 kg per litre of capacity.

(1) Sulphur trioxide (9°) shall be packed: 2806

(a) in soldered receptacles made of black sheet-iron or tin-plate, or in hermetically closed bottles made of black sheet-iron, tin-plate or copper; or

(b) in flame-sealed glass receptacles, or in hermetically closed receptacles made of porcelain, stoneware or similar materials; or

(c) in steel drums which have been pressure-tested at 1.5 kg/cm^2.

(2) The receptacles referred to in (a) and (b) above shall be sucured by incombustible and absorbent cushioning materials in packagings made of wood, black sheet-iron or tin-plate.

Substances of 11° shall be packed: 2807

(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(c) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically closed glass carboys, which shall be secured by absorbent cushioning material in a wooden case or in some other outer packaging of sufficient strength. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

Substances of 12o shall be packed: 2808

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, which must not contain more than 5 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strenght. Such a package must not weigh more than 75 kg; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, which must not contain more than 15 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strenght. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a suitable lining if necessary. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a potective packaging with complete sides, made of paperboard or of some other material of sufficient strength. Such a package must not weigh more than 100 kg; or

(e) in hermetically closed wooden casks of sufficent strength, with a suitable lining. Such a package must not weigh more than 250 kg;

(f) zinc chloride may also be packed in hermetically closed bags, made of a suitable plastics material, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg.

Substances of 13° and 15° shall be packed: 2809

(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, which must not contain more than 5 kg of substance each; however, glass receptacles are not accepted for fluoride of 15o. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically closed metal receptacles, with a lead lining if necessary, which must not contain more than 15 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a lead lining if necessary. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. Such a package must not weigh more than 100 kg; or

(e) in hermetically closed bags, made of a suitable plastics material, which shall be placed ina wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in hermetically closed wooden casks of sufficient strength, with a suitable lining. Such a package must not weigh mor than 250 kg; or

(g) in stout paper bags of four plies, lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg.

(1) Bromine (14o) shall be packed in suitable receptacles containing not more than 7.5 kg of substance per receptacle.

(2) Bromine containing less than 0.005 per cent water, or between 0.005 per cent and 0.2 per cent water provided that in the latter case measures are taken to prevent corrosion of the lining of the receptacles, may also be carried in receptacles satisfying the following conditions:

(a) the receptacles shall be made of steel and be equipped with a leak-proof lining made of lead or of some other material affording equivalent protection, and with hermetic closures; receptacles made of monel metal or nickel, or equipped with a nickel lining, shall also be permitted;

(b) their capaciy must not exceed 1250 litres;

(c) the receptacles shall not be filled beyond 92 per cent of their capacity or beyond 2.86 kg per litre of capacity;

(d) the receptacles shall be welded and designed for a pressure of not less than 21 kg/cm^2.

The materials and workmanship must in other respects meet the requirements of marginals 2211 (1) and (2) (b). The initial test of unlined steel receptacles shall be subject to the provisions of marginals 2215 (1) and 2216 (1), A and B.

(e) the closing devices must project as little as possible from the receptacle and be fitted with a protective cap. The closing devices and the cap shall be fitted with gaskets made of a material not capable of being attacked by bromine. The closing devices must be in the upper part of the receptacles, so that they can in no case be in permanent contact with the liquid;

(f) the lead lining must be leak-proof and be not less than 3 mm thick. If some other material is used, it must provide protection equivalent to that provided by lead;

(g) the receptacles must be provided with fittings enabling them to stand stably upright, and with lifting attachments (rings, flanges, etc.) at the top, which must be tested at twice the working load.

(3) Receptacles in conformity with (2) above shall, before being put into service, be subjected to a thightenss test at a pressure of 2 kg/cm^2. The tightness test shall be

repeated every two years and shall be accompanied by an internal inspection of the receptacle and a check of its tare. This test and this inspection shall be supervised by an expert approved by the competent authority.

(4) The receptacles must bear, in clearly legible and indelible characters:

(a) the name or mark of the maker and the number of the receptacle:

(b) the word «Bromine»;

(c) the tare of the receptacle and its maximum weight when filled;

(d) the date (month and year) of the last test undergone;

(e) the stamp of the expert who carried out the test and the inspections.

(1) Substances of 21o (a) 1 shall be packed: 2811

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, which must not contain more than 5 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, which must not contain more than 15 kg of substance each. These receptacles shall be secured with cushioning material sin a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a suitable lining if necessary. If the drums, with their contents, weigh more than 275 kg, they shall be fitted with rolling hoops; or

(d) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paper board of of some other material of sufficient strength. Such a package must not weigh more than 100 kg; or

(e) in hermetically closed bags, more of a suitable plastics material, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in hermetically closed wooden casks of sufficient strenght, with a suitable lining. Such a package must not weigh mor than 250 kg; or

(g) in stout paper bags of four plies, lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg; or

(h) in jute bags rendered moisture-proof by a lining made of a suitable material, coated with bitumen, or in jute bags lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg.

(2) Substances of 21° (a)2., (b), (c), (d) and (e) shall be packed:

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those fowarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed glass carboys, which shall be secured by absorbent cushioning materials in wooden case or in some other outer packaging of sufficient strength. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(c) in hermetically closed metal receptacles, with a suitable lining if necessary, of a capacity not exceeding 15 litres. these receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically closed canisters made of a suitable metal, welded or hard-soldered, of a capacity not exceeding 60 litres and fitted with means of handling. The canisters shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(e) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(f) in hermetically closed receptacles made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of parerboard or of some other material of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(g) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres, with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres or over; the openings shall be closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles need have no protective packagings if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

Substances of 22o shall be packed: 2812

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar rmaterial, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be recured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(c) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of someother material of sufficient strength. Receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(d) in hermetically closed glass carboys, which shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

(1) Substances of 23o shall be packed: 2813

(a) in hermetically closed receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, except those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal receptacles, with a

suitable lining if necesary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a suitable lining if necessary. Drums intended to hold substance of 23° (a) must satisfy the requirements of Appendix A.5. the drumsshall not be filled beyond 95 per cen of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops.

(2) Substances of 23° (b) may also be packed:

(a) in hermetically closed canisters made of a suitable metal, welded or hard-soldered, of a capacity not exceeding 60 litres and fitted with means of handling. The canisters shall not be filled beyond 95 per cent of their capacity. Such package must not weigh more than 75 kg; or

(b) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres, with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres of over; the openings shall be closed by two plugs, one placed over the other, one of them being screwthreaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg.

(1) Substances of 31o (a) shall be packed: 2814

(a) in hermetically closed receptacles made of glass, porcelain, stone-ware or similar material, or of a suitable plastics material, which must not contain more than 5 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh mor than 75 kg; or

(b) in hermetically closed metal receptacles,with a suitable lining if necessary, which must not contain more than 15 kg of substance each. These receptacles shall be secured by cushioning materials in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed metal drums, with a suitable lining if necessary. If the drums, with their contents, weigh more than 275 kg. they shall be fitted with rolling hoops; or

(d) in hermetically closed receptacles, made of a suitable plastics metarial, of a capacity not exceeding 60 litres. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. Such a package must not weigh more than 100 kg; or

(e) in hermetically closed bags, made of a suitable plastics material, which shall be placed in a wooden case or in some other outer packaging of sufficient strength. Such a package must not weigh more than 75 kg; or

(f) in jute bags rendered moisture-proof by a lining made of a suitable material, coated with bitumen, or in jute bags lined with a hermetically closed bag made of a suitable plastics material. Such a package must not weigh more than 55 kg.

(2) Substances of 31° (a) in flakes or in powdered form may also be packed in stout paper bags of four plies, lined with a hermetically closed bag made of a suitable platics material. Such a package must not weigh more than 55 kg.

(3) Sodium hydroxide of 31o (b) filled in a molten state shall be contained in steel drums with walls not less than 0.5 mm thick. The drums, with their contents, must not weigh mor than 450 kg.

Substances of 32° shall be packed: 2815

(a) in hermetically closed receptacles made of glass, porcelain, stoneware of similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed canisters made of a suitable metal, welded or hard-soldered, of a capacity not exceeding 60 litres, and fitted with means of handling. The canisters shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(d) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If, with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(e) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litrtes. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(f) in hermetically closed receptacles,made of a suitable plastics material, of a capacity not exceeding 60 litres and with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres or over; the openings shall be closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(g) in hermetically closed cylindrical receptacles made of glass, porcelain, stoneware of similar material, of a capacity not exceeding 20 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg; or

(h) in hermetically closed glass carboys, which shall be securd by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength, or be firmly fixed in iron or wicker hampers. The carboys shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg.

Storage batteries filled with alkaline solutions (33o) shall be made of metal and the upper part shall be so designed that the lye cannot splash out in dangerous quantities. The batteries shall be protected against short-circuits and be packed in a wooden packing case. 2816

(I) Hydrazine (34°) shall de packed: 2817

(a) in hermetically closed glass receptacles, of a capacity not exceeding 5 litres, which shall be secured by suitable cushioning materials in boxes placed in a wooden case; or

(b) in receptacles made of aluminium not less than 99.5 per cent pure or of stainless steel or of lead-lined iron; or

(c) in receptacles, made of a suitable plastics material, fitted with a screw closure and having a capacity not exceeding 65 litres, placed sinlgy in suitable protective packagings or secured in groups by suitable cushioning

materials in suitable protective packagings; a package must not weigh more than 100 kg, or more than 50 kg if th eprotective packaging consists of a fibreboard case; or

(d) in drums, made of a suitable plastics material, of a capacity not exceeding 220 litres and with walls not less than 1.5 mm thick, placed singly in drums fitted with rolling hoops.

(2) No receptacle shall be filled beyond 93 per cent of its capacity. The receptacles under (b), (c) and (d) shall be pressure-tested at 1 kg/cm^2.

;Substances of 35o shall be packed: 2818

(a) in hermetically closed receptacles made of glass, porcelain, stoneware of similar material, or of a suitable plastics material, of a capacity not exceeding 5 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 75 kg. Packages weighing more than 30 kg, other than those forwarded as a full load, shall be fitted with means of handling; or

(b) in hermetically closed metal receptacles, with a suitable lining if necessary, of a capacity not exceeding 15 litres. These receptacles shall be secured by absorbent cushioning materials in a wooden case or in some other outer packaging of sufficient strength. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(c) in hermetically closed canisters made of a suitable metal, welded or hard-soldered, of a capacity not exceeding 60 litres, and fitted with means of handling. The canisters shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh mor than 75 kg; or

(d) in hermetically closed metal drums, with a suitable lining if necessary. The drums shall not be filled beyond 95 per cent of their capacity. If with their contents, they weigh more than 275 kg, they shall be fitted with rolling hoops; or

(e) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litrs. These receptacles shall be placed singly and tightly in a protective packaging with complete sides, made of paperboard or of some other material of sufficient strength. The receptacles shall mot be filled beyond 95 per cent of their capacity. Such a package must not weigh more than 100 kg; or

(f) in hermetically closed receptacles, made of a suitable plastics material, of a capacity not exceeding 60 litres, with walls of sufficient thickness, which shall be not less than 4 mm in the case of receptacles of 50 litres or over; the openings shall be closed by two plugs, one placed over the other, one of them being screw-threaded. These receptacles need have no protective packaging if the competent authority of the country of departure so allows. The receptacles shall not be filled beyond 95 per cent of their capacity. Such a package must not weigh mor than 100 kg.

(1) Sodium sulphide (36°) shall be packed: 2819

(a) in lead-proof iron receptacles; or

(b) in quantities not exceeding 5 kg, also in receptacles, made of glass or of a suitable plastics material, which shall be secured in strong wooden receptacles, glass receptacles being secured therein by cushioning materials.

(2) Sodium sulphide in solid form may also be enclosed in other leak-proof receptacles. If carried as a full load, it may also be packed:

(a) in stout paper bags of five plies, so closed as to be leak-proof and lined with a bag made of a suitable plastics material; or

(b) in bags made of a suitable plastics material equal in strength to the paper bags.

Packages made up of bags must not weigh more than 55 kg.

(1) Hypochlorite solutions (37°) shall be packed: 2820

(a) in receptacles made of glass, porcelain, stoneware or similar material, or of a suitable plastics material, secured in protective packagings; fragile receptacles shall be secured therein by cushioning materials; or

(b) in metal drums, suitably lined.

(2) In the case of hypochlorite solutions of 37° (a), the receptacles or drums shall be so designed as to allow gases to escape, or shall be fitted with pressure-relief valves.

(1) Aqueous solutions of hydrogen peroxide containing more than 40 per cent but not more than 60 per cent hydrogen peroxide [41° (a)] shall be contained: 2821

(a) in receptacles, which must be able to stand stably upright, made of aluminium not less than 99.5 per cent pure or of a special steel not liable to cause the hydrogen peroxide to decompose. The capacity of these receptacles must not exceed 200 litres; or

(b) in receptacles, made of glass, porcelain, stoneware and suitable plastics material, of a capacity not exceeding 20 litres. Each receptacle shall be secured by absorbent, incombustill and inert cushioning materials in a sheet-steel packaging with complete sides, lined with suitable materials. This packaging shall be placed in a wooden packing case with a sloping protective cover.

For closure and degree of filling, see under (3).

(2) Aqueous solutions of hydrogen peroxide containing more than 6 per cent but not more than 40 per cent hydrogen peroxide [41° (b)] shall be contained in receptacles made of glass, porcelain, stoneware, aluminium not less than 99.5 per cent pure, special steel not liable to cause the hydrogen peroxide to decompose, or a suitable plastics material.

Receptacles of a capacity not exceeding 3 litres shall be secured by cushioning materials in wooden cases; if the receptacles contain aqueous solutions of hydrogen peroxide containing more than 35 per cent hydrogen peroxide, the cushioning materials must be suitable fire-proofed. A package must not weigh more than 35 kg.

If the receptacles have a capacity of more than 3 litres they musty satisfy the following conditions:

(a) receptacles made of aluminium or of special steel must be able to stand stably upright. A package must not weigh more than 250 kg;

(b) receptacles made of glass, porcelain, stoneware or a suitable plastics material shall be placed in suitable strong protective packagings which will keep them securely upright; the packagings shall be fitted with means of handling. Inner receptacles other than those made of a plastics material shall be secured in outer packagings by cushioning materials. Where receptacles contain aqueous solutions of hydrogen peroxide containing more than 35 per cent but not more than 40 per cent hydrogen peroxide, the cushioning materials shall be suitably fire-proofed. A package of this kind must not weigh more than 90 kg; however, it may weigh up to 110 kg if the protective packagings are, in addition, packed in a case or crate;

(c) aqueous solutions of hydrogen peroxide containing more than 6 per cent but not more than 40 per cent hydrogen peroxide may also be contained, without protective packagings, in receptacles made of a suitable plastics material, provided that the thickness of the walls (including areas recessed for labelling is not at any point less than 4 mm, the walls are protected by strong ribs, and the ends are reinforced. The receptacles shall be fitted with means of handling. The capacity must not exceed 60 litres.

For closure and degree of filling, see under (3).

(3) Receptacles of a capacity not exceeding 3 litres may have a hermetic closure. In such cases the receptacles shall be filled with a weight of solution which, expressed in grammes, in equel to not more than two-thirds of the figure expressing the capacity of the receptacle in cm^3.

Receptacles of a capacity exceeding 3 litres shall be fitted with a special closure preventing excess internal pressure, leakage of the liquid, and the entry of forcign

matter into the receptacle. Whore receptacles are packed separately, the outer packaging shall be fitted with a cover which, while protecting the closure, makes it possible to verify that the closure is directed upwards. These receptacles may not be filled beyond 95 per cent of their capacity.

3. Mixed packing

(1) Substances grouped under the same item number may be included in the same package. The inner packagings shall conform to what is prescribed for each substance, and the outer packaging shall be that laid down for the substances of the item number in question.

(2) If smaller quantities are not prescribed in the section entitled «Packing of a single substance or of articles of the same kind» and no special conditions are laid down below, substances of this Class, in quantities not exceeding 6 kg in the case of solids or 3 litres in the case of liquids for all of the substances listed under the same item number or the same letter, may be enclosed in the same package either with substances of another item number or of another letter of the same Class, or with substances or articles beloging to other Classes (if mixed packing is likowise allowed in the case of such substances or articles), or with other goods, subject to the following special conditions. 2822

The inner packagings must satisfy the general and special conditions of packing. In addition, the general provisions of marginals 2001 (5) and 2002 (6) and (7) must be observed.

Mixed packing of an acid substance with a basic substance in the same package is not allowed if both substances are contained in fragile receptacles.

A package must not weigh more than 150 kg, or more than 75 kg if it contains fragile receptacles.

Item No.	Description of substances	Maximum quantity per receptacle	Maximum quantity per package	Special provisions
1°(a)	Oleum	3 litres	12 litres	Must not be packed together with chlorates, permengenates, solutions of hydrogen peroxide, perchlorates, peroxides or hydramine. The limitation of 18 litres applies to sulpharic, nitric and hydrochloric acids, and mixed nitrating acids, for all of these substances. If the package contains an acid subject to a limitation of 12 litres, this limitation must be applied.
1° (a) (b), (c)	Sulphuric acid other than oleum	3 litres	16 litres	
	2° (a) Nitric acid containing more than 70% pure acid	3 litres	12 litres	Must not be packed together with formic acid, tricthanola-mine, aniline, xylidine, tolucline, chlorates, parmanganates, inflammable liquids with a flash-point below 21° C, solutions of hydrogen peroxide, perchlorates, peroxides, hydrozinc, glycerine, glycols. Onldy inert filling materials must be used.
2° (b) and	Nitric acid containing not more than 70% pure acid	3 litres	18 litres	
3°	Mixed nitreting acids	3 litres	18 litres	
4°	Perchloric acid	Mixed packing not allowed		
5°	Hydrochloric acid	5 litres	18 litres	Must not be packed together with chlorates, permanganates, perchlorates peroxides (other than solutions of hydrogen peroxide).
6°	Solutions of hydrofluoric acid	1 litre	10 litres	
11° (a)	Disulphur dichloride	500 g	500 g	
11° (a)	Antimony pentachloride Chlorosulphanic chloride Sulphuryl acid Thionylchloride Titanium tetrachloride Stannic chloride	2.5 kg	5 kg	Must not be packed togegher with substances of 36o of Class 8 or with substances of Class 5.1; must be protected against ponetration of moisture
12°	Antimony trichloride			
14°	Bromine – in fragile receptacles – inother receptacles	 500 g 1 kg	 500 g 3 kg	
15° (a)	Difluorides	5 kg	15 kg	Must not be packed together with substances of Classes 4.2, 4.3 and 5.1, or with nitric acid or mixed nitrating acids.

21° (b)	Nitric acid	5 litres	15 litres	Must not be packed together with chlorates, permanganates solutions of hydrogen peroxide, nitric acid, mixed nitrating acids.
21° (c)	Acetic acid	5 litres	15 litres	Must not be packed together with chloride or permaganates.
34°	Hydramine	5.5 kg	5.5 kg	Must not be packed together with sulphuric acid, chlorosulphanic acid, nitric acid, mixed nitratin acids, chlorates, permanganates, sulphur, solutions of hydrogen peroxide, perchlorates and peroxides. Must be kept separate from caustic alkaline substances and strong oxidizing agents.
36°	Sodium sulphide containing not more than 70% Na_2S	2.5 kg	15 kg	Must not be packed together with acid substances.
41° (a)	Solutions of hydrogen peroxide containing more than 35% hydrogen peroxide	Mixed packing not allowed		
41° (b)	Solutions of hydrogen peroxide containing more than 15% but not more than 35% hydrogen peroxide			Must not be packed together with sulphuric acid, chlorosulphonic acid, formic acid, nitric acid, mixed nitrating acids, triethanolamine, aniline, xylidine, toluidine, permanganates,inflammable liquids with a flash-point below 21° C, metallic peroxides, hydrazine.
	– in fragile receptacles	1 litres	3 litres	
	– in other receptacles	3 litres	12 litres	
	Solutions of hydrogen peroxide containing more than 6% but not more than 15% hydrogen peroxide	3 litres	12 litres	Only inorganic filling materials must be used.

4. Marking and danger labels on packages (see Appendix A.9) 2823

Cases containing storage batteries (1° (f) and 33°) shall be legibly and indelibly marked: «Storage batteries». This inscription shall be in an official language of the country of departure and also, if that language is not English or French, or German, in English, French or German, unless otherwise provided in agreements, if any, concluded between the countries concerned in the transport operation.

(1) Packages containing substances of 1° to 7°, 9°, 11°, 12°, 14°, 15°, 22°, 31°, 35°, or 41° (a) shall bear a label conforming to model No. 5. 2824

However, if liquids of 1° (a) to (e), 2° to 5°, 11°, 22° or 32° are packed in receptacles made of glass, porcelain, stoneware or similar material, of a capacity exceeding 5 litres, the packages shall bear two labels conforming to model No. 5.

(2) Packages containing fragile receptacles not visible from the outside shall bear labels conforming to model No. 9. If the fragile receptacles contain liquids, the packages shall in addition, except in the case of sealed ampoules, bear labels conforming to model No. 8; these labels shall be affixed high up on two opposite sides of cases or in an equivalent manner when other packagings are used.

(3) Every case containing storage batteries [1° (f) and 33°], and packages weighing not more than 75 kg containing substances of 1° to 7°, 9°, 11°, 21°, 31° to 35° and 37°, shall, in addition, bear on two opposite sides labels conforming to model No. 8.

(4) In the case of consignments carried as a full load, label No. 5, as prescribed under (1), need not be affixed to the packages if the vehicle bears the marking prescribed in Annex B, marginal 10500.

B. Particulars in the transport document 2825

(1) The description of the goods in the transport document must conform to one of the names underlined in marginal 2801. Where the name of the substance is not indicated in the case of 11°, 12°, 13°, 15°, 22° and 35°, the trade name must be used. The description of the goods must be underlined in red and followed by particulars of the Class, the item number (together with the letter, if any), and the initials «ADR» or «RID» [e.g. 8.1 (a), ADR]. 2826

(2) In the case of bromine containing 0.005 per cent to 0.2 per cent water, carried in receptacles in conformity with marginal 2810 (2), the following must be certified in the transport document: «Steps have been taken to prevent corrosion of the lining of the receptacles». 2827 2834

C. Empty packagings

(1) Receptacles and tanks of 51o must be closed in the same manner and leak-proof in the same degree as though they were full. 2835

(2) The description of the goods in the transport document must be: «Empty receptacle, 8, 51, ADR (or RID)». This description must be underlined in red.

(3) Uncleaned receptacles which have contained substances of 6° or bromine (14°) shall bear a label conforming to model No. 5 (Appendix A.9). They must have to traces of acid or bromine on the outside. 2836 3099

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FOREWORD

The text below comprises, in addition to the Agreement itself and the Protocol of signature, the annexes in the form in which they entered into force on 29 July 1968 as well as the amendments there to up to 1 October 1978.

Part III
APPENDICES

APPENDIX A.1

A. Stability and safety conditions relating to explosive substances, inflammable solids and organic peroxides

3100

The conditions of stability set out below are the standard minima defining the stability required of substances to be accepted for carriage. These substances may be handed over for carriage only if they fully conform to the following requirements.

3101

Re marginal 2101, 1°, marginal 2171, 4° and marginal 2401, 7° (a): Nitrocellulose heated for half an hour at 132° C must not give off visible yellowish-brown nitrous fumes. The ignition temperature must be above 180° C. Pyroxylin thread must satisfy the same conditions of stability as nitrocellulose. See marginals 3150, 3151(a) and 3153.

3102

Re marginal 2101, 3°, 4° and 5°, and marginal 2401, 7° (b) and (c):

1. Nitrocellulose powders not containing nitroglycerine;

plasticized nitrocellulose:

3 g of powder or of plasticized nitrocellulose, heated for one hour at 132° C, must not give off visible yellowish-brown nitrous fumes. The ignition temperature must be above 170° C.

2. Nitrocellulose powders containing nitroglycerine:

1 g of powder heated for one hour at 110° C must not give off visible yellowish-brown nitrous fumes. The ignition temperature must be above 160° C.

with regard to 1. and 2., see marginals 3150, 3151(b) and 3153.

3103

Re marginal 2101, 6°, 7°, 8° (a) and (b) and 9° (a), (b) and (c):

1. Trinitrotoluene (Tolite), mixtures termed liquid trinitrotoluene and trinitroanisole (6°), hexyl (hexanitrodiphenylamine) and picric acid [7°(a)], pentolites (mixtures of pentaerythritol tetranitrate and trinitrotoluene) and hexolites (mixtures of trimethylene-trinitramine and trinitrotoluene) [7°(b)], phlegmatized penthrite and phlegmatized hexogen [7°(c)], trinitroresorcinol [8° (a)], tetryl (trinitrophenylmethylnitramine) [8° (b)], penthrite (pentaerythritol tetranitrate) and hexogen (trimethylene-trinitramine) [9° (a)], pentolites (mixtures of penthrite and trinitrotoluene) and hexolites (mixtures of hexogen and trinitrotoluene) [9° (b)] and mixtures of penthrite or hexogen with wax, paraffin wax or substances similar to wax or paraffin wax [9° (c)], heated for 3 hours at a temperature of 90° C, must not give off visible yellowish-brown nitrous fumes. See marginals 3150 and 3152 (a).

2. Organic nitro-compounds mentioned under 8° other than trinitroresorcinol and tetryl (trinitrophenylmethylnitramine), heated for 48 hours at a temperature of 75° C, must not give off visible yellowish-brown nitrous fumes. See marginals 3150 and 3152 (b).

3. Organic nitro-compounds mentioned under 8° must not be more sensitive to ignition, shock or friction than:

trinitroresorcinol, if they are soluble in water;

tetryl (trinitrophenylmethylnitramine), if they are insoluble in water.

See marginals 3150, 3152, 3154, 3155 and 3156.

3104

Re marginal 2101, 11° (a) and (b):

1. Black powder [11° (a)] must not be more sensitive to flame-ignition, impact or friction than the finest sporting powder having the following composition: 75 per cent potassium nitrate, 10 per cent sulphur and 15 per cent black alder charcoal. See marginals 3150, 3154, 3155 and 3156.

2. Slow mining powders similar to black powder [11° (b)] must not be more sensitive to flame-ignition, impact or friction than the standard explosive having the following composition:

75 per cent potassium nitrate, 10 per cent sulphur and 15 per cent lignite. See marginals 3150, 3154, 3155 and 3156.

3105

Re marginal 2101, 12°: Nitrate explosives in powder form [12° (a)], and explosives not containing inorganic nitrates, in powder form [12° (b)]; must be capable of being stored for 48 hours at 75° C without giving off visible yellowish-brown nitrous fumes. Before and after storing they must not be more sensitive to flame-ignition, impact or friction than the standard explosive having the following composition:

80 per cent ammonium nitrate, 12 per cent trinitrotoluene, 6 per cent nitroglycerine and 2 per cent wood flour. See marginals 3150, 3152 (b), 3154 (a) and (b), 3155 and 3156.

A sample of the standard explosive referred to above is held at the disposal of the Contracting States by Laboratoire du Centre d' etudes et recherches des charbonnages de France (CERCHAR), Boite postale No. 2, 80550 Verneuil-en-Halatte, France.

3106

Re marginal 2101, 13°: Chlorate and perchlorate explosives must not contain any ammonium salt. They must not be more sensitive to flame ignition, impact or friction than a chlorate explosive having the following composition: 80 per cent potassium chlorate, 10 per cent dinitrotoluene, 5 per cent trinitrotoluene, 4 per cent castor oil and 1 per cent wood flour. See marginals 3150, 3154, 3155 and 3156.

3107

Re marginal 2101, 14° (a) and (b): Explosives of 14° (a) and (b) must not be more sensitive to flame-ignition, impact or friction than blasting gelatine containing 93 per cent nitroglycerine or guhr dynamite containing not more than 75 per cent nitroglycerine. They must satisfy the exudation test of marginal 3158. See marginals 3150, 3154 (b), 3155 and 3156.

Re marginal 2101, 14° (c): Explosives of 14° (c) must be capable of being stored for 48 hours at 75° C without giving off visible yellowish-brown nitrous fumes. Before and after storing they must not be more sensitive to flame-ignition, impact or friction than the standard explosive having the following composition: 37.7 per cent nitroglycol or nitroglycerine or a mixture of the two, 1.8 per cent guncotton, 4 per cent trinitrotoluene, 52.5 per cent ammonium nitrate and 4 per cent wood flour. See marginals 3150, 3152 (b), 3154 (a), (b), (c) and (d), 3155 and 3156.

Re marginal 2131, 1° (b): The explosive substance must not be more sensitive to flame-ignition, impact or friction than tetryl. See marginals 3150, 3154, 3155 and 3156.

Re marginal 2131, 1° (c): The explosive substance must not be more sensitive to flame-ignition, impact or friction than penthrite. See marginals 3150, 3154, 3155 and 3156.

Re marginal 2131, 5° (d): The transmission charge must not be more sensitive to flame-ignition, impact or friction than tetryl. See marginals 3150, 3154, 3155 and 3156.

Re marginal 2170 (2) (d): The explosive charge, after having been stored for four weeks at 50° C, must show no signs of deterioration due to insufficient stability. See marginals 3150 and 3157.

Re marginal 2551, 1° to 50°: The substances shall be subjected to the test described in marginals 3154, 3155 and 3156.

B. Rules for tests

1) The test procedures set out below are to be applied when differences of opinion arise as to the acceptability of substances for carriage by road.

2) If other methods or test procedures are used to verify the conditions of stability prescribed above in this Appendix, those methods must lead to the same findings as could be reached by the methods specified below.

3) In carrying out the stability tests by heating described below, the temperature of the oven containing the sample under test must not deviate by more than 2° C from the prescribed temperature; the prescribed duration of a 30-minute or 60 minute test must be observed to within two minutes, that of a 48-hour test to within one hour, and that of a 4-week test to within 24 hours.

The oven must be such that the required temperature is restored not more than five minutes after insertion of the sample.

4) Before undergoing the tests prescribed in marginals 3151, 3152, 3153, 3154, 3155 and 3156, the samples must be dried for not less than 15 hours at the ambient temperature in a vacuum desiccator containing fused and granulated calcium chloride, the sample substance being spread in a thin layer; for this purpose, substances which are neither in powder form nor fibrous shall be ground, or grated, or cut into small pieces. The pressure in the desiccator must be brought below 50 mm of mercury.

5) (a) Before being dried as prescribed in paragraph 4) above, substances of marginal 2101, 1° (expept those containing paraffin wax or a similar substance), 2°, 9° (a) and (b), and those of marginal 2401, 7° (b), small undergo preliminary drying in a well-ventilated drying oven, with its temperature set at 70° C, until the loss of weight per quarter-hour is less than 0.3 per cent of the original weight.

b) For substances of marginal 2101, 1° (when they contain paraffin wax or a similar substance), 7° (c) and 9° (c), the preliminary drying must be carried out as prescribed in sub-paragraph (a) above, except that the temperature of the oven shall be set at between 40° and 45° C.

6) Nitrocellulose of marginal 2401, 7° (a) shall first undergo preliminary drying as prescribed in paragraph (5) (a) above; drying shall then be completed by keeping the nitrocellulose for at least 15 hours over concentrated sulphuric acid in a desiccator.

Test of chemical stability under heat

Re marginals 3101 and 3102

3108

3109

3110

3111

3112

3113
-3149

3150

3151

a) Test of substances listed in marginal 3101.

1) In each of two glass test tubes having the following dimensions:

length	350 mm
internal diameter	16 mm
thickness of wall	1.5mm

is placed 1 g of substance dried over calcium chloride (if necessary the drying must be carried out after reducing the substance to pieces weighing not more than 0.05 g. each). Both test tubes, completely covered with loose-fitting closures, are then so placed in an oven that at least four-fifths of their length is visible, and are kept at a constant temperature of 132° C for 30 minutes. It is observed whether nitrous gases in the form of yellowish-brown fumes clearly visible against a white background are given off during this time.

2) In the absence of such fumes the substance is deemed to be stable.

b) Test of powders listed in marginal 3102.

1) Nitrocellulose powders not containing nitroglycerine, whether gelatinized or not, and plasticized nitrocellulose: 3 g of powder are placed in glass test tubes, similar to those referred to in a), which are then placed in an oven kept at a constant temperature of 132° C.

2) Nitrocellulose powders containing nitroglycerine: 1 g of powder is placed in glass test tubes, similar to those referred to in a), which are then placed in an oven kept at a constant temperature of 110° C.

3) The test tubes containing the powders referred to in (1) and (2) are kept in the oven for one hour. During this time no nitrous gases myst be visible. Observation and appraisal as in (a).

Re marginals 3103 and 3105

3152

a) Test of substances listed in marginal 3103, 1.

1) Two samples of explosive each weighing 10 g are placed in cylindrical weighing bottles having an internal diameter of 3 cm and a height of 5 cm to the underside of the cover; the bottles are then firmly closed with their covers and heated for three hours at a constant temperature of 90° C in an oven in which they are clearly visible.

2) During this time no nitrous gases must be visible. Observation and appraisal as under marginal 3151 (a).

b) Test of substances listed in marginals 3103, 2. and 3105.

1) Two samples of explosive each weighing 10 g are placed in cylindrical weighing bottles having an internal diameter of 3 cm and a height of 5 cm to the underside of the cover; the bottles are then firmly closed with their covers and heated for 48 hours at a constant temperature of 75° C in an oven in which they are clearly visible.

2) During this time no nitrous gases must be visible. Observation and appraisal as under marginal 3151 (a).

Ignition temperature (see marginals 3101 and 3102)

3153

1) The ignition temperature is determined by heating 0.2 g of substance enclosed in a glass test tube immersed in a Wood's alloy bath. The test tube is placed in the bath when the latter has reached 100° C. The temperature of the bath is then progressively increased by 5° C per minute.

2) The test tubes must have the following dimensions:

lenght	125 mm
internal diameter	15 mm
thickness of wall	0.5mm

and must be immersed to a depth of 20 mm.

3) The test must be repeated three times, the temperature at which ignition of the substance occurs, i.e., slow or rapid combustion, deflagration or detonation, being noted each time.

4) The lowest temperature recorded in the three tests is the ignition temperature.

3154

Test of sensitivity to red heat and to flame-ignition (see marginals 3103 to 3110).

a) Test in red-hot hemispherical iron crucible (see marginals 3103 to 3106 and 3108 to 3110).

1) Quantities of the explosive to be examined increasing from 0.5 g to 10 g are thrown into a red-hot hemispherical iron crucible 1 mm thick and 120 mm in diameter.

The results of the test are to be classified as follows:

1. Ignition with slow combustion (explosives with an ammonium nitrate base);

2. Ignition with rapid combustion (chlorase explosives);

3. Ignition with violent combustion an deflagration (black powder),

4. detonation (fulminate of mercury).

(2) The effect on the sequence of events of the amount of explosive used should be taken into account.

(3) The explosive to be examined must not show any fundamental difference from the standard explosive.

(4) The iron crucibles must be careffully cleaned before each test and replaced at frequent intervals.

(b) Test of Case of ignition (see marginals 3103 to 3110).

(1) The explosive to be examined is placed in a small heap on an iron plate in quantities increasing - in the light of the results of the test under (a) - from 0.5 g to a maximum of 100 g.

(2) A burning match is applied to the apex of the small heap and note is taken whether the explosive ignites and burns slowly, deflagrates, or detonates, and whether, once ignition has occured, combustion continues even after the match has been removed. If no ignition takes place a similar test is made by bringing the explosive into contact with a gas flame and noting the same points.

(3) The results of the test are compared with those obtained with the standard explosive.

(c) Combustion test in conditions of enclosure in a sheet-steel box (see marginal 3107).

(1) The combustion test is carried out in a cubical box, made of sheet steel with edges 8 cm long and a wall thickness of 1 mm. The box is made of annealed mild steel sheet and closed in as tight a manner as possible by foldig the edge of the lid over (fig. 1).

(2) In the case of explosives sensitive to friction, the top surface should be covered with a sheet of paper to prevent particles of explosive from finding their way between the edges and remaining trapped there when the edge of the lid is being bent over. The box is completely filled with the explosive so that the latter has as nearly as possible the same density as when in cartidges. The box is placed in the fire with care; it shall first be wrapped in, for example, several layers of packing paper to avoid immediate ignition of the explosive.

A pile of wood 0.8 m high is prepared for the fire by first placing on the ground a thin layer of wood-wool and then on top of it, lying flat, three billets about 0.5 m long and 0.25 m in diameter. Across these are laid three more billets of similar size. On top of all are placed three layers of small sticks cut about 0.2 m long, with wood-wool between the layers. On each side, three or four pieces of wood about 0.5 m long are leant against the pile to prevent it from collapsing while it burns. The pile is set alight with a lighted fuse of wood-wool.

(3) Observations are made to see whether the explosive flares or explodes; how long it burns and what phenomena accompany combustion; and what changes the box has undergone.

(4) The test is carried out four times. A photograph is taken of the steel boxes after they have been used.

(b) Test by heating in a confined space in a steel tube with a calibrated orifice plate (steel tube test) (see marginals 3103 to 3110 and 3112).

(1) The tests in (a) to (c) may be supplemented by the following test.

(2) Description of the steel tube (fig. 2):

The tube is made by pressing from sheet steel suitable for deep drawing[1]. The dimensions are: inner diameter 24 mm; wall thickness 0.5 mm; lenght 75 mm. The open end is fitted with an outer flanqe. The tube is closed with a pressure-resistant central-orifice plate fixed tightly on the flange by an externally-threaded collar slipped over the tube and by a box nut screwed on to thiw collar. The plate is made from heat resisting chrome steel[2] 6 mm thick. To allow the escape of gases of decomposition, plates are used having cylindrical central orifices (a) with the following diameters:

1.0-1.5-2.0-2.5-3-4-5-6-8-10-12-14-16-18-20 mm; a diameter of 24 mm is added when the tube is used without orifice plate and closing device. The threaded collar and mut are made of manganese-chrome steel non-scaling up to 800°C.[1] With orifice plates of from 1 to 8 mm diameter, nuts with a perforation (b) 10 mm in diameter must be used; if the diameter of the orifice is above 8 mm, that of the nut perforation must be 20 mm. Each tube is used for one test only. On the other hand, the orifice plates, threaded collars and nuts may be used again provided they are undamaged. As a check the orifice must be measured after each test.

(3) Heating and protective device (fig. 3):

Heating is provided by town gas with a net calorific value of 4,000 Kcal/Nm^3, from 4 burners producing about 2.4 kcal/sec for a consumption of 0.6 l/sec.

As destruction of the tube is possible, heating is undertaken in a splinter-proof welded box, made of steel 10 mm thick, open on one side and at the top. The tube is suspended between two rods 4 mm in diameter inserted through holes drilled in opposite walls of the box, and is then heated by four Teclu burnes (external tube diameter 19 mm), the lowest heating the bottom of the tube, those at the right and left the walls, and that at the rear the closure. The burner tubes are inserted and secured in holes 20 mm in diameter drilled in the walls of the splinter-proof box. The burners are lit simultaneously by a pilot jet and regulated to a plentiful supply of air so that the tips of the blue inner cones of the flames are almost touching the tube.

The whole installation is contained in a test stand separated from the observation area by a strong wall in

1 e.g. Material Specification No. 1.0336.505 g, in accordance with DIN 1623 Sheet 1.

2 e.g. Material Specification No. 1.4873, in accordance with Sheet «Stahl-Eisen-Werkstoff» 490-52.

1 e.g. Material Specification No.1.3817, in accordance with Sheet «Stahl-Eisen-Werkstoff» 490-52.

which sight holes protected by armoured glass and slatted steel plates are arranged. The splinter-proof box is placed with its open side towards the observation area, care being taken that the flames are not affected by draughts. Equipment for extracting gases of decomposition and smoke from the explosion is installed in the test room.

If town gas is not available, propane can be used for heating. Is such a case the propane is taken from an industrial cylinder fitted with a pressure regulator (500 mm water gauge), through a meter (bellows-type meter with a capacity of 2 litres at 500 mm water gauge), and distributed by a manifold to the four burners, whose jets have a diameter of 0.8 mm. Each burner consumes not more than about 1.7 litres of propane a minute. The gas cylinders and the meter are placed outside the test stand.

(4) Test procedure:

The tube is filled with the explosive substance to within 15 mm of the top, i.e. to a height of 60 mm. If the substance is in powdered form it is compressed by cautiously and gently tapping the tube and then pressing lightly with a small wooden rod. If the substance is gelatinous it is put ino the tube with the aid of a spatula; after each addition the substance is lightly pressed down with a small wooden rod to eliminate occlusions of air. When the quantity of substance inserted has been weighed, the threaded collar is slipped on to the tube, the required orifice plate is put in place, and the nut is tightened by hand. It is essential to make sure that none of the substance is trapped between the flange and the plate, or in the threads. The tube is then put in a rigidly mounted vice with shielding against inadvertent explosion, and the nut is fully tightened with a spanner. The tube, now ready for the test, is suspended between the two rods in the splinter-proof box; the pilot fet is lighted, and when the test stand has been closed the gas supply to the four burners is turned on. At the same time a stop-watch is started to measure the time t_1 elapsing between the lighting of the burners and the ignition of the substance, as shown by the escape of a flame from the orifice in the plate, and the time t_2 between lighting and explosion. On completion of the test the gas supply is shut off and exhaust system in the test stand is started up; no one must enter the stand until a sufficient period of time has elapsed.

To make sure that the heating device is working satisfactorily, the tests must by preceded by a «dummy run».

(5) Interpretation of results:

The relative degree of sensitivity of a substance to heating in the steel tube is expressed by the limiting diameter, this being the orifice with the largest diameter in millimetres with which, in three tests, at least one tube explodes, that is to say breaks up into at least three pieces. The thermal sensitivity increases with increasing limiting diameter and with decreasing times t_1 and t_2.

Organic peroxides (except those wetted or diluted with volatile substances, e.g. water) for which the limiting diameter is not less than 2.0 mm should be considered as explosive substances of Class la (see also note to marginal 2550).

(e) Meating test in a pressure vessel with an orifice plate and bursting disc (pressure vessel test) (see marginal 3112).

(1) For organic peroxides, the tests shown under (a), (b) and (d) may be supplemented by the following test.

(2) Description of the pressure vessel (fig. 4 to 6):

Figures 4 to 6 and the appropriate captions give the details of the apparatus used and the dimensions and materials of the constituent parts.

It should be noted that the use of 24 plates in provided for, the diameters of the orifices being: 1.0-1. 2-1. 5-2. 0-2. 5-3. 0-3. 5-4. 0-4. 5-5. 0-5. 5-6. 0-7. 0-8. 0-9. 0-10. 0-11. 0-12. 0-14. 0-16. 0-18. 0-20. 0-22.0 and 24.0 mm. These plates have a thickness of 2.0 mm ± 0.2 mm.

The bursting disc is cut by a punch from a sheet of brass 0.05 mm thick with standing a bursting pressure of 5.4 ±0.5 Kg/cm² at normal temperature. Unannealed rolled brass containing 67 per cent copper is suitable.

(3) Heating device:

The pressure vessel is heated by technical-grade butane taken from a cylinder fitted with a pressure regulator. The heat output must be about 2,700 kcal/h. With a net calorific value of 27,000 kcal/m³ (at 1 atm and 20°C), the rate of gas supply must be about 100 l/h. A Teclu butane is used. The amount of gas used is measured by a rotameter or other meter and regulated by the burner valve.

Instead of butane, town gas or propane may be used with a suitable burner, provided that the heat output of the gas is likewise about 2,700 kcal/h (for example, in the case of town gas with a net calorific value of 4,050 kcal/m³ it would be necessary to supply about 670 l/h).

The gas cylinder and the rotameter or other meter must be situated outside the test area.

(4) Test procedure:

For a normal test, 10 grammes of the substance are placed in the vessel. In the case of a substance the sensitivity of which is unknown a start is made with smaller quantities: 1 gramme to begin with, then (if possible) 5 grammes, and finally 10 grammes. The bottom of the vessel must be evenly covered with the substance. The bursting disc, central orifice plate and retaining ring are then put in place. The wing nuts are tightened by hand and the box nut with a spanner. The bursting disc is covered with enough water to keep it at a low temperature.

The pressure vessel is placed on a tripod (with an inside ring diameter of 67 mm) which is inside a protective cylinder. The ring at the bottom of the vessel rests on the tripod.

The burner is lit, the flow of gas set at the required rate, and the flow of air so adjusted that the colour of the flame is blue and the inner cone of the flame light blue. The tripod must be of such a heigh that the inner cone almost touches the bottom of the vessel. Then the burner is placed under the vessel through a hole in the protective cylinder.

The test area must be well ventilated and admission to it prohibited during the test. The vessel is observed from outside either by mirrors or through a sight hole in the wall, fitted with armoured glass.

The time t_1 between the beginning of heating and the beginning of reaction (flame, production of smoke, hissing) and the time t_2 until the end of the reaction (detonation, end of hissing and production of smoke, or extinction of the flame) are measured. The vessel is then cooled with water and cleaned.

(5) Interpretation of results:

The relative degree of sensitivity of a substance to heating in the pressure vessel is expressed by the limiting diameter, this being the largest orifice diameter in millimeters with which the bursting disc is broken at least once in three tests while having remained intact during three tests with the next larger diameter.

The thermal sensitivity increases with increasing limiting diameter and with decreasing times t_1 and t_2.

Organic peroxides (except those wetted or diluted with volatile substances, e.g. water) for which the limiting diameter is not less than 9 mm should be considered as explosive substances of Class la (see also not to marginal 2550).

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Test of sensitivity to impact (see marginal 3103 to 3110 and 3112).

(a) Fall-hammer test I (figs. 7 and 8) against a standard (control) explosive.

(1) The explosive, after drying as described in marginal 3150, is put into the following form:

(a) Compact explosives are rasped fine enough to pass without residue through a sieve of 1 mm mesh; only the

residue remaining on a sieve of 0.5 mm mesh is kept for the following test;

(b) Explosives in powdered form are passed through a sieve of 1 mm mesh; all that passes through this sieve is kept the impact test;

Appendix A.1

c) Plastic and gelatinous explosives are formed into small, roughly spherical pills weighing between 25 and 35 mg.

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(2) The apparatus for carrying out the test consists of a weight which, sliding between two bars, is capable of being set to fall from a prearranged height and of being readily released for the fall.

The weight does not fall directly onto the explosive, but falls onto a striker. Dresting on an anvil E, both in very hard steel and sliding easily in the guide ring F (fig. 7). The sample of explosive is placed between the striker and the anvil. The striker, anvil and guide ring are in a protective cylinder C made of hardened steel and placed on a steel block B embedded in a cement block A (fig. 8). The dimensions of the various parts are given in the figures.

(3) The tests are carried out in turn on the explosive to be tested and on the standard (control) explosive as follows:

(a) The explosive, in the form of a spherical pill (if it is plastic) or measured with a measuring spoon of 0.05 cm^3 capacity (if it is in the form of a powder or of raspings), is arranged with care between the striker and the anvil, whose contact surfaces must not be moist. The ambien temperature must not exceed 30° C nor be less than 15° C. Each sample of the explosive must be subjected to one impact only. After each test the striker, the anvil and the guide ring must be carefully cleaned, any residue of explosive being removed.

(b) The tests must begin at heights of fall likely to cause complete explosion of the explosives under test. The height of fall is reduced gradually until the resulting explosion is incomplete or no explosion results. At this height four impact tests are carried out, and if at least one produces a definite explosion, four further fall tests from a slightly lower height are carried out, and so on.

(c) The lowest height or fall causing a definite explosion in a series of at least four tests at that height is taken as the limit of sesitivity.

(d) The impact test is normally carried out with a drop weight of 2 Kg; however, if the sensitivity to impact with this weight requires a height of fall greater than 60 to 70 cm, the impact test must be carried out with a weight of 5 Kg.

(b) Fall-hammer test II (figs. 9 to 13) with numerical expression of impact sensitivity (impact energy in Kgm)

(1) The test described in (a) may be replaced by the following test.

Appendix A.1

(2) Description of the apparatus:

The essential parts of the apparatus are the impact device (see under (4), the cast steel block with base, the anvil, the column, the guides and the hammer with release devise (fig. 9). A steal anvil (100 mm in diameter, 70 mm hig.) is screwed on the steel block (230 x 250 x 200 mm) cast integral with the base (450 x 450 x 60 mm).

Bolted to the back of the steel block is the support into which the column formed from a seamless-drawn steel tube (90 mm outside diameter, 75 mm inside diameter) is fixed. The two guides are fixed to the column by means of three cross-members and are fitted with a toothed rack to limit the tebound of the hammer and with a movable graduated scale for setting the height of fall. The hammer holding and releasing device is adjustable between the guides and is clamped to them by the operation of a lever-nut on two jaws. The apparatus is so fixed on a concrete block (600 x 600 x 600 mm) by means of four anchoring screws sealed in the concrete that the base is in contact with the concrete over its whole area and the guides are exactly vertical. A wooden splinter-proof box which has a lead lining 2 mm thick and opens easily surrounds the apparatus up to the level of the bottom cross-member. An exhauster enables the explosion gases and dust from the substance to be removed.

(3) Description of the fall-hammer:

Each hammer is provided with two positiong grooves holding it between the guides as it drops and with a suspension spigot, a removable cylindrical striking head and a rebound catch which are screwed on to the hammer (fig. 11). The striking head is of hardened steel (HRC 60 to 63); its minimum diameter is 25 mm; it has a shoulder preventing it from being forced into the hammer by the impact.

There are three hammers of different weights. The 1-Kg hammer is used for highly sensitivity the 5-kg hammer for substances of medium sensitivity and the 10-Kg hammer for substances of low sensitivity. The 5-Kg and 10-kg hammers are of massive and compact steel.* The 1-Kg hammer must have a heavy steel centre carrying the striking head and forming with it the main mass of the hammer.

The 1-Kg hammer is used for drop heights of 10 to 50 cm (impact energy 0.1 to 0.5 Kgm), the 5-Kg hammer for drop heights of 15 to 60 cm (impact energy 0.75 to 3 Kgm), and the 10-Kg hammer for drop heights of 35 to 50 cm (impact energy 3.5 to 5 Kgm).

(4) Descriptions of the impact device:

The sample to be examined is enclosed in an impact device (fig. 11) consisting of two solid steel cylinders coaxially placed one above the other in a cylindrical guide ring likewise made of steel. The cylinders are steel rollers for anti-friction bearings and are 10 mm

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in diameter (type with a mean deviation of - 4 microns for a tolerance of - 2 microns, i.e. a diameter af 10-0.003-0.005 mm+, 10 mm high, with polished surfaces and rounded edges (radius of curvature 0.5 mm) and an HRC hardness between 50 and 65. The guide ring has an outer diameter of 16 mm. a lapped bore of 10 + 0.005+ 0.010 mm and a height of 13 mm.

A cylindrical plug gauge may be used to check that the bore diameter is within the prescribed tolerances. The cylinders and the guide ring shall be degreased with acetone before use.

The impact device is placed on an intermediate anvil 26 mm in diameter and 26 mm high and centred by a locating ring provided with a ring of vent-holes to permit the escape of the gases (figs. 11 and 12).

Each striking surface of the cylinders shall be used only once. If an explosion occurs, the guide ring shall not be used again.

(5) Preparation of the samples

The explosive substances are tested in the dry state. Substances of marginal 2101, 11° to 14°, are tested as delivered provided that their water content agrees with the value indicated by the manufacturer. If the water content is higher, the mixtures must be dried before the test until their moisture content is that indicated.

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In addition, in the case of solid substances other than those in paste-like form the following points should be observed:

(a) sybstances in powdered form are sieved (sieve mesh 0.5 mm); everything that passes through the sieve is used for the test;

(b) substances which have been compressed, cast or otherwise consolidated are broken into small pieces and sieved; the siftings from 0.5 mm to 1.0 mm in diameter are used for the test.

(6) Test procedure:

In the case of substances in powdered from, a sample is taken with a cylindrical measure of 40 mm^3 capacity (3.7 mm diameter x 3.7 mm).

* At least St 37-1, in accordance with DIN 17000.

For substances in paste-like form, a cylindrical tube of the same capacity is used, which is plunged into the mass. After levelling off the excess extending beyond the measure, the sample is taken out by means of a wooden rod. For explosive liquids a fine-drawn pipette of 40 mm^3 is used.

The sample is placed on the open impact device, which is already in the locating ring on the intermadiate anvil, and in the case of substances in powdered or paste-like form the upper steel cylinder is lightly and carefully pressed with the forefinger until it touches the sample without flattening it. In the case of liquid substances the

Upper steel cylinder is pressed down with the aid of the depth scale of a vernier gauge until it is 1 mm from the lower cylinder, and held in this position by a rubber ring previously slipped on to it (fig. 13).

The device is placed centrally on the anvil, the protective wooden box is closed, the hammer suspended at the required height is released, and the exhauster is then started up. The test is performed six times at each height of fall.

(7)Interpretation of results

In interpreting the results of the test of sensitivity to impact a distinction is made between "no reaction", "decomposition" (without flame or detonation; recognizable by colour-change or odour) and «explosion» (with weak to strong detonation*. The degree of sensitivity to impact of a substance is measured by determing the weight of the hammer in kg and the lowest height of drop in cm with which an explosion occurs in at least one out of six tests, and the resultant impact energy in Kgm. The sensitivity of the substance to impact is greater the lower the impact energy in kgm.

Test of sensitivity to friction (see marginals 3103 to 3110 and 3112)

Friction test in a porcelain mortar

(1) The explosive is dried over calcium chloride. A sample of the explosive is compressed and ground in an unglazed porcelain mortar by means of a pestle, also unglazed. The mortar and pestle must have a temperature about 10 degrees higher than the ambient temperature (15° to 30° C).

(2) The results of the test are compared with those obtained with the standard (control) explosive, and are classified as follows:

1. no effect;
2. faint occasional crackling;
3. frequent crackling or very pronounced occasional crackling.

Appendix A.1

(3)Explosives which, under test, give the result set out in 1. are to be considered as practically insensitive to friction; if they give the result set out in 2. they are to be considered as moderately sensitive to friction; if they give the result set out in 3. they are to be considered as very sensitive to friction.

(b) Test with the friction apparatus (figs.14 and 15)

(1) The test described in (a) may be replaced by the followihng test.

(2) Description of the apparatus:

The friction apparatus is made up of the cast-steel base on which the friction device proper, comprising a fixed porcelain peg and movable porcelain plate (fig.14), is mounted. The porcelain plate is held in a carriage which runs in two guides. On operation of a push-button switch the carriage is moved by an electric motor through a connecting-rod, an eccentric disc and suitable gearing in such a way that the porcelain plate moves back and forth once only beneath the porcelain peg, the distance of travel being 10 mm. The peg-holder pivots on an axis so that the porcelain peg can be changed; it is extended by a loading arm with six notches for hanging a weight. Balance in the «zero» position (without weights) is achieved by adjusting a counter-weight. When the peg-holder is lowered on to the porcelain plate the longitudinal axis of the porcelain peg is perpendicular to the upper surface of the plate. One of the weights is hung by means of a ring and hook in the appropriate notch; the load on the peg can be varied from 0.5 to 36 Kg.

3155 (3) Description of the porcelain plate and peg:

The flat porcelain plates are made of pure technical white porcelain and have the following dimensions 25 mm × 25 mm × 5 mm.

Before being fired, their two rubbing surfaces are thoroughly roughened by being rubbed with a sponge. The sponge-marks are clearly visible.

The cylindrical porcelain pegs are also made of technical white porcelain; they are 15 mm long and 10 mm in diameter and their roughened ends are rounded, with a radius of curvature of 10 mm.

Samples of porcelain pegs and plates of the quality described above are deposited with the Bundesanstalt für Materialprüfung, Berlin-Dahlem, which can supply the addresses of manufacturers.

As the natural undamaged roughness of the plates and pegs is an essential condition for the reaction of the explosive substance, each part of the surface must be used only once. In consequence, the two end surfaces of each peg are sufficient for two tests, and the two friction surfaces of a plate will each serve for about three to six tests.

3156 (4) Preparation of samples:

The explosive substances are tested in the dry state.

Substances of marginal 2101, 11° to 14° are tested as delivered, provided that their water content agrees with the value indicated by the manufacturer. If the water content is higher, the mixtures must be dried before the test until their moisture content is higher, the mixtures must be dried before the test until their moisture content is that indicated.

In addition, for solid substances, except those in paste-like form, the following points should be observed:

(a) substances in powdered form are sieved (sieve mesh 0.5 mm); everything that passes through the sieve is used for the test;

(b) substances which have been compressed, cast or otherwise consolidated are broken into small pieces and sieved; everything that passes through a sieve mesh of 0.5 mm is used for the test.

(5) Test procedure:

A porcelain plate is fixed on the carriage of the friction apparatus so that the grooves of the sponge-marks on it run transversely to the direction of movement. The quantity to be tested, about 10 mm^3, is taken from substances in powdered form by means of a cylindrical measure (2.3 mm diameter × 2.4 mm); in the case of substances in paste-like form the sample is measured by a cylindrical tube which is plunged into the mass. After levelling off the excess extending beyond the measure, the sample is taken out by means of a wooden rod and placed on the porcelain plate. The firmly-clamped porcelain peg is set on the heaped-up quantity as shown in fig. 15; the loading arm is loaded with the required weight and the push-button switch is operated. Care must be taken that the peg rests on the sample and that there is enough of the substance in front of it to come under the peg as the plate moves.

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(6) Interpretation of results:

In interpreting the results of the test a distinction is made between «no roaction», «decomposition» (change of colour, smell), «ignition», «crackling» and «explosion».

The relative degree of sensitivity of a substance to friction in the friction apparatus as described is indicated (without taking the coefficient of friction into account) by

* For some substances there is "ignition without detonation". This reaction is, however, regarded as an explosion (and designated by the terms in inverted commas) because it involves the entire sample and an explosion can also occur under indentical conditions.

the smallest load on the peg in Kg, with which ignition, crackling or an explosion occurs in at least one out of six tests. In this connection, even ignition and crackling are deemed to be dangerous reactions. The sensitivity of an explosive substance to friction is greater the lower the ascertained load on the peg (loading weight in relation to length of loading peg).

Explosive liquids and substances in paste-like form are not in general sensitive to friction under the conditions of this test, since because of the lubricating effect the slight frictional heat produced is insufficient to induce ignition. With such substances the absence of any reaction is no indication that the substance is not dangerous.

3157 The stability of the products referred to in marginal 3111 is to be checked by ordinary laboratory methods.

Test of dynamite for exudation (see marginal 3107)

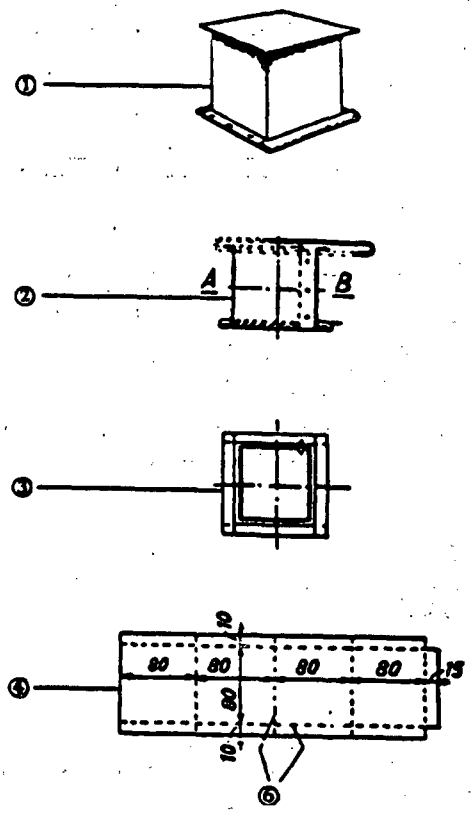
3158 (1) The apparatus for testing dynamite for exudation (figs. 16 to 18) consists of a hollow bronze cylinder. This cylinder, which is closed at one end by a plate of the same metal, has an internal diameter of 15.7 mm and a depth of 40 mm. It is pierced by 20 holes 0.5 mm in diameter (4 sets of 5 holes) on the circumference. A bronze piston, cylindrical over 48 mm of its total length of 52 mm, can slide in the vertical cylinder; this piston, whose diameter is 15.6 mm, is loaded with a weight of 2,220 g so as to produce a pressure of 1.2 Kg/cm^2.

(2) A small plug of dynamite weighing 5 to 8 g, 30 mm long and 15 mm in diameter, is wrapped in very fine gauze and placed in the cylinder; the piston and its loading weight are then placed on it so that the dynamite is subjected to a pressure of 1.2 Kg/cm^2.

The time taken for the appearance of the first signs of oily droplets (nitroglycerine) at the outer orifices of the cylinder holes in noted.

(3)The dynamite is considered satisfactory if the time elapsing before the appearance of the liquid exudations is more than 5 minutes, the test having been carried out at a temperature of 15° to 25° C.

Appendix A.1
Combustion test
Re marginal 3154 (c)



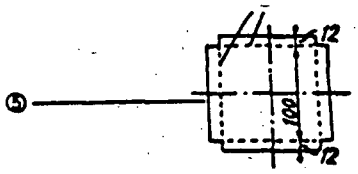
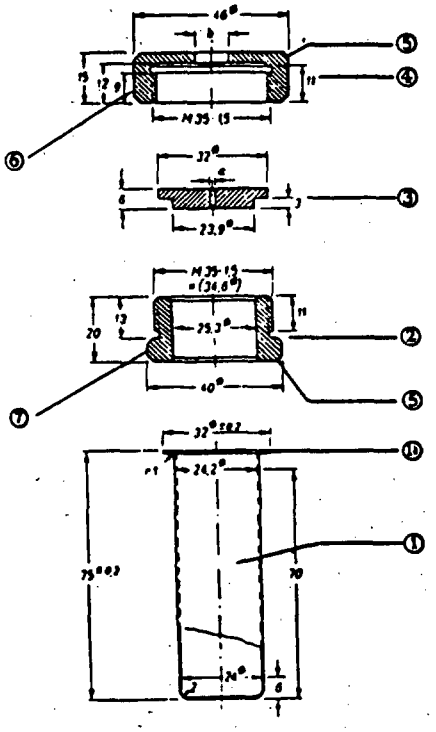


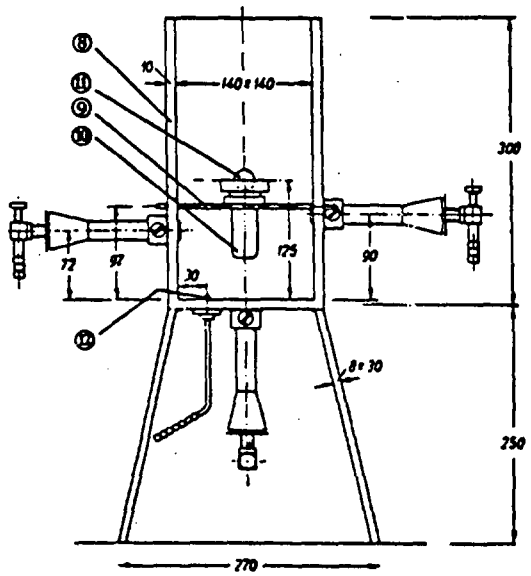
Fig. 1: Steel box
thickness of wall 1 mm
dimensions in mm
(1) general view
(2) vertical section
(3) section A-B
(4) fabrication of wall
(5) fabrication of base and cover
(6) edges to be folded in

Appendix A.1
Test by heating in a steel tube
with a calibrated orifice plate
He marginal 3154 (d)

Fig. 2: Steel tube and accessories

Fig. 3: Heating and protective device
dimensions in mm; for construction materials
see marginal 3154 (d) (2) and (3)
(1) tube
(1a) outer flange
(2) threaded collar; low-friction thread
(3) orifice plate a = 1.0 ... 20.0 diameter
(4) nut b = 10 or 20 diameter
(5) chamfered surface
(6) 2 flats for spanner size 41
(7) 2 flats for spanner size 36
(8) splinter–proof box
(9) 2 supporting rods for the tube
3159 (10) assembled tube
3199 (11) position of rear burner; the other burners are visible
(12) pilot jet





Appendix A.1
Heating test in a pressure vessel
with an orifice plate and bursting disc
Re marginal 3154 (e)

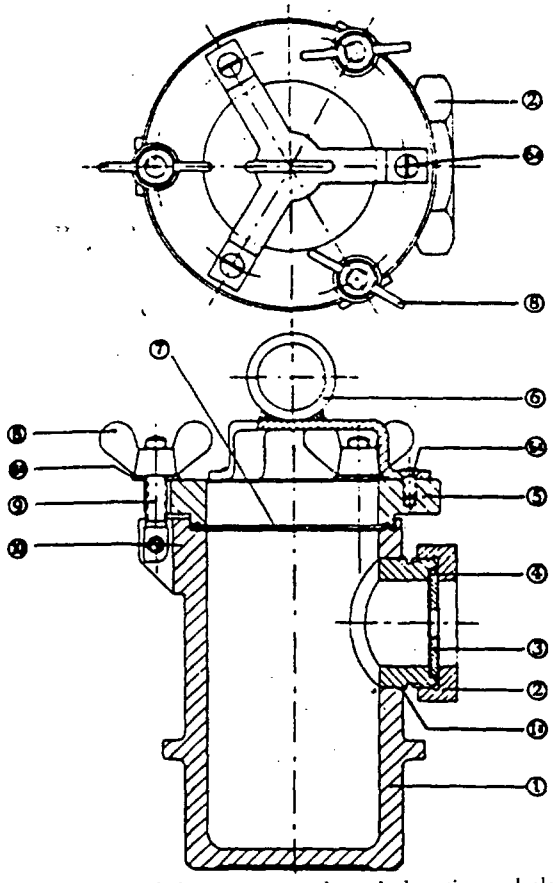


Fig. 4: Assembled pressure vessel; vertical section and plan

(1) Pressure vessel (stainless steel)
(1a) welded joint
(2) box nut (fully-killed weldable steel)
(3) central-orifice plate (stainless steel)
(4) inert retaining ring, 0.5 thick
(5) pressure ring (stainlees steel)
(6) brass handle
(6a) brass screw (metetial M4 x 8 DIN 88)
(7) bursting disc [for material see marginal 3154 (e) (2)]
(8) wing nuts (brass M6 DIN 315)
(8a) washer (brass 6 DIN 125)
(9) eye-bolt (stainless steel)
(10) pivot for wing nuts (stainless steel)
Note: Stainless steel having the following average composition is considered suitable: Cr 18%, Ni 9% Mn≤2%, Si≤1%, C≤0.12%.

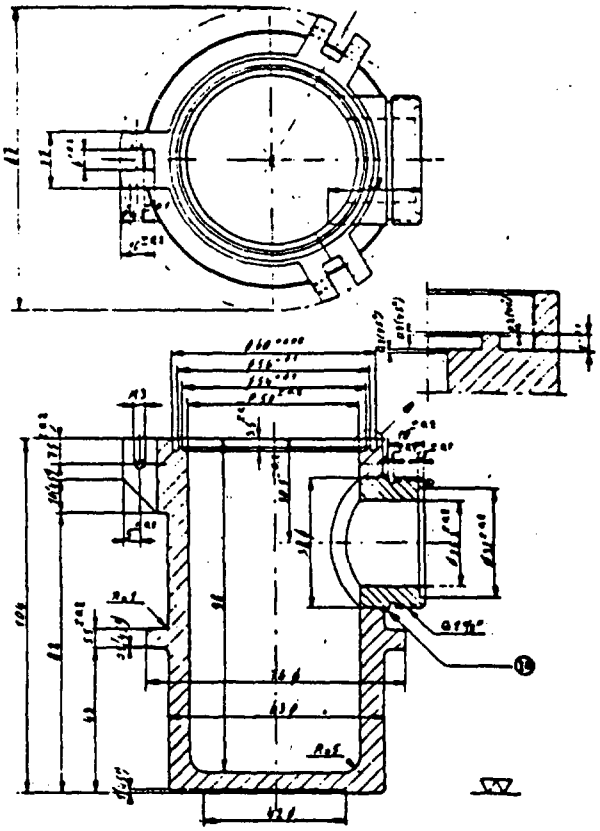


Fig. 5: Pressure vessel dimensions in mm

Appendix A.1
Heating test in a pressure vessel with
an orifice plate and bursting disc
Re warginal 3154 (e)

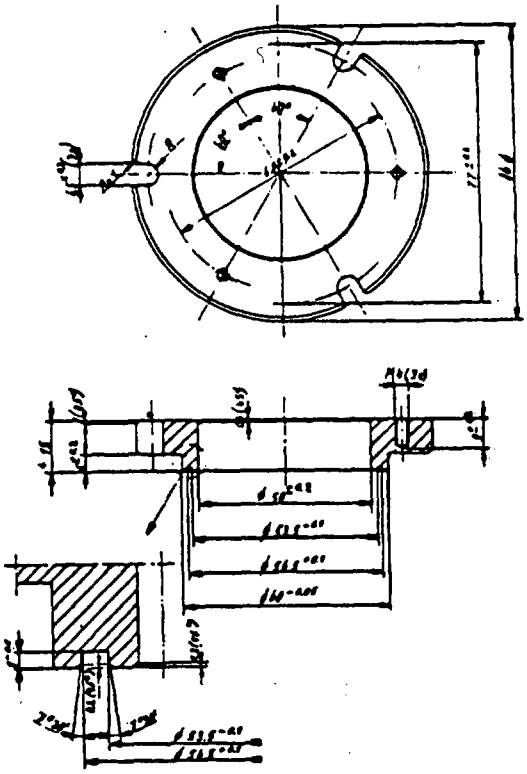


Fig. 6: Pressure ring of the vessel; details in vertical section and plan view dimensions in mm

Appendix A.1
Fall–hammer test I
Re marginal 3155 (a)

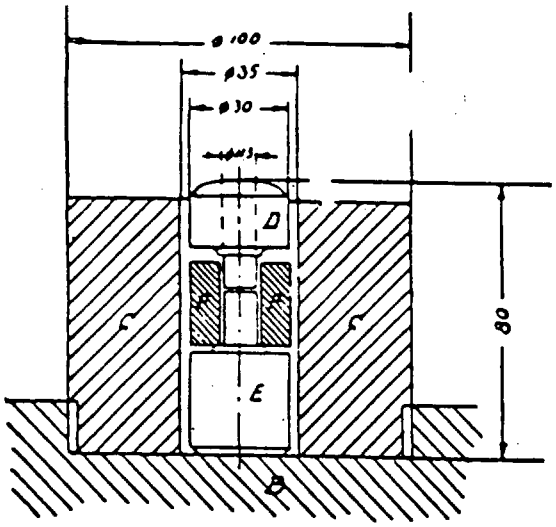


Fig. 7: Impact device, vertical section dimensions in mm

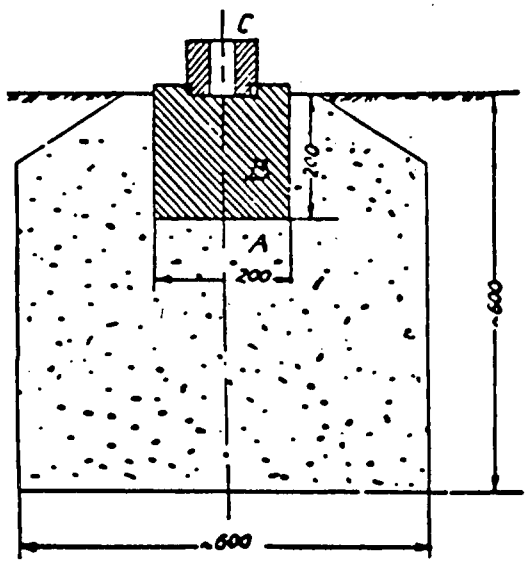


Fig. 8: Base for impact devise, vertical section dimensions in mm

A. cement concrete block
B. steel block
C. protective cylinder
D. striker
E. anvil
F. guide ring

Appendix A.1
Fall–hammer test II
Re marginal 3155 (b)

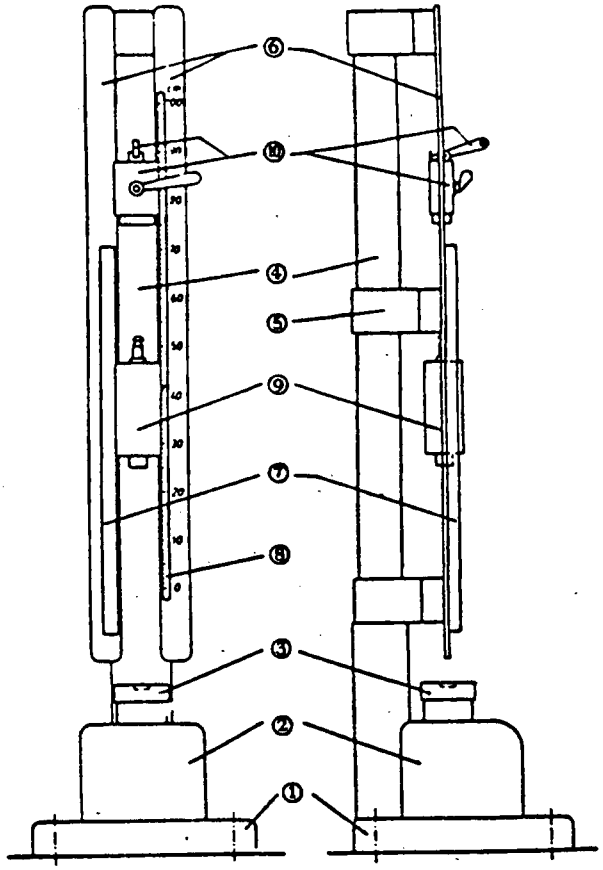


Fig. 9: Fall–hammer II, front and side, general view dimensions in mm

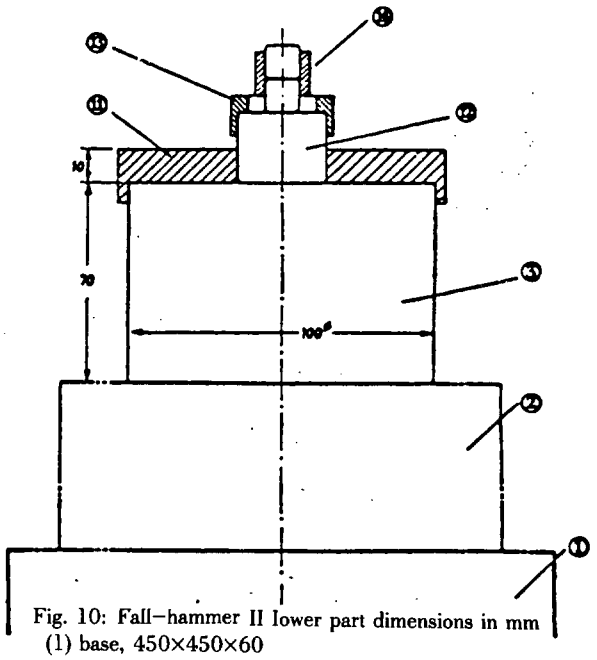


Fig. 10: Fall–hammer II lower part dimensions in mm
(1) base, 450×450×60
(2) steel block, 230×250×200
(3) anvil, 100 diameter ×70
(4) column
(5) median cross–member
(6) 2 guides
(7) toothed rack
(8) graduated scale
(9) fall–hammer (drop weight)
(10) holding and releasing device
(11) locating plate
(12) intermediate anvil (interchangeable), 26 diameter ×26
(13) locating ring with orifices
(14) impact device

Appendix A.1
Fall–hammer test II
Re marginal 3155 (b)

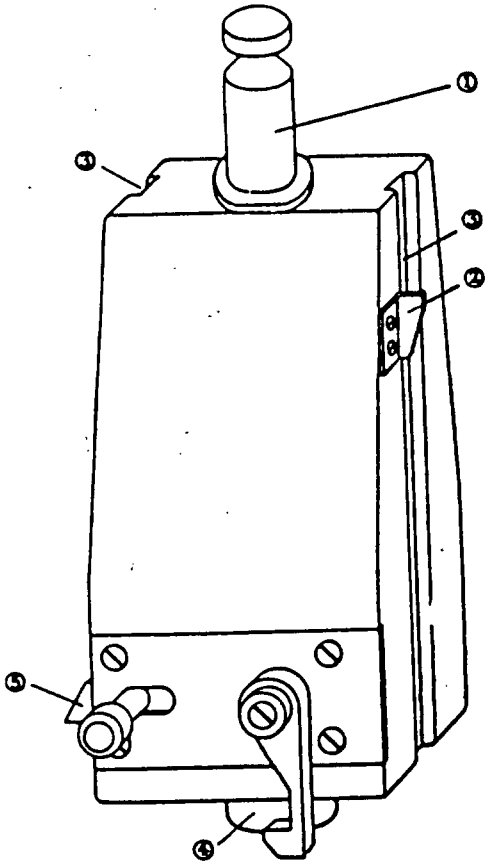


Fig. 11: Hammer (drop weight) of 5 kg
(1) suspension spigot
(2) height marker
(3) positioning groove
(4) cylindrical striking head
(5) rebound catch

Appendix A.1
Fall–hammer test II
Re marginal 3155 (b)

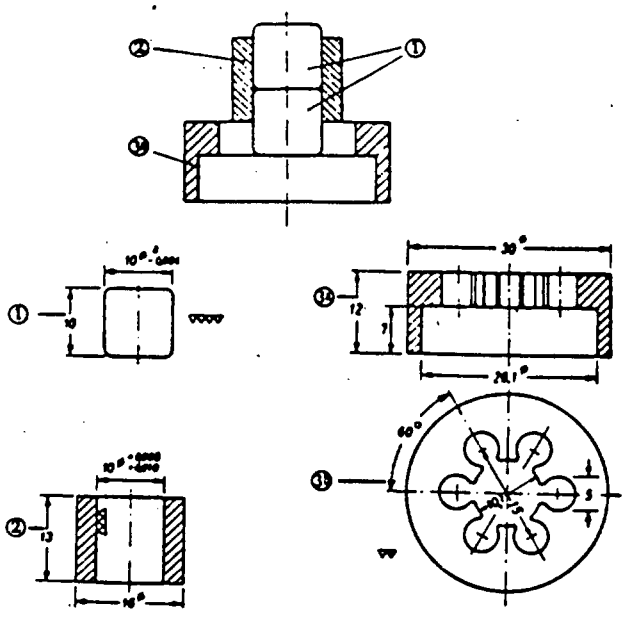


Fig. 12: Impact device for substances in powered or paste–like form dimensions in mm

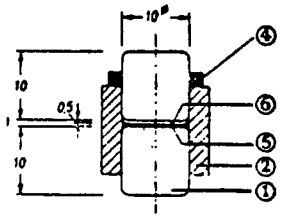


Fig. 13: Impact device for liquid substances dimensions in mm
(1) steel cylinders*
(2) guide ring for steel cylinders*
(3) locating ring with orifices
(a) vertical section
(b) plan
(4) rubber ring
(5) liquid substance (40 mm^3)
(6) space free from liquid
* Steel can have the following composition:
Cr ±1.55%, C±1%, Si max 0.25%
Mn ±0.35% HRC 58...65 (heat–treated steel)

Appendix A.1
Test with friction apparatus
Re marginal 3156 (b)

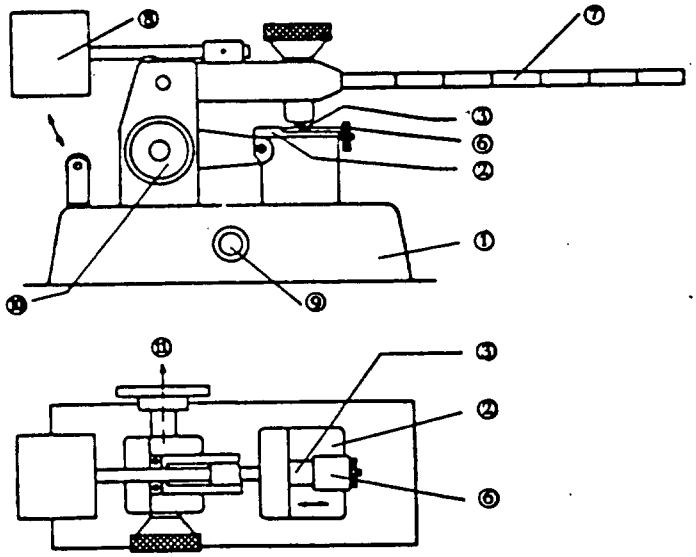


Fig. 14: Friction apparatus; elevation and plan view

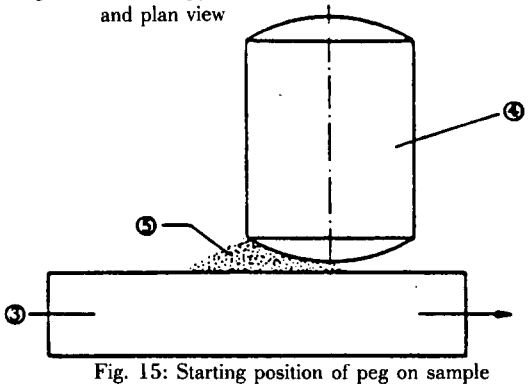


Fig. 15: Starting position of peg on sample
(1) steel base
(2) movable carriage
(3) porcelain plate, 25×25×5 mm, held on the carriage
(4) fixed porcelain peg, 10 diameter ×15 mm
(5) sample under test, approximately 10 mm^3
(6) peg–holder
(7) loading arm
(8) counterweight
(9) switch
(10) wheel for setting carriage at starting postion
(11) direction to electric drive motor

Appendix A.1
Test of dynamite for exudation
Re marginal 3158

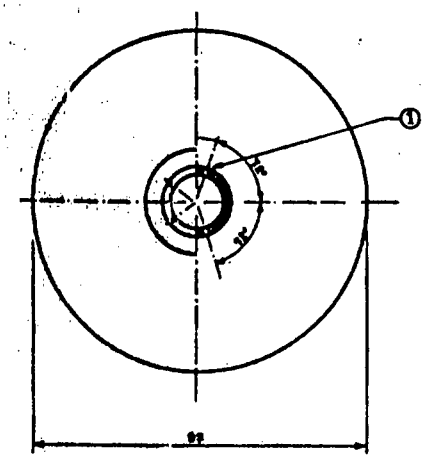


Fig. 16: Hollow bronze cylinder, closed at one end; plan and vertical section dimensions in mm

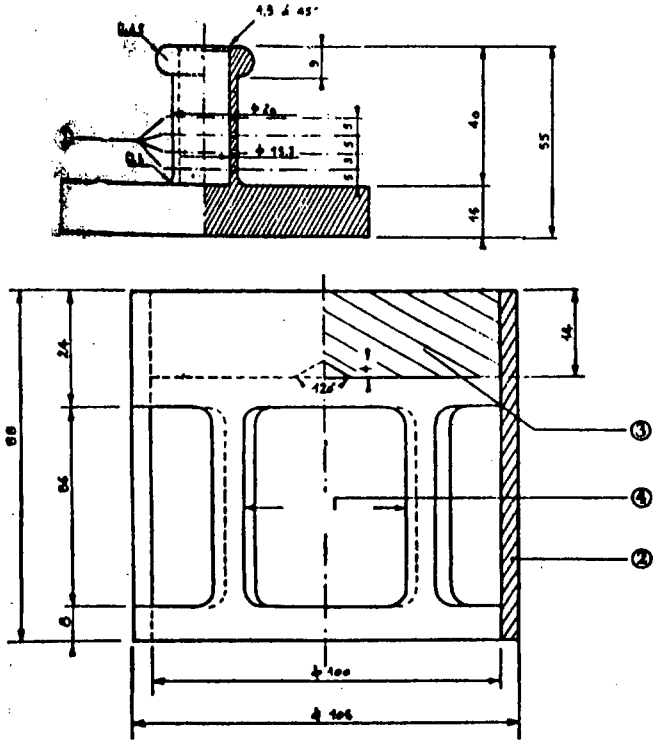


Fig. 17: Bell-shaped weight of 2220 g, capable of being suspended on the bronze piston

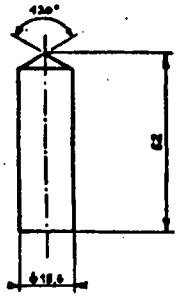


Fig. 18: Cylindrical bronze piston dimensions in mm
(1) 4 sets of 5 holes of 0.5 diameter
(2) copper
(3) lead plate with central tapered recess on underside
(4) 4 openings, about 46 × 56, evenly spaced round periphery

APPENDIX A.2
A. Provisions relating to the nature of aluminium - alloy receptacles for certain gases of Class 2
I. Quality of the material

3200

(1) The materials of aluminium - alloy receptacles which are to be accepted for the gases referred to in marginal 2203 (2) (b) shall satisfy the following requirements:

	A	B	C	D
Tensile strength, Rm, in kg/mm²	5 to 19	20 to 38	20 to 38	35 to 50
Yield stress, Re, in kg/mm² (permanent set 0,2%)	1 to 17	6 to 32	14 to 34	21 to 42
Permanent elongation at fracture (l = 5d) in per cent	12 to 40	12 to 30	12 to 30	11 to 16
Bend test (diameter of former d= n.e, where e is the thickness of the test - piece)	n=5(Rm≤10) n=6(Rm>10)	n=6(Rm≤33) n=7(Rm>33)	n=6(Rm≤33) n=7(Rm>33)	n=7(Rm≤40) n=8(Rm>40)
Aluminium Association Series Number*	1000	5000	6000	2000

The actual properties will depend on the composition of the alloy concerned and on the final treatment of the receptacle, but whatever alloy is used the thickness of the receptacle shall be calculated by the following formula:

$$e = \frac{P \times D}{\frac{200Re}{1.30} + P},$$

Where e = minimum thickness of receptacle wall, in mm;
P = test pressure, in kg/cm²;
D = nominal external diameter of the receptacle, in mm;, and
Re = guaranteed minimum 0.2 - per cent proof stress, in kg/mm².

In addition, the value of the minimum guaranteed proof stress (Re) introduced into the formula is in no case to be greater than 0.85 times the guaranteed minimum tensile strength (Rm), whatever the type of alloy used.

Notes: 1. The above characteristics are based on previous experience with the following materials used for receptacles:

Column A: Aluminium, unalloyed, 99.5 per cent pure;

Column B: Alloys of aluminium and magnesium;

Column C: Alloys of aluminium, silicon and magnesium, such as ISO/R209-Al-Si-Mg (Aluminum Association 6351).

Column D: Alloys of aluminium, copper and magnesium.

2. The permanent elongation at fracture (l = 5d) is measured by means of test-pieces of circular section in which the gauge length l is equal to five times the diameter d; if test-pieces of rectangular section are used, the gauge lenght must be calculated by the formula $l=5{,}65\sqrt{Fo}$, where Fo is the initial cross - sectional area of the test-piece.

3. (a) The bend test (see diagram) shall be carried out on specimens obtained by cutting into two equal parts of width 3e, but in no case less than 25 mm, an annular section of a cylinder. The specimens shall not be machined elsewhere than on the edges.

(b) The bend test shall be carried out between a mandrell of diameter (d) and two circular supports separated by a distance of (d + 3e). During the test the inner faces shall be separated by a distance not greater than the diameter of the mandrel.

(c) The specimen shall not exhibit cracks when it has been bent inwards around the mandrel until the inner faces are separated by a distance not greater than the diameter of the mandrel.

* See «Aluminium Standards and Data», fifth edition, January 1976, published by the Aluminium Association, 750 Third Avenue, New York.

(d) The ratio (n) between the diameter of the mandrel and the thichkness of the specimen shall conform to the values given in the table.

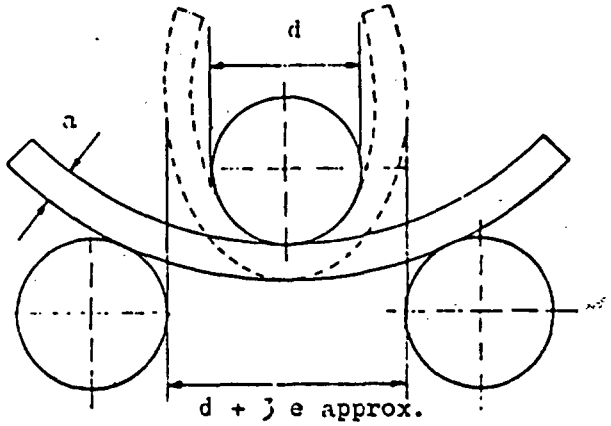


Diagram of bend test

A lower minimum elongation value is acceptable on condition that in additional test approved by the competent authority of the country in which the receptacles are made proves that safety of carriage is ensured to the same extent as in the case of receptacles constructed to comply with the characteristics given in the table in paragraph (1).

(3) The wall thickness of the receptacles at the thinnest point shall be the following:

where the diameter of the receptacle is less than 50 mm: not less than 1.5 mm;

where the diameter of the receptacle is from 50 to 150 mm: not less than 2 mm; and

where the diameter of the receptacle is more than 150 mm: not less than 3 mm.

(4) The ends of the receptacles shall have a semicircular, elliptical or «basket - handle» section; they shall afford the same degree of safety as the body of the receptacle.

II. Additional official test for aluminium alloys.

3201

(1) In addition to the tests required by marginals 2215, 2216 and 2217, it is necessary to test for possible intercrystalline corrosion of the inside wall of the receptacle where use is made of an aluminium alloy containing copper, or where use is made of an aluminium alloy containing magnesium and manganese and the magnesium content is greater than 3.5 per cent or the manganese content lower than 0.5 per cent.

(2) In the case of an aluminium / copper alloy the test shall be carried out by the manufacturer at the time of approval of a new alloy by the competent authority; it shall thereafter be repeated, in the course of production, for each pour of the alloy.

(3) In the case of an aluminium /magnesium alloy the test shall be carried out by the manufacturer at the time of approval of a new alloy and of the manufacturing process by the competent authority. The test shall be repeated whenever a change is made in the composition of the alloy or in the manufacturing process.

(4) (a) Preparation of aluminium/copper alloys

Before the aluminium/copper alloy is subjected to the corrosion test, the samples shall be cleansed of grease by means of a suitable solvent, and dried.

(b) Preparation of aluminium/magnesium alloys

Before the aluminium/magnesium alloy is subjected to the corrosion test, the samples shall be heated for seven days at 100° C; they shall then be cleansed of grease by means of a suitable solvent, and dried.

(c) Performance of test

The inner side fo a specimen measuring 1,000 mm² (33,3 × 30 mm) of the material containing copper shall be treated at ambient temperature, for 24 hours, with 1,000 ml of an aqueous solution containing 3 per cent NaCl and 0,5 per cent HCl.

(d) Examination

After being washed and dried, a section of the specimen 20 mm long shall be examined mictographically at a magnification of 100 to 500 ×, preferably after electropolishing.

The depth of attack shall not go beyond the second layer of grains from the surface subjected to the corrosion test; in principle, if the entire first layer of grains is attacked, only part of the second row should be.

In the case of sections, examination shall be performed at right angles to the surface.

Where after electropolishing it is found necessary to render the grain boundaries particularly visible for subsequent examination, this shall be done by a method acceptable to the competent authority.

III. Protection of the inner surface

3202

The inner surface of aluminium - alloy receptacles shall be provided with a suitable anti-corrosion coating if the competent testing stations so consider necessary.

3203 - 3249

B. Requirements concerning the materials and construction of receptacles intended for the carriage of deeply - refrigerated liquefied gases of Class 2

3250

(1) Receptacles, tanks and shells shall be made of steel, aluminium, aluminium alloy, copper, or copper alloy, e.g. brass. However, receptacles, tanks and shells made of copper or copper alloy shall be accepted only for gases containing no acetylene; ethylene may however contain not more than 0.005 per cent acetylene.

(2) Only materials appropriate to the lowest working temperature of the receptacles, tanks and shells, and of their fittings and accessories, may be used.

3251

The following materials shall be accepted for the manufacture of receptacles, tanks and shells:

(a) steels not subject to brittle fracture at the lowest working temperature (see marginal 3265).

The following may be used:

1. fine - grained unalloyed steels, down to a temperature of -60° C;

2. nickel steels (with a nickel content of 0.5 to 9 per cent), down to a temperature of -196° C, depending on the nickel content;

3. austenitic chrome - nickel steels, down to a temperature of -270° C

(b) aluminium not less than 99.5 per cent pure, or aluminium alloys (see marginal 3266);

(c) deoxidized copper not less than 99.9 per cent pure, or copper alloys having a copper content of over 56 per cent (see marginal 3267).

(1) Receptacles, tanks and shells shall be either seamless or welded.

(2) Receptacles under marginal 2207 made of austenitic steel, of copper or of copper alloy may alternatively be hard - soldered.

The fittings and accessories may either be screwed to the receptacles, tanks and shells or be affixed there to as follows:

(a) receptacles, tanks and shells made of steel, of aluminium or of aluminim alloy: by welding;

(b) receptacles, tanks and shells made of austenitic steel, of copper or of copper alloy: by welding or hard - soldering.

The construction or receptacles, tanks and shells and their mode of affixing to the vehicle, to the underframe or in the container frame shall be such as to preclude with certainty any such reduction in the temperature of the load - bearing components as would be likely to render them brittle. The fastenings of the receptacles, tanks and shells shall themselves be so designed that even when the receptacle, tank or shell is at its lowest working temperature the still possess the necessary mechanical properties.

3255 - 3264

1. Materials, receptacles, tanks and shells

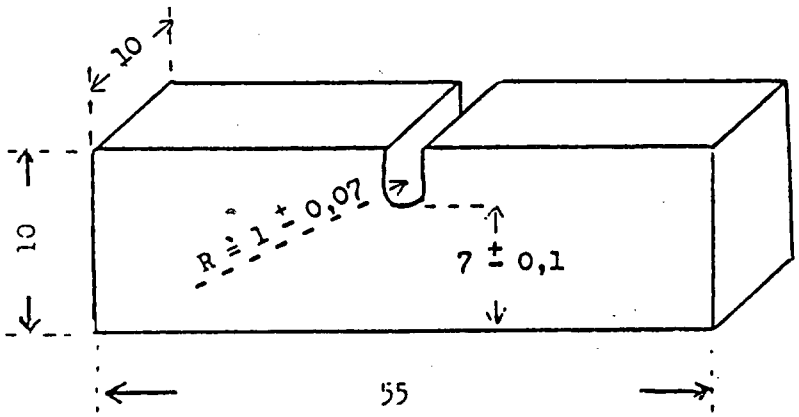
(a) Steel receptacles, tanks and shells

The materials used for the manufacture of receptacles, tanks and shells, and the weld beads, shall at their lowest working temperature meet at least the following requirements as to impact strength.

The tests may be conducted with test - pieces having either a U-shaped or a V-shaped notch.

Material	Impact strength [1] [2] of sheet metal and weld beads at lowest working temperature	
	kgm/cm² [3]	kgm/cm² [4]
Unalloyed killed steel	3.5	2.8
Ferritic alloy steel Ni≤5%	3.5	2.2
Ferritic alloy steel 5%≤Ni≤9%	4.5	3.5
Austenitic Cr-Ni steel	4.0	3.2

1 Impact strengths determined with different test - pieces are not mutually comparable.
2 See marginals 3275 to 3277.
3 The values relate to test - pieces with a U-shaped notch as illustrated below.
4 The values relate to test-pieces with a V-shaped notch conforming to ISO R 148.



In the case of austenitic steels, only the weld bead need be subjected to an impact - strength test.

For working temperatures below -196°C, the impact - strenght test is not performed at the lowest working temperature, but at -196°C.

(b) Receptacles, tanks and shells made of aluminium or aluminium alloy

3266

The seams of receptacles, tanks and shells shall at ambient temperature meet the following requirements as to bending coefficient:

Thickness of sheet e in mm	Bending coefficient K[1] for the seam	
	Root in compression zone	Root in tension zone
≤ 12	≥ 15	≥ 12
> 12 to 20	≥ 12	≥ 10
> 20	≥ 9	≥ 8

1 See marginal 3285.

(c) Receptacles, tanks and shells made of copper or copper alloy

3267

It is not necessary to carry out tests to determine whether the impact strength is adequate.

3268 - 3274

2. Tests

(a) Impact-strength tests

3275

The impact strength shown in marginal 3265 relate to test-pieces measuring 10×10 mm and having a U-shaped or a V-shaped notch.

Notes: 1. With regard to the shape of the test-piece, see marginal 3265 (table), footnotes[3] and [4].

2. For sheets less than 10 mm but not less than 5 mm thick, test-pieces having a cross-section of 10 × e mm, where «e» represents the thickness of the sheet, shall be used. Such impact-strength tests generally yield higher values than do such tests on standard test-pieces.

3. No impact-strength test shall be carried out on sheets less than 5 mm thick, or on their seams.

3276

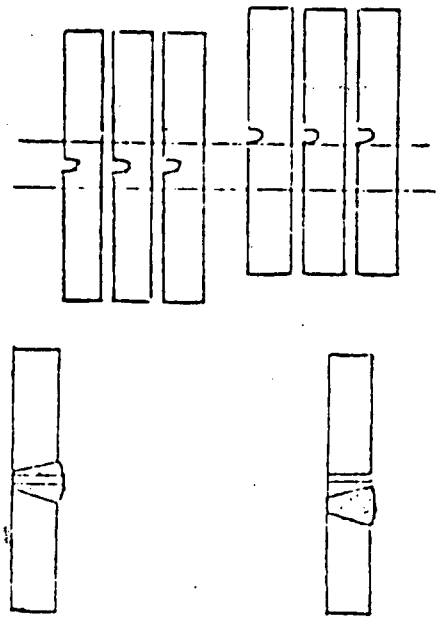
(1) For testing sheet metal the impact strength shall be determined on three test-pieces. The test-pieces shall be removed at right angles to the direction of rolling in the case of test-pieces with a U-shaped notch and in the direction of rolling in the case of test-pieces with a 7-shaped notch.

(2) For testing seams the test-pieces shall be taken as follows:

e ≤ 10

Three test-pieces from the centre of the weld;

three test-pieces from the zone of deformation created by the weld (the notch shall be completely outside the melted area but as near to it as possible);



Centre of weld — Zone of deformation

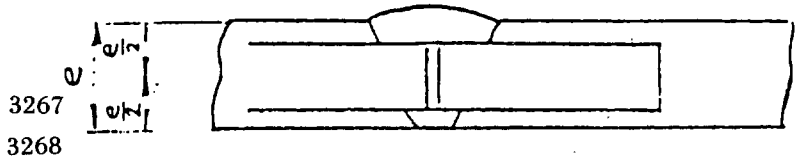
i.e. six test-pieces in all.

The test-pieces shall be so machined as to have the maximum possible thickness.

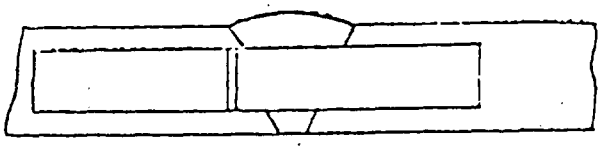
10 < e ≤ 20

Three test-pieces from the centre of the weld;

three test-pieces from the zone of deformation;



Centre of weld

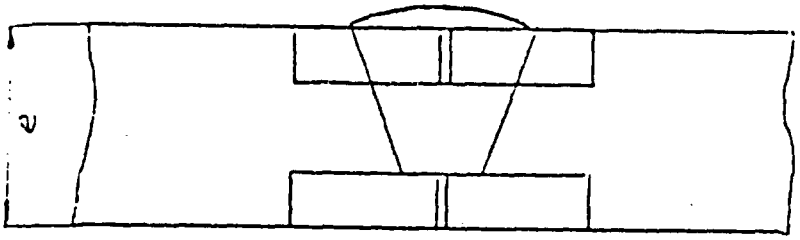


Zone of deformation

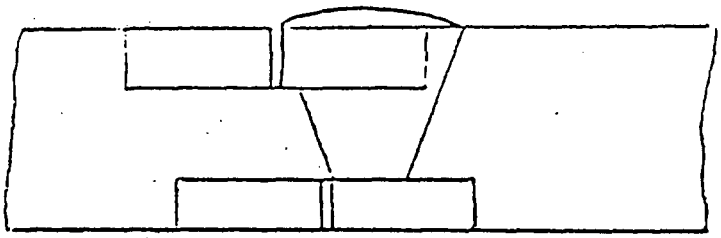
i.e. six test-pieces in all.

e > 20

Two sets of three test-pieces (one set on the upper face, one set on the lower face) at each of the points indicated below:



Centre of weld



Zone of deformation

i.e. twelve test-pieces in all.

3277

(1) For sheet metal the average of three tests shall meet the minimum values given in marginal 3265; none of the values may be more than 30 per cent below the minimum specified.

(2) For welds the average values obtained from three the test-pieces taken at the different points, centre of weld and zone of deformation, shall correspond to the minimum values shown. None of the values may be more than 30 per cent below the minimum specified.

3278 - 3284

(b) Determination of bending coefficient

3285

(1) The bending coefficient k referred to in marginal 3266 is defined as follows:

$$k = 50 \frac{e}{r},$$

where e = thickness of sheet in mm; and

r = mean radius of curvature in mm of the test-piece when the first crack appears in the tension zone.

(2) The bending coefficient k shall be determined for the seam.

The width of the test piece shall be equal to 3 e.

(3) Four tests shall be performed on the seam, two with the root in the compression zone (fig. 1) and two with the root in the tension zone (fig. 2); all values obtained shall meet the minimum value requirements of marginal 3266.

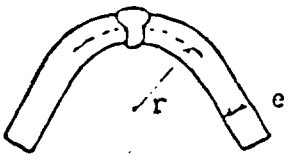


Fig. 1

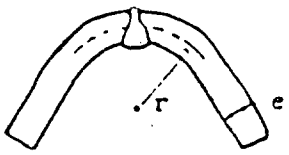


Fig. 2

3286 - 3290

C. Provisions relating to tests on aerosol dispensers and non-refillable containers for gases under pressure of Class 2, 10° and 11°

1. Pressure and bursting tests on receptacle model

3291

Hydraulic pressure tests shall be carried out on at least five empty receptacles of each model:

(a) until the prescribed test pressure is reached, by which time no leakage or visible permanent deformation shall have occurred; and

(b) until leakage or bursting occurs; the dished end, if any, should yield first and the receptacle should not leak or burst until a pressure 1.2 times the test pressure has been reached or passed.

2. Tightness (leakproofness) tests on all receptacles

3292

(1) For the test on aerosol dispensers (10°) and non-refillable containers for gas under pressure (11°) in a hot-water bath, the temperature of the bath and the duration of the test shall be such that the internal pressure of each receptacle reaches at least 90 per cent of the internal pressure that would be reached at 55°C.

However, if the contents are sensitive to heat or if the receptacles are made of a plastics material which softens at this test temperature, the temperature of the bath shall be from 20° to 30°C; in addition, one dispenser out of every 2,000 shall be tested at the temperature prescribed in the foregoing paragraph.

(2) No leakage or permanent deformation of receptacles shall occur. The provision concerning permanent deformation is not applicable to receptacles which, being made of a plastics material, soften.

3293 - 3299

APPENDIX A.3

Tests relating to inflammable liquids of Classes 3 and 6.1

3300

(1) The flash-point is determined by means of one of the following types of apparatus:

(a) for use at temperatures not exceeding 50°C: Abel, Abel-Pensky, Luchaire-Finances, Tag;

(b) for use at teperatures above 50°C: Pensky-Martens, Luchaire-Finances;

(c) failing these, any other closed-cup apparatus capable of giving results within 2°C of these which an apparatus listed above would give at the same place.

(2) To determine the flash-point of paints, gums and similar viscous products containing solvents, only apparatus and test methods suitable for determining the flash-point of viscous liquids may be used, such as

method A of IP standard 170/59 or more recent IP standards,

German standards DIN 53 213 and TGL 14 301, leaflet 2.

The test procedure shall be:

(a) for the Abel apparatus, that of IP* standard 33/44; this standard may also be used for the Abel-Pensky apparatus;

(b) for the Pensky-Martens apparatus, that of IP* standard 34/47, or that of ASTM* standard D.93/46;

(c) for the Tag apparatus, that of ASTM** standard D.53/46;

(d) for the Luchaire apparatus, that of the Instruction annexed to the ministerial order (arrêté ministériel) (France) of 26 October 1925 issued by the Ministère du Commerce et de l' Industrie and published in the Journal Officiel of 29 October 1925.

If any other apparatus is used, the following precautions must be taken:

1. The test must be performed in a place free from draughts.
2. The rate of temperature increase of the liquid being tested must never exceed 5 °C per minute.
3. The pilot-flame must be 5 mm (± 0.5 mm) long.
4. The pilot-flame must be applied to the opening of the receptacle after each rise of 1 °C in the temperature of the liquid.

3302 In the event of a dispute as to the classification of an inflammable liquid, the item number proposed by the sender shall be accepted if a check-test of the flash-point, carried out on the liquid in question, yields a result not differing by more than 2° from the limits (21°, 55° and 100 °C respectively) stated in marginal 2301. If a check-test yields a result differing by more than 2 °C from these limits, a second check-test must be carried out, and the highest figure obtained shall be adopted.

3303 The peroxide content of a liquid shall be determined as follows:

A quantity p (about 5 g, weighed to the nearest cg) of the liquid to be titrated is placed in an Erlenmeyer flask; 20 cm^3 of acetic anhydride and about 1 g of powdered solid potassium iodide are added; the flask is shaken and, after ten minutes, heated for 3 minutes to about 60 °C; it is then allowed to cool for 5 minutes, after which 25 cm^3 of water are added. After being left standing for half an hour, the iodine liberated is titrated with a decinormal solution of sodium thiosulphate, no indicator being added. Complete decolorization indicates the end of the reaction. If n is the number of cm^3 of thiosulphate solution required, the percentage of peroxide (calculated as H_2O_2) present in the sample is obtained by the formula $\frac{17\ n}{100\ p}$.

3304 3399

APPENDIX A.4

3400 -3499 Reserved

APPENDIX A.5

Provisions relating to tests on the metal drums referred to in marginals 2303 (6) and 2813 (1) (c)

I. Hydraulic pressure test

3500 This test shall be performed by an approved body.

Number of samples
Three drums per design type and per manufacturer.

3301 Test procedure and test pressure
The drums shall be subjected to a hydraulic-gauge pressure of not less than 0.75 kg/cm^2 for five minutes, during which time the pressure must remain constant. The drums shall not be mechanically supported during the test.

Criteria determining passing of test
The drums must remain leak-proof.

II. Drop test

3501 This test shall be performed by an approved body.

Number of samples
Six drums per design type and per manufacturer.

Preparation of packages for testing
The drums shall be filled to 98 per cent of their capacity.

Target
The target shall be a rigid, even, flat and horizontal surface.

Height of drop
If the test is carried out with water:

(a) where the liquids to be carried have a specific gravity not exceeding 1.2 : 1.20 m;

(b) where the liquids to be carried have a specific gravity exceeding 1.2 a height expressed in metres by a number equal to the number expressing the specific gravity of the liquid to be carried rounded upwards to one decimal place.

If the test is carried out with the liquid to be carried or with a liquid whose specific gravity is at least equal to that of the liquid to be carried : 1.20 m.

Point of impact
The test shall comprise drops of two kinds:

First drop (using three drums):
The drum shall strike the target diagonally on the chime or, if it has no chime, on a circumferential seam. When dropped, the drum shall be so suspended that its centre of gravity is vertically above the point of impact.

Second drop (using the other three drums):
The drum shall strike the target horizontally on the welded longitudinal seam of the drum body.

Criteria determining passing of test
After the drop, all drums must be leak-proof when equilibrium between the external pressure and the internal pressure has been restored. If a drum is not leak-proof, twelve further drums shall be tested. None of these drums must show any leakage after the tests. If more than one in the first batch of six drums is not leak-proof, the type of drum in question shall be rejected.

III. Leakage test

3502 Every drum shall be tested:

(a) before being used in transport for the first time; and

(b) after reconditioning, before being used again in transport.

Test procedure
The drum shall be immersed in water; the manner of maintaining the drum under water shall be such as not to falsify the result of the test. Alternatively the drum may be covered with a soap solution, heavy oil or other suitable liquid on the seams and any other place where leakage could occur. Other methods at least as effective, such as the air pressure differential test («air-pocket tester»), may also be used.

Air pressure to be applied
The pressure shall not be less than 0.2 kg/cm^2.

Criteria determining passing of test
There must be no air leakage.

IV. Marking

* The Institute of Petroleum, 61, New Cavendish Street, London, W.1.
** American Society for Testing and Materials, 1916 Race Street, Philadelphia 3, (pa.).

3503

Drums of tested types of construction shall be durably marked with the impressed or printed sign of the State* in which the test was carried out, with the mark «ADR» or «RID» and with a registration number assigned by the body which carried out the tests.

V. Test report

3504

A test report must be drawn up, which shall include:

1. particular identifying the manufacturer of the drum;
2. a description (e.g. material used, thickness of walls and ends, joints, seams) and a drawing;
3. the result of the tests;
4. the mark of the drum.

A copy of the test report shall be sent to a body designated by the competent authority of the State in which the test is carried out.

3505 - 3599

APPENDIX A.6.

REGULATIONS RELATING TO RADIOACTIVE SUBSTANCES OF CLASS7

CHAPTER I - PACKAGING AND PACKAGE DESIGN REQUIREMENTS

A. GENERAL DESIGN REQUIREMENTS FOR PACKACING AND PACKAGES

3600

(1) The packaging shall be so designed that the package can be easily handled and can be properly secured during transport.

(2) A package of gross weight 10 kg or more and up to 50 kg shall be provided with means for manual handling.

(3) A package of gross weight in excess of 50 kg shall be so designed as to enable safe handling to be done by mechanical means.

(4) The design shall be such that any lifting attachments on the package, when used in the intended manner, do not impose unsafe stresses on the structure of the package; assessment shall take account of appropriate safety factors to cover "snatch" lifting.

(5) Attachments and any other features on the outer surface of the packaging which could be used to lift the packages shall be removable or otherwise rendered inoperable for transport or shall be designed to support the weight of the package in accordance with the requirements of paragraph (4) above.

(6) The outer layer of packaging shall be so designed as to avoid, as far as practicable, the collection and the retention of water.

(7) The external surfaces of packaging shall, as far as practicable, be so designed and finished that they may be easily decontaminated.

(8) Any features added to the package at the time of transport which are not part of the package shall not reduce the safety of the package.

(9) The smallest overal external dimension of the packaging shall not be less than 10 cm.

(10) Substances which have a critical temperature below 50°C or, at this temperature, a vapour pressure above 3 kg/cm^2 shall be contained in receptacles which also comply with the regulations of marginals 2202 and 2211 to 2218.

B. ADDITIONAL REQUIREMENTS FOR TYPE A PACKAGES

3601

(1) The outside of every package shall incorporate a feature such as a seal, which is not readily breakable and which, while intact, will be evidence that the package has not been opened.

(2) As far as practicable, packaging shall be designed so that the external surfaces are free from protruding features.

(3) The design of the packaging shall take into account the variations in temperature to which the packaging may be subjected during transport and storage. In this respect, -40°C and 70°C shall be considered as satisfactory limits to be used in the selection of the materials; special attention, however, shall be given to brittle fracture over this temperature range.

(4) The design, fabrication and manufacturing rechniques for welded, brazed, or other fusion joints shall be in accordance with national or international standards or with standards acceptable to the competent authority.

(5) The package shall be capable of withstanding the effects of any acceleration, vibration or vibration resonance which may arise during normal transport without any deterioration in the effectiveness of thw closing devices on the various receptacles or in the integrity of the package as a whole. In particular, nuts, bolts and other securing devices shall be so designed as to prevent them from becoming loose or being released unintentionally, even after repeated use.

(6) Special form radioactive substances may be considered as a component of the containment system.

(7) The design shall include a containment system closed by a positive fastening device, that is a device which cannot open by itself, can only be opened intentionally and will resist the effect of a possible increase in pressure inside the vessel.

(8) If a containment system forms a separate unit of the packaging, it shall be capable of being securely closed by a positive fastening device which is independent of any other part or the packaging.

(9) The materials of the packaging and any components or structures shall be physically and chemically compatible with each other and with the package contents; account shall be taken of their behaviour under irradiation.

(10) The design of any component of the containment system shall take into account, where applicable, the radiolytic decomposition of liquids and other vulnerable materials and the generation of gas by chemical reaction and radiolysis.

(11) The containment system shall retain its radioactive contents under the reduction of ambient pressure to 0.25 kg/cm^2.

(12) All valves, other than pressure relief valves, through which the radioactive contents could otherwise escape shall be protected against unauthorized operation and shall be provided with an enclosure to retain any leakage from the valve.

(13) A radiation shield which encloses a component of the packaging specified as a part of the containment system shall be so designed as to prevent the unintentional release of that component from the shield. Where the radiation shield and such component within it form a separate unit, the radiation shield shall be capable of being securely closed by a positive fastening device which is independent of any other packaging structure.

(14) Any tie-down attachments on the package shall be so designed that, under both normal and accident conditions, the forces in those attachments shall not impair the ability of the package to meet the requirements of this Appendix.

(15) Type A packaging shall be so designed that, if it were subjected to the rests specified in marginal 3635 it would prevent:

(a) loss or dispersal of the radioactive contents, and

* The signs referred to are the national distinguishing signs for motor vehicles in international traffic.

(b) any increase of the maximum radiation level recorded or calculated at the external surface for the condition before the test.

(16) Type A packaging designed for liquids shall, in addition, be adequate to meet the conditions prescribed in marginal (15) above if the package is subjected to the tests specified in marginal 3636.

However, these tests are not required when enough absorbent material to absorb twice the volume of the liquid contents is within the containment system and:

(a) the absorbent material is within the radiation shield; or

(b) the absorbent material is outside the radiation shield, provided that it can be shown that if the liquid contents were taken up by the absorbent material the resultant radiation level at the surface of the package would not exceed 200 mrem/h.

(17) Type A packaging designed for compressed or uncompressed gases shall, in addition, prevent loss or dispersal of the radioactive contents if the package is subjected to the tests specified in marginal 3636.
Packaging designed for tritium and argon-37, in gaseous form and in activities up to 200 Ci, shall be exempted from this requirement.

C. BASIC ADDITIONAL REQUIREMENTS FOR TYPE B(U) AND TYPE B(M) PACKAGES

3602

(1) Except as provided in marginal 3603(1) (a) and 3604(2) respectively, Type B(U) and Type B(M) packages shall be designed to meet the additional requirements specified for Type A packages in marginal 3601(1) to (15) inclusive.

(2) The packaging shall be so designed that if it were subjected to the tests in marginal 3637 it would retain sufficient radiation shielding to ensure that the radiation level at 1 m from the surface of the package would not exceed 1 rem/h had the package contained sufficient iridium-192 to produce a radiation level of 10 mrem/h at 1 m from the surface before the tests.
Where the use of the packaging is to be restricted to particular radionuclides, those radionuclides may be used as the reference source in place of iridium-192. In addition, if the packaging is to be used for neutron emitters, an appropriate neutron reference source should also be used. It is not required that a measurement necessarily be made with a test radiation source but only that calculations be made with respect to the particular reference radiation source considered.

(3) Type B(U) and Type B(M) packages shall be so designed, constructed and prepared for shipment that, under the ambient conditions specified in paragraph (4), they shall satisfy the conditions in (a) and (b) below:

(a) Heat generated within the package by the radioactive contents will not, under normal conditions of transport (as demonstrated by the tests in marginal 3635) adversely affect the package in such a way that it will fail to meet the applicable requirements for containment and shielding if left unattended for a period of one week. Particular attention shall be paid to the effects of heat which may:

(i) alter the arrangement, the geometrical form or the physical state of the radioactive contents or, if the material is enclosed in a can or receptacle (for example, clad fuel elements), cause the can, receptacle or material to melt;

(ii) lessen the efficiency of the packaging through differential thermal expansion or cracking or melting of the radiation shielding material;

(iii) in combination with moisture, accelerate corrosion.

(b) The temperature of the accessible surfaces of a Type B(U) or Type B(M) package shall not exceed 50°C in the shade unless the package is transported as a full load.

(4) In applying paragraph (3)(a), the following conditions shall be assumed:

(a) Ambient temperature 38°C.

(b) Insolation data according to Table I below.

In applying paragraph (3)(b), the following condition shall be assumed:

Ambient temperature 38°C.

In the case of Type B(M) packages to be transported exclusively between specified countries, alternative conditions may be assumed with the agreement of the competent authorities of these countries.

TABLE I. INSOLATION DATA

Form and location of surface	Insolation in Gcal/cm² for 12 hours per day
Flat surfaces transported horizontally:	
– base	none
– other surfaces	800
Flat surfaces not transported horizontally:	
– each surface	200[a]
Curved surfaces	400[a]

a Alternatively, a sine function may be used, adopting an absorption coefficient and neglecting the effects of possible reflection from neighbouring objects.

(5) Packaging which includes thermal protection for the purpose of satisfying the requirements of the thermal test specified in marginal 3637(3) shall be so designed that such protection will remain effective if the packaging is subjected to the tests specified in marginal 3635 and marginal 3637(2). Any such protection on the exterior of the package shall not be rendered ineffective by conditions commonly encountered in normal handling or in accidents and not simulated in the tests referred to above, e.g. by ripping, cutting, skidding, abrasion or rough handling.

D. SPECIFIC ADDITIONAL REQUIREMENTS FOR TYPE B(U) PACKAGES

3603

(1) The package shall be so designed that, if it were subjected to the 3603 tests referred to below, it would:

(a) with regard to the tests specified in marginal 3635 restrict the loss of radioactive contents to not more than $A_2 \times 10^{-6}$ per hour.

(b) with regard to the tests in marginal 3637, restrict the accumulated loss of radioactive contents to not more than $A_2 \times 10^{-3}$ in a period of one week.

Where mixtures of different radionuclides are present, the provisions of marginal 3691 shall apply.

For (a) above, the evaluation shall take into account the external contamination limitations of marginal 3651. For both (a) and (b) above, the A_2 values for noble gases shall be those for the uncompressed state.

(2) Compliance with the permitted activity release limits shall depend neither upon filters nor upon a mechanical cooling system.

(3) A package shall not incorporate a feature which is intended to allow continuous venting during transport.

(4) The package shall not include a pressure relief system from the containment system which would allow the release of radioactive substances to the environment under the conditions of the tests specified in marginals 3635 and 3637.

(5) Where the maximum normal operating pressure (see marginal 2700(2)) of the containment system added to any differential pressure below mean sea-level atmospheric pressure to which any component of the packaging specified as part of the containment system may be subjected exceed 0.35 kg/cm², that component shall be capable of withstanding a pressure of not less

than one and a half times the sum of those pressures; the stress at this latter pressure shall not be more than 75 per cent of the minimum yield strength and not more than 40 per cent of the ultimate strength of that component at the maximum expected operating temperature.

(6) With the package at the maximum normal operating pressure (see marginal 2700(2)) subjected to the thermal test specified in marginal 3637(3), the pressure in any component of the packaging specified as a part of the containment system shall be demonstrated not to exceed the pressure which corresponds to the minimum yield strength of that component at the maximum temperature which it would be expected to reach in the test.

(7) The package shall not have a maximum normal operating pressure (see marginal 2700(2)) in excess of 7 kg/cm^2 (gauge).

(8) The maximum temperature of any surface readily accessible during transport of the package shall not exceed 82°C in the shade under normal conditions of transport (see also marginal 3602(3) (b) above.).

(9) The containment system of a package containing liquid shall not be impaired if the package is subjected to a temperature of -40°C under normal conditions of transport.

E. ADDITIONAL REQUIREMENTS FOR TYPE B(M) PACKAGES

(1) In addition to the requirements of marginal 3602, Type B(M) packages shall, as far as practicable, meet the additional specific requirements for Type B(U) packages given in marginal 3603.

(2) A type B(M) package shall be so designed that, if it were subjected to the tests referred to in Table II it would restrict the loss of radioactive contents to not more than the activity limits specified in Table II. The evaluation with respect to the tests specified in marginal 3635 shall take into account the external contamination limitations of marginal 3651.

TABLE II. ACTIVITY LIMITS FOR LOSS OF RADIOACTIVE CONTENTS FROM TYPE B(M) PACKAGES

Conditions	Type B(M) packages not designed for continuous venting	Type B(M) packages specially designed to allow continuous venting
After the tests in marginal 3635	$A_2 \times 10^{-6}$ per hour	$A_2 \times 5 \times 10^{-5}$ per hour
After the tests in marginal 3637	Krypton-85: 10 000 Ci in 1 week Other radionuclides: A_2 in 1 week	Krypton-85: 10 000 Ci in 1 week Other radionuclides: A_2 in 1 wekk

The A_2 values used for noble gases shall be for the uncompressed state. Where mixtures of radionuclides are present the provisions of marginal 3691 shall apply.

(3) If the pressure in the containment system of a Type B(M) package could result in a stress exceeding, under the conditions of the tests in marginals 3635 and 3637, the minimum yield strength of any structural material of the containment system at the temperature which it would be expected to reach in the tests, the packaging shall be equipped with a pressure relief system to ensure that that minimum yield strength is not exceeded.

3605 - 3609

CHAPTER II - FISSILE SUBSTANCES

A. EXEMPTIONS OF FISSILE SUBSTANCES FROM FISSILE CLASS PACKAGE PRESCRIPTIONS

3610

Packages containing radioactive substances which are also fissile substances except for the cases specified in (a) to (g) below, shall be designed to comply with the requirements of this chapter.

(a) Packages containing individually not more than 15 g of uranium-233, uranium-235, plutonium-238, plutonium-239, plutonium-241, or 15 g of any combination of these radionuclides, provided that the smallest external dimension of the package is not less than 10 cm. When material is transported in bulk, the quantity limitations shall apply to the vehicle.

(b) Packages containing only natural or depleted uranium which has been irradiated in thermal reactors only.

(c) Packages containing homogeneous hydrogenous solutions or mixtures satisfying the conditions listed in Table III. When material is transported in bulk, the quantity limitations shall apply to the vehicle.

TABLE III. LIMITATIONS ON HOMOGENEOUS HYDROGENOUS SOLUTIONS OR MIXTURES

3604

Parameters	Any other fissile substances (including mixtures)	^{235}U only
Minimum H/X[a]	5200	5200
Maximum concentration of fissile nuclide in g/l	5	5
Maximum mass of fissile nuclide in g/package	500	800[b]

a Where H/X is the ratio of the number of hydrogen atoms to the number of atoms of fissile nuclide.
b With a tolerance for Pu and ^{233}U of not more than 1 per cent of the mass of ^{235}U.

(d) Packages containing uranium enriched in uranium-235 to a maximum of 1 per cent by weight, and with a total plutonium and uranium-233 content of up to 1 per cent of the mass uranium-235, provided, that the fissile substances are distributed homogeneously throughout the material. In addition, if uranium-235 is present in metallic or oxide forms, it shall not form a lattice arrangement within the package.

(e) Packages containing any fissile substances provided that they do not contain more than 5 g of fissile substances in any 10-litre volume. The substances shall be packed in packages which will maintain the limitations on fissile substances distribution during normal transport.

(f) Packages containing individually not more than 1 kg of total plutonium of which not more than 20 per cent by mass may consist of plutonium-239, plutonium-241, or any combination of those radionuclides.

(g) Packages containing liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of 2 per cent by weight, with a tolerance for plutonium and uranium-233 of up to 0.1 per cent of the mass of uranium-235.

The packages shall also comply with the other relevant parts of this Appendix.

B. GENERAL PROVISIONS FOR NUCLEAR SAFETY

3611

(1) All fissile substances shall be packed and shipped in such a manner that criticality[1] cannot be reached under any foresseable circumstances of transport. In particular, the following contingencies shall be considered:

(a) water leaking into or out of packages

(b) the loss of efficiency of built- in neutron absorbers or moderators;

(c) possible rearrangement of contents into more reactive arrays, either within the package or as a result of loss from the package;

(d) reduction of spaces between packages or contents;

(e) packages becoming immersed in water or buried in snow;

(f) possible increase of reactivity due to temperature changes;

(2) In addition, for irradiated nuclear fuel or unspecified fissile substances the following assumptions shall be made:

(a) Irradiated nuclear fuel for which the degree of irradiation is not known and whose reactivity decreases with burn-up shall be regarded as unirradiated for criticality control. If its reactivity increases with burn-up, it shall be regarded as irradiated to the point of maximum reactivity. The reactivity of nuclear fuel for which the degree of irradiation is known be assessed accordingly.

(b) For unspecified fissile substances such as residues or scrap whose enrichment, mass, concentration, moderation ratio or density is not known or cannot be identified, the assumption shall be that each parameter that is not known has the value which gives the maximum reactivity under credible conditions.

(3) Packages of fissile substances, except as provided in marginal 3610, shall be classified as follows:

(a) Fissile Class I: packages which are nuclearly safe in any number and in any arrangement under all foreseeable circumstances of transport;

(b) Fissile. Class II: packages which, in limited number, are nuclearly safe in any arrangement under all foreseeable circumstances of transport;

(c) Fissile Class III: packages which are nuclearly safe under all foreseeable circumstances of transport by reason of special precautions, or special administrative or operational controls imposed upon the transport of the consignment.

C. PROVISIONS SPECIFIC TO FISSILE CLASS I PACKAGES

3612

(1) Each Fissile Class I package shall be so designed that, if it were subjected to the tests specified in marginal 3635:

(a) water would not leak into or out of any part of the package unless water inleakage to, or outleakage from, that part, to the optimum foreseeable extent, has been assumed for the purposes of marginal 3614(1); and

(b) the configuration of the contents and the geometry of the containment system would not be altered so as to increase the reactivity significantly.

(2) Fissile Class I packages shall satisfy the nuclear safety criteria specified in marginals 3613 and 3614.

1. For the individual package considered in isolation

3613

(1) The following conditions shall be assumed:

(a) the package is «damaged» (for this purpose «damage» shall mean the evaluated or demonstrated condition of the package if it had been subjected either to the tests specified in marginals 3635 and 3637(1) to (3), followed by that in marginal 3638 or to the tests specified in marginals 3635 and 3637(4), whichever combination is the more limiting); and

(b) water can leak into or out of all void spaces of the package including those within the containment system, except that, where the package design incorporates special features to prevent the leakage of water into or out of certain void spaces even as a result of human error, absence of leakage may be assumed in respect of those void spaces. Such special features may include either:

(i) multiple high standard water barriers, each of which would remain leaktight if the package were subjected to the combinations of tests specified in paragraph (1)(a); or

(ii) high degree of quality control in the production and maintenance of packaging, coupled with special tests to demonstrate closure of each package before shipment.

(2) The package shall be sub-critical by an adequate margin[2] under the conditions specified in paragraph (1), the physical and chemical characteristics being taken into account, including any change in those characteristics which could occur under the conditions of paragraph (1), and with the conditions of moderation and reflection as specified below:

(a) with the substances within the containment system:

(i) the most reactive configuration and moderation foreseeable under the conditions of paragraph (1);

(ii) close full water reflection of the containment system or such greater reflection of the containment system as may additionally be provided by the surrounding material of the packaging, and, in addition,

(b) if any part of the substances escapes from the containment system under the conditions of paragraph (1):

(i) the most reactive configuration and moderation considered credible;

(ii) close full water reflection of the substances.

2. For consignments of one or more packages.

3614

(1) Any number of undamaged packages of one design in any arrangement shall be sub-critical; for this purpose «undamaged» shall mean the condition in which the packages are designed to be presented for transport.

(2) 250 such packages when «damaged» shall be sub-critical if stacked together in any arrangement and closely reflected on all sides of the stack by the equivalent of water (for this purpose «damaged» shall mean the evaluated or demonstrated condition of the package if it had been subjected either to the tests specified in marginals 3635 and 3637 (1) to (3), followed by that in marginal 3638, or to the tests specified in marginals 3635 and 3637 (4), whichever combination is the more limiting). Hydrogenous moderation[3] between packages, and water leakage into or out of the packages consistent with the test results shall be assumed to the extent which results in the greatest reactivity.

3. Examples of package designs requiring multilateral approval.

Example 1.

3615

The calculation shall be based on the following requirements:

1. In applying criticality data, obtained by either calculation or experiment, to the criticality clearance of transport packages, allowance shall be made separately for any inaccuracy in the data or uncertainty concerning their validity.

2. For example, if mass of fissile substance is an appropriate parameter for control, an adequate margin would be represented by limiting the mass to 80 per cent of that mass which would be critical in a similar system.

3. The hydrogenous moderation may be considered to consist of either a uniform layer of full density water surrounding each package or water at an appropriate density homogeneously interspersed between packages.

(a) Each individual package shall comply with the criteria under marginals 3612 and 3613.

(b) The package, whether damaged or undamaged, shall be such as to shield the fissile contents from thermal neutrons.

(c) When a parallel beam of neutrons having an energy spectrum as specified in Table IV is incident at any angle on an undamaged package, the surface multiplication factor for epithermal neutrons, i.e. the ratio of the number of epithermal neutrons leaving the package to the number of epithermal neutrons entering the package, shall be less than one, and the evergy spectrum of the neutrons that are emitted by the package in an infinite array shall be no harder than that of the incident neutron.

(d) The package design shall comply with the criteria in marginal 3614 (2).

4. Examples of package designs requiring unilateral approval.

Example 1.

3616

(1) The packaging shall be constructed so that the fissile contents are surrounded by a layer of material capable of absorbing all thermal neutrons incident on it[4] and this neutron absorbent layer is then surrounded by a thickness of at least 10.2 cm of wood having a minimum hydrogen content of 6.5 per cent by weight, so that the minimum external dimension over the wood is 30.5 cm.

(2) The packaging shall be so constructed that when damaged» (for this purpose «damaged» shall have the meaning assigned in marginal 3613 (1)) the fissile contents will remain surrounded by the neutron absorbent layer, the neutron absorbent layer will remain surrounded by the wood, and wood will not be lost to an extent which would reduce the thickness of the remaining wood to less than 9.2 cm or reduce the minimum external dimension over the remaining wood to less than 28.5 cm.

(3) The contents shall not excedd that permissible mass of fissile substances shown in Tables V to XIII which is consistent with: (a) the nature of the substances; (b) the maximum moderation; and (c) the maximum diameter (or volume) which could occur if the package were «damaged» (for this purpose «damaged» shall have the meaning assigned in marginal 3613 (1)).

TABLE IV - NEUTRON ENERGY SPECTRUM[a]

Neutron energy E	Fractions of neutrons with energy less than E
11.0 MeV	1.000
2.4 MeV	0.802
1.1 MeV	0.590
0.55 MeV	0.460
0.26 MeV	0.373
0.13 MeV	0.319
43 keV	0.263
10 keV	0.210
1.6 keV	0.156
0.26 keV	0.111
42 eV	0.072
5.5 eV	0.036
0.4 eV	0

Note: A detailed calculation for a given package design in accordance with the method set out in marginal 3615 can give less restrictive values than those in Tables V to XIII.

4. This layer may consist of cadmium at least 0.38 mm thick equivalent to 0.325 g cadmium per cm^2.

a. The spectrum is the epithermal portion of the equilibrium spectrum emergent from packages incorporating 5 cm thickness of wood in a critical array of such packages.

Appendix A.6

TABLE V

AQUEOUS SOLUTIONS OF URANYL[a] FLUORIDE OR URANYL[a] NITRATE

Permissible mass of uranium per package as a function of the packaging wood density

1. Limited by maximum internal diameter of inner receptacle

Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
10.16	← No limit →													
No limit	0.084	0.120	0.157	0.193	0.231	0.267	0.301	0.335	0.370	0.400	0.429	0.456	0.478	0.498

2. Limited by maximum internal volume of inner receptacle

Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
2	0.152	0.380	0.66	1.01	1.47	2.00	2.66	3.50	4.64	[illegible]	7.62	9.39	11.3	13.3
3	0.084	0.223	0.416	0.65	0.93	1.25	1.58	1.96	2.34	2.74	3.16	3.57	3.99	4.42
4	0.084	0.120	0.157	0.193	0.231	0.274	0.356	0.498	0.73	1.05	1.47	2.02	2.70	3.55
5	0.084	0.120	0.157	0.193	0.231	0.267	0.301	0.495	0.57	0.66	0.74	0.84	0.92	1.02
7	0.084	0.120	0.157	0.193	0.231	0.267	0.301	0.347	0.406	0.467	0.53	0.60	0.66	0.73
No limit	0.084	0.120	0.157	0.193	0.231	0.267	0.301	0.335	0.370	0.400	0.429	0.456	0.478	0.498

a/ Uranium which includes no U^{233} and no more than 93½% U^{235} by weight

Appendix A.6

TABLE VI

NON-HYDROGENOUS URANIUM (a) COMPOUNDS OR MIXTURES IN WHICH THE URANIUM-235 CONCENTRATION DOES NOT EXCEED 4.8 g/cm^3 (b)

(Including unmoderated uranium metal of uranium-235 enrichment not exceeding 2 per cent by weight)

Permissible mass of uranium per package as a function of the packaging wood density

1. Limited by maximum internal diameter of inner receptacle						
Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm^3 and not less than 0.6 g/cm^3					
	kg uranium per package					
10.16	No limit					
No limit	0.69					
2. Limited by maximum internal volume of inner receptacle						
Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm^3 and not less than (g/cm^3) · 0.65	0.7	0.75	0.8	0.[illegible]	0.[illegible]
	kg uranium per package					
3	7.0	10.0	12.2	14.5	14.5	14.[illegible]
4	4.8	7.8	7.9	7.8	7.8	7.9
5	3.63	3.63	3.63	3.63	3.63	3.63
7	1.41	1.41	1.41	1.41	1.41	1.41
No limit	0.69	0.69	0.69	0.69	0.69	0.69

(a) Uranium which includes no U^{233} and no more than 9[illegible] per cent U^{235} by weight.

(b) Mixtures containing beryllium or deuterium are excluded and the mass of carbon shall not exceed five times the allowed mass of uranium.

Appendix A.6

TABLE VII

NON-HYDROGENOUS URANIUM[a] COMPOUNDS OR MIXTURES IN WHICH THE URANIUM-235 CONCENTRATION DOES NOT EXCEED 9.6 g/cm³ b/

(Including unmoderated uranium metal of uranium-235 enrichment not exceeding 5% by weight)

Permissible mass of uranium per package as a function of the packaging wood density

1. Limited by maximum internal diameter of inner receptacle

Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
7.5	← No limit →													
8	6	← No limit →												
8.5	6	7	8	← No limit →										
9	6	7	8	9.2	10	11	← No limit →							
9.5	6	7	8	9.2	10	11	12	14	15	← No limit →				
10	6	7	8	9.2	10	11	12	14	15	16	17	17	17	19
No limit	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69

2. Limited by maximum internal volume of inner receptacle

Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0
	kg uranium per package							
3	7	8	9.2	10	11	12	14	14
4	4.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
5	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63
7	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41
No limit	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69

a/ Uranium which includes no U^{233} and no more than 93½% U^{235} by weight

b/ Mixtures containing beryllium or deuterium are excluded and the mass of carbon shall not exceed five times the allowed mass of uranium.

Appendix A.6

TABLE VIII

UNMODERATED URANIUM [a] METAL

Permissible mass of uranium per package as a function of the packaging wood density

1. Limited by maximum internal diameter of inner receptacle

Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³)													
	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
6	← No limit →													
6.5	6	7	← No limit →											
7	6	7	8	9.2	10	← No limit →								
7.5	6	7	8	9.2	10	11	12	14	15	16	17	17	17	19
10	6	7	8	9.2	10	11	12	14	15	16	17	17	17	19
No limit	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
No limit [b]	6	7	8	9.2	10	11	12	14	15	16	17	17	17	19

2. Limited by maximum internal volume of inner receptacle

Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³)													
	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
2	6	7	8	9.2	10	11	12	14	15	16	17	17	17	19
3	6	7	8	9.2	10	11	12	14	14.5	14.5	14.5	14.5	14.5	14.5
4	6	7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
5	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63
7	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41
No limit	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
No limit [b]	6	7	8	9.2	10	11	12	14	15	16	17	17	17	19

a/ Uranium which includes no U^{233} and no more than 93½% U^{235} by weight

b/ These enhanced masses apply where the fissile substances are in the form of massive metal pieces weighing not less than 2 kg each and free from re-entrant surfaces.

Appendix A.6

TABLE IX

URANIUM[a] COMPOUNDS OR MIXTURES IN WHICH THE URANIUM CONCENTRATION DOES NOT EXCEED $\frac{26.44}{H/U + 1.41}$ g/cm^3

Permissible mass of uranium per package as a function of the packaging wood density

1. Limited by maximum internal diameter of inner receptacle														
Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm^3 and not less than (g/cm^3)													
	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
6	← No limit →													
6.5	2.80	6.0	← No limit →											
7	2.80	6.0	6.0	6.0	6.0	← No limit →								
7.5	2.80	6.0	6.0	6.0	6.0	6.0	6.0	14	15	15.2	15.2	15.2	15.2	15.2
10	0.330	0.87	1.10	1.80	2.50	3.50	4.6	7.1	7.7	9.6	11.6	13.8	16.1	18.3
No limit	0.084	0.120	0.157	0.193	0.231	0.267	0.301	0.335	0.370	0.400	0.429	0.456	0.478	0.498
2. Limited by maximum internal volume of inner receptacle														
Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm^3 and not less than (g/cm^3)													
	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
2	0.152	0.380	0.66	1.01	1.47	2.00	2.66	3.50	4.64	6.04	7.62	9.39	11.3	13.3
3	0.084	0.223	0.416	0.65	0.93	1.25	1.58	1.96	2.34	2.74	3.16	3.57	3.99	4.42
4	0.084	0.120	0.157	0.193	0.231	0.274	0.356	0.498	0.73	1.05	1.47	2.02	2.70	3.55
5	0.084	0.120	0.157	0.193	0.231	0.267	0.301	0.495	0.57	0.66	0.74	0.84	0.92	1.02
7	0.084	0.120	0.157	0.193	0.231	0.267	0.301	0.347	0.406	0.467	0.53	0.60	0.66	0.73
No limit	0.084	0.120	0.157	0.193	0.231	0.267	0.301	0.335	0.370	0.400	0.429	0.456	0.478	0.498

a/ Uranium which includes no ^{233}U and no more than 93½ per cent ^{235}U by weight.

Appendix A.6

TABLE X

NON-HYDROGENOUS PLUTONIUM COMPOUNDS OR MIXTURES IN WHICH THE PLUTONIUM-239 CONCENTRATION DOES NOT EXCEED 10 g/cm³ a/

Permissible mass of plutonium per package as a function of the packaging wood density

1. Limited by maximum internal diameter of inner receptacle

Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8	0.95	1.05	1.1	1.15	1.25
	kg plutonium per package									
6	← No limit →									
6.5	3.60	4.2	← No limit →							
7	3.60	4.2	4.7	5.3	← No limit →					
7.5	3.60	4.2	4.7	5.3	5.9	7.1	← No limit →			
10	3.60	4.2	4.7	5.3	5.9	7.1	8.1	8.3	8.6	8.9
No limit	0.405	0.405	0.405	0.405	0.405	0.405	0.405	0.405	0.405	0.405

2. Limited by maximum internal volume of inner receptacle

Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8
	kg plutonium per package				
3	3.60	4.2	4.7	5.3	5.9
4	3.60	3.84	3.84	3.84	3.84
5	2.44	2.44	2.44	2.44	2.44
7	1.20	1.20	1.20	1.20	1.20
No limit	0.405	0.405	0.405	0.405	0.405

a/ Mixtures containing beryllium and deuterium are excluded and the mass of carbon shall not exceed 1/10 of the allowed mass of plutonium.

Appendix A.6

TABLE XI

UNMODERATED PLUTONIUM METAL

Permissible mass of plutonium per package as a function of the packaging wood density

Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8	0.85
	kg plutonium per package					
1. Limited by maximum internal diameter of inner receptacle						
4	3.20	← No limit →				
10	3.20	3.60	3.90	4.2	4.4	4.5
No limit	0.405	0.405	0.405	0.405	0.405	0.405
No limit[a/]	3.20	3.60	3.90	4.2	4.4	4.5
2. Limited by maximum internal volume of inner receptacle						
Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8	0.85
	kg plutonium per package					
3	3.20	3.60	3.90	4.2	4.4	4.5
4	3.20	3.60	3.84	3.84	3.84	3.84
5	2.44	2.44	2.44	2.44	2.44	2.44
7	1.20	1.20	1.20	1.20	1.20	1.20
No limit	0.405	0.405	0.405	0.405	0.405	0.405
No limit[a/]	3.20	3.60	3.90	4.2	4.4	4.5

a/ These enhanced masses apply where the fissile substances are in the form of massive metal pieces weighing not less than 2 kg each and free from re-entrant surfaces

Appendix A.6

TABLE XII

PLUTONIUM COMPOUNDS OR MIXTURES IN WHICH THE PLUTONIUM CONCENTRATION DOES NOT EXCEED $\frac{26.5C}{H/Pu+1.35}$ g/cm³

Permissible mass of plutonium per package as a function of the packaging wood density

1. Limited by maximum internal diameter of inner receptacle

Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg plutonium per package													
4	← No limit →													
5	3.2	3.60	3.90	4.2	4.4	← No limit →								
6	2.80	3.60	3.90	4.2	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
6.5	2.50	3.40	3.80	4.2	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
7	2.20	3.10	3.70	4.2	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
7.5	1.90	2.70	3.40	4.1	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
8	1.60	2.30	3.0	3.80	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
8.5	1.30	1.80	2.40	3.20	3.80	4.3	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
9	0.97	1.30	1.80	2.40	3.00	3.40	3.60	3.80	4.0	4.2	4.4	4.4	4.4	4.4
9.5	0.65	0.88	1.20	1.50	1.90	2.20	2.40	2.60	2.80	3.10	3.60	4.2	4.4	4.4
10	0.330	0.42	0.50	0.58	0.70	0.83	0.99	1.20	1.50	1.90	2.70	3.90	4.5	4.5
No limit	0.022	0.053	0.084	0.114	0.143	0.171	0.199	0.226	0.250	0.274	0.294	0.311	0.327	0.339

2. Limited by maximum internal volume of inner receptacle

Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³) 0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg plutonium per package													
2	0.152	0.309	0.52	0.80	1.16	1.59	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
3	0.047	0.133	0.247	0.380	0.700	0.76	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
4	0.022	0.076	0.095	0.133	0.700	0.700	0.700	0.700	0.700	0.99	1.19	1.55	1.95	2.27
5	0.022	0.053	0.085	0.118	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700
7	0.02	0.053	0.084	0.114	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700
No limit	0.022	0.053	0.084	0.114	0.143	0.171	0.199	0.226	0.250	0.274	0.294	0.311	0.327	0.339

Appendix A.6

TABLE XIII

AQUEOUS SOLUTIONS OF URANIUM-233 NITRATE OR URANIUM-233 FLUORIDE

Permissible mass of uranium per package as a function of the packaging wood density

1. Limited by maximum internal diameter of inner receptacle

Inner receptacle diameter not exceeding (cm)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³)													
	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
9	← No limit →													
9.5	0.035	0.067	← No limit →											
10	0.035	0.067	0.100	← No limit →										
No limit	0.035	0.067	0.100	0.134	0.169	0.200	0.231	0.261	0.289	0.316	0.340	0.361	0.371	0.391

2. Limited by maximum internal volume of inner receptacle

Inner receptacle volume not exceeding (l)	Wood density not exceeding 1.25 g/cm³ and not less than (g/cm³)													
	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1.0	1.05	1.1	1.15	1.2	1.25
	kg uranium per package													
2	0.152	0.309	0.475	0.71	0.99	1.33	1.71	2.11	2.54	2.99	3.44	3.94	4.41	4.8
3	0.085	0.133	0.180	0.228	0.285	0.332	0.389	0.446	0.50	0.56	0.6	0.67	0.73	0.78
4	0.085	0.109	0.133	0.175	0.213	0.256	0.304	0.356	0.408	0.460	0.51	0.57	0.63	0.69
5	0.035	0.076	0.114	0.152	0.190	0.223	0.256	0.292	0.323	0.356	0.389	.422	.491	.404
7	0.035	0.073	0.109	0.142	0.175	0.204	0.235	0.263	0.289	0.318	0.342	0.368	.394	.42
No limit	0.035	0.067	0.100	0.134	0.169	0.200	0.231	0.261	0.289	0.316	0.340	0.361	.377	0.391

D. PROVISIONS SPECIFIC TO FISSILE CLASS II PACKAGES

3617

(1)Each Fissile Class II package shall be designed so that if it were subjected to the tests specified in marginal 3635:

(a) Neither the volume nor any spacing on the basis of which nuclear safety for the purpose of marginal 3619(a) has been assessed would suffer more than 5 per cent reduction, and the construction of the package would not permit the entry of a 100 cm cube.

(b) Water would not leak into or out of any part of the package unless water inleakage to, or outleakage from, that part, to the optimum foreseeable extent had been assumed in assessing the allowable number for the purpose of marginal 3619(a).

(c) The configuration of the contents and the geometry of the containment system would not be altered so as to increase the reactivity significantly.

(2) Fissile Class II packages shall satisfy the nuclear safety criteria described in marginals 3618 and 3619.

1. The individual package considered in isolation.

3618

(1) The following conditions shall be assumed:

(a) the package is damaged (for this purpose «damaged» shall mean the evaluated or demonstrated condition of the package if it has been subjected either to the tests specified in marginals 3635 and 3637 (1) to (3), followed by that in marginal 3638 or to tests specified in marginals 3635 and 3637 (4), whichever combination is the more limiting); and

(b) water can leak into or out of all void spaces of the package, including those within the containment system, except that, where the package design incorporates special features to prevent the leakage of water into or out of certain void spaces even as a result of human error, absence of leakage may be assumed in respect of those void spaces. Such special features may include either:

(i) multiple high-standard water barriers, each of which would remain leaktight if the package were subjected to the combinations of tests specified in paragraph (1)(a); or

(ii) a high degree of quality control in the production and maintenance of packaging, coupled with special tests to demonstrate closure of each package before shipment.

(2) The package shall be sub-critical by an adequate margin (see footnote 2) under the conditions specified in paragraph (1), the physical and chemical characteristics being taken into account, including any change in those characteristics which could occur under the conditions of paragraph (1), and with the conditions of moderation and reflection as specified below:

(a) with the substances within the containment system:

(i) the most reactive configuration and moderation foreseeable under the conditions of paragraph (1);

(ii) close full water reflection of the containment system or such greater reflection of the containment system as may additionally be provided by the surrounding material of the packaging and, in addition,

(b) if any part of the substances escapes from the containment system under the conditions of paragraph (1);

(i) the most reactive configuration and moderation considered credible;

(ii) close full water reflection of the substances.

2. Consignments of one or more packages

3619

An «allowable number» shall be devised for each Fissile Class II package design, such that:

(a) five times the allowable number of undamaged packages shall be sub-critical if stacked together in any arrangment without anything between the packages, close reflection on all sides of the stack by the equivalent or water being assumed; for this purpose «undamaged» shall mean the condition in which the packages are designed to be presented for transport; and

(b) twice the allowable number of such packages when damaged shall be sub-critical if stacked together in any arrangement and closely reflected on all sides of the stack by the equivalent of water (for this purpose «damaged» shall mean the evaluated or demonstrated condition of each package if it had been subjected either to the tests specified in marginals 3635 and 3637 (1) to (3) followed by that in marginal 3638, or to the tests specified in marginals 3635 and 3637 (4), whichever combination is the more limiting); hydrogenous moderations[3] between packages and water leakage into or out of the packages consistent with test results shall be assumed to the extent which results in the greatest reactivity.

3. Examples of package designs requiring no competent authority approval

3620

Example I (requiring multilateral approval of shipment) Packages for Fissile Class II require no competent authority approval of package design provided that the following conditions are met;

(a) Packaging: the criticality safety of these consignments does not depend upon the integrity of the packaging. Any packaging which complies with the other relevant requirements of Class IVb with respect to the non-fissile radioactive characteristics may, therefore, be used.

(b) Contents - uranium metal, compounds and/or mixtures;

the contents of any consignment consisting of the «allowable number» of packages shall not exceed the permissible mass of uranium-235 given in Table XIV per consignment as a function of enrichment for substances satisfying the following conditions:

(i) Uranium-233 shall not be present.

(ii) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(iii) The total mass of graphite present shall not exceed 150 times the total mass of uranium-235.

(iv) Mixtures of fissile substances with substances having a higher hydrogen density than water, e.g., some hydrocarbon oils, shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

TABLE XIV. PERMISSIBLE MASS OF URANIUM 235 PER CONSIGNMENT

Uramium enrichment in weight per cent of uranium-235 not exceeding	Permissible mass per consignment grams of uranium-235
93	160
75	168
80	176
40	184
30	192
20	203
15	224
11	240
10	256
9.5	262
9	270
8.5	276
8	284
7.5	294
7	300
6.5	312
6	324
5.5	340
5	360
4.5	380
4	400
3.5	440
3	500
2.5	600
2	820
1.5	1360
1.35	1600
1	3400
0.92	6000

(c) Contents - uranium metal, compounds and/or mixtures not forming a lattice: the contents of any consignment consisting of the allowable number of packages shall not exceed the permissible mass of uranium-235 given in Table XV per consignment as a function of enrichment for substances satisfying the following conditions:

(i) Uranium-233 shall not be present.

(ii) Beryllium and hydrogenous material enriched in deuterium shall not be present.

3620

Appendix A.6

(iii) The total mass of graphite present shall not exceed 150 times the total mass of uranium-235.

(iv) Mixtures of fissile substances with substances having a higher hydrogen density than water. e. g. some hydrocarbon oils, shall not be present.

This does not preclude the use of polyethylene for packing or wrapping.

(v) The fissile substances shall be distributed homogeneously throughout the contents. In addition, the substances shall not form a lattice arrangement within the package.

TABLE XV. PERMISSIBLE MASS OF URANIUM-235 PER CONSIGNMENT

Uranium enrichment in weight per cent of uranium-235 not exceeding	permissible mass per consignment grams of uranium-235
4	420
3.5	460
3	560
2.5	740
2	1200
1.5	2800
1.35	4000

(d) Contents - uranium and/or plutonium metal, compounds and/or mixtures: the substances shall satisfy the following conditions:

(i) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(ii) The total mass of graphite present shall not exceed 150 times the total mass of uranium and plutonium.

(iii) Mixtures of fissile substances with substances having a higher hydrogen density than water, e.g., some hydrocardon oils, etc., shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

3620

The total mass of fissile substances per consignment shall be such that:

$$\frac{^{235}U(\text{grams})}{160} + \frac{Pu(\text{grams})}{90} + \frac{^{233}U(\text{grams})}{100} \text{ is not greater than I.}$$

(e) Allowable number: the allowable number for a particular package to this specification will depend on the actual contents and is equal to the fissile mass limit per consignment divided by the actual fissile mass present in the package. In the case of the mixed nuclides in (d) above the allowable number is:

$$\frac{160}{^{235}U + 1.6 \times ^{233}U + 1.778 \times Pu}$$

where ^{235}U, ^{233}U and Pu are the numbers of grams of ^{235}U, ^{233}U and Pu present in the package. Where the package forms part of a mixed consignment the requirements of footnote 1 to marginal 2700 (2) be met.

(f) Shipment shall be subject to multilateral approval.

E. PROVISIONS SPECIFIC TO FISSILE CLASS III PACKAGES

Fissile Class III packages shall meet the general requirements of marginal 3611 and shall be approved in accordance with marginals 3674 and 3675. 3621

1. Examples of package designs requiring unilateral approval

Example 1 (requiring multilateral approval of shipment) 3622

Packages to the following specification require only unilateral approval of the package design provided that the following conditions are fulfilled:

(a) The number of packages in any one consignment shall be so limited that:

(i) twice this number of undamaged packages shall be sub-critical if stacked together in any arrangement without anything between the packages, assuming close reflection on all sides of the stack by the equivalent of water; for this purpose "undamaged" shall mean the condition in which the packages are designed to be presented for transport; and

3622

(ii) this number of packages when "damaged" shall be sub-critical if stacked together in any arrangement and closely reflected on all sides of the stack by the equivalent of water (for this purpose "damaged"shall mean the evaluated or demonstrated condition of each package if it had been subjected either to the tests specified in marginals 3635 end 3637 (1) to (3) followed by that in marginals 3638 or the tests specified in marginals 3635 and 3637 (4), whichever combination is the more limiting).

Hydrogenous monderation 3/between the packages and water leakage into or out of the packages consistent with test results shall be assumed to the extent which results in the greatest reactivity.

(b) Shipment of these packages shall be made only under arrangements approved by the competent authorities in conformity with marginal 3675, so as to prevent loading, transport or storage of these packages with other labelled packages of radioactive material.

2. Examples of fissile package design requiring no competent authority approval

3623

Example 1 (requiring multilateral approval of shipment).

Packages to the following specification for Fissile Class III require no competent authority approval of package design provided the following conditions are met:

(a) The package is currently approved as a Fissile Class II package and the number in any one consignment does not exceed twice the allowable number associated with the Fissile Class II approval.

(b) Shipment of these packages shall be made only under arrangements approved by the competent authorities in conformity with marginal 3675, so as to prevent loading, transport or storage of these packages with other Fissile Class II or Class III packages. Examples of such arrangements are:

(i) no other labelled packages of radioactive substances may be carried with the consignment in the same vehicle, and

(ii) either transport shall be direct to the consignee without any intermediate transit storage; or

controls shall be imposed, by the provision of an escort, to prevent the packages of the consignment fron being stacked with or alongside any other packages of radioactive substances after an accident, or at any other time.

The escort shall travel in a separate vehicle.

Example II (requiring multilateral approval of shipment)

Packages for Fissile Class III require no competent authority approval of package design provided that the following conditions are met

(a) Packaging: the criticality safety of these consignments does not depend upon the integrity of the packaging. Any packaging which complies with the other relevant requirements of this Appendix may therefore be used, provided it does not incorporate lead exceeding 5 cm in thickness, tungsten or uranium shielding.

(b) Contents - uranium metal, compounds and/or mixtures: the contents af any consignment shall not exceed the permissible mass of uranium-235 given in Table XVI per consignment as a function of enrichment for substances satisfying the following conditions:

(i)Uranium-233 shall not be present.

(ii) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(iii) The total mass of graphite present shall not exceed 150 times the total mass of uranium-235.

(iv) Mixtures of fissile substances with substances having a higher hydrogen density than water e.g., some hydrocarbon oils, shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

Appendix A.6

TABLE XVI. PERMISSIBLE MASS OF URANIUM-235 PER CONSIGNMENT

Uranium enrichment in weight per cent of uranium-235 not exceeding	Permissible mass per consignment grams of uranium-235
93	400
75	420
60	440
40	460
30	480
20	520
15	560
11	600
10	640
9.5	655
9	675
8.5	690
8	710
7.5	730
7	750
6.5	780
6	810
5.5	850
5	900
4.5	950
4	1.000
3.5	1.100
3	1.250
2.5	1.500
2	2.050
1.5	3.400
1.35	4.000
1	8.500
0.92	15.000

(c) Contents - uranium metal, compounds and/or mixtures not forming a lattice: Table XVII gives the permissible mass of uranium-235 per consignment as a function of enrichment, for substances satisfying the following conditions:

(i) Uranium-233 shall not be present.

(ii) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(iii) The total mass of graphite present shall not exceed 150 times the total mass of uranium-235.

(iv) Mixtures of fissile substances with substances having a higher hydrogen density than water, e.g., some hydrocarbon oils, shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

(v) The fissile substances shall be distributed homogeneously throughout the contents. In addition, the substances shall not form a lattice arrangement within the package.

TABLE XVII. PERMISSIBLE MASS OF URANIUM-235 PER CONSIGNMENT

Uranium enrichment in weight per cent of uranium-235 not exceeding	Permissible mass per consignment kilograms of uranium-235
4	1.05
3.5	1.15
3	1.4
2.5	1.8
2	3
1.5	7
1.35	10

(d) Contents - uranium and/or plutonium metal, compounds and/or mixtures: the substances shall satisfy the following conditions:

(i) Beryllium and hydrogenous material enriched in deuterium shall not be present.

(ii) The total mass of graphite present shall not exceed 150 times the total mass of uranium and plutonium.

(iii) Mixtures of fissile substances with substances having a higher hydrogen density than water, e.g., some hydrocarbon oils, shall not be present. This does not preclude the use of polyethylene for packing or wrapping.

The total mass of fissile substances per consignment shall be such that:

$$\frac{^{235}U(\text{grams})}{400} + \frac{Pu(\text{grams})}{225} + \frac{^{233}U(\text{grams})}{250}$$ is not greater than 1.

(e) Conditions of transport: the following administrative controls shall be applied throughout the transport of the consignment:

(i) the quantity of substances in a consignment shall not exceed that defined in (b), (c) or (d) above;

(ii) transport shall be direct to the consignee, without any intermediate transit storage.

(f) Shipment shall be subject to multilateral approval.

3625
-3629

CHAPTER III - TEST AND INSPECTION PROCEDURES

A. DEMONSTRATION OF COMPLIANCE WITH THE TEST REQUIREMENTS

3630

(1) Demonstration of compliance with the test requirements of this chapter may be accomplished by any of the methods listed below or by a combination thereof.

(a) Performance of tests with prototypes or samples of the packaging as normally presented for transport, in which case the contents of the packaging for the test shall simulate as closely as practicable the expected normal radioactive contents.

(b) Reference to previous satisfactory demonstrations of sufficiently similar nature.

(c) Performance of tests with models of appropriate scale incorporating those features which are significant with respect to the item under investigation, when engineering experience has shown results of such tests to be suitable for design purposes. When a scale model is used, the need for adjusting certain test parameters, such as the penetrator diameter or the compressive load, shall be taken into account.

(d) Calculation, or reasoned argument, when the calculative procedures and parameters are generally agreed to be reliable or conservative.

(2) With respect to the initial conditions for the tests of this chapter except those in marginals 3637 (4) to 3639, the demonstration of compliance shall be based on the assumption that the package is in equilibrium at an ambient temperature of 38°C. With respect to the thermal test the effects of solar radiation can be neglected prior to and during that test but shall be taken into account in the subsequent evaluation of the test results.

B. TESTS FOR PACKAGING

1. Number of specimens to be tested

3631 The number of specimens actually subjected, to the tests should be related to the number of packagings of that type which are to be produced, the frequency of use and the cost. The results of the tests may necessitate an increase in the number of specimens to meet the requirements of the test procedures in respect of maximum damage.

2. Preparation of a specimen for testing

3632 (1) All specimens shall be examined before testing to identify and record faults or damage including the following:

(a) divergence from the specifications or the drawings;

(b) defects in construction;

(c) corrosion or other deterioration; and

(d) distortion of features.

(2) The containment system of the packaging shall be clearly specified.

(3) The external features of the specimen shall be clearly identified so that reference may be made simply and clearly to any part of such specimen.

3. Testing the integrity of containment and shielding

3633 After any of the applicable tests specified in marginals 3635 to 3637, it shall be further demonstrated that the integrity of the containment, or of the containment and shielding, has been retained to the extent required in marginals 3601 (15) to (17), 3602 (2), 3603 (1) and 3604 (2) for the packaging under test.

4. Target for the drop tests specified in marginals 3635 (4), 3636 (2), 3637 (2) and 3641 (1)

3634 The target shall be a flat, horizontal surface of such a character that any increase in its resistance to displacement or deformation upon impact by the specimen would not significantly increase the damage to the specimen.

5. Tests for demonstrating ability to withstand normal conditions of transport

3635 (1) The tests are: the water spray test, the free drop test, the compression test and the penetration test. Prototypes of the package shall be subjected to the free drop test, the compression test and the penetration test, preceded in each case by the water spray test. One prototype may be used for all the tests, provided that the requirements of paragraph (2) are complied with.

(2) The time interval between the conclusion of the water spray test and the succeeding test shall be such that the water has soaked in to the maximum extent, without appreciable drying of the exterior of the specimen. In the absence of any evidence to the contrary, this interval shall be taken to be about two hours if the water spray is applied from four directions simultaneously. No time interval should elapse, however, if the water spray is applied from each of the four directions consecutively.

(3) Water spray test: Any water spray test shall be considered as satisfactory provided that:

(a) the amount of water per unit of ground area is approximately equivalent to a rainfall rate of 5 cm per hour;

(b) the water impinges upon the specimen at an angle of approximately 45° from the horizontal;

(c) the water is approximately uniformly distributed, as in a rainfall, over the entire surface of the specimen in the direction of the spray;

(d) the duration of the spray is at least on hour;

(e) the orientation of the packaging is such that the effects are expected to be the most severe for the features under investigation, and the specimen is supported so that it does not sit in a pool of water.

(4) Free drop test: The specimen shall fall onto the target so as to suffer maximum damage in respect of the safety features to be tested.

(a) The height of fall measured from the lowest point of the package to the upper surface of the target shall be as specified in Table XVIII.

TABLE XVIII. FREE-FALL DISTANCE FOR PACKAGES

Package weight (Kg)	Free fall distance (m)
less than 5,000	1.2
5,000 to < 10,000	0.9
10,000 to < 15,000	0.6
15,000 and greater	0.3

(b) For Fissile Class II packages, the free drop specified above shall be preceded by a free drop from a height of 0.3 m on each corner or, in the case of a cylindrical package, onto each of the quarters of each rim.

(c) For fibreboard or wood rectangular packages not exceeding 50 kg in weight, a separate specimen shall be subjected to a free drop onto each corner from a height of 0.3 m.

(d) For fibreboard cylindrical packages not exceeding 100 kg in weight, a separate specimen shall be subjected to a free drop onto each of the quarters of each rim from a height of 0.3 m.

(5) Compression test: the specimen shall be subjected, for a period of 24 hours, to a compressive load equal to the greater of the following:

(a) the equivalent of 5 times the weight of the actual package;

(b) the equivalent of 1300 kg/m^2 multiplied by the vertically projected area of the package.

The load shall be applied uniformly to two opposite sides of the specimen, one of which shall be the base on which the package would normally stand.

(6) Penetration test: the specimen shall be placed on a rigid, flat, horizontal surface which will not move significantly while the test is being carried out.

(a) A bar of 3.2 cm diameter with a hemispherical end and weighing 6 kg shall be dropped and directed to fall, with its longitudinal axis vertical, onto the centre of the weakest part of the specimen, so that, if it penetrates sufficiently far, it will hit the containment vessel. The bar shall not be significantly deformed by the test performance.

(b) The height of fall of the bar measured from its lower end to the upper surface of the specimen shall be 1 m.

6. Additional tests for Type A packaging designed for liquids and gases

3636 (1) Separate specimens shall be subjected to each of the following tests unless it can be demonstrated that one test is more severe for the specimen in question than the other, in which case one specimen shall be subjected to the more severe test.

(2) Free drop test: the specimen shall fall onto the target so as to suffer the maximum damage in respect of containment. The height of the fall measured from the lowest part of the specimen to the upper surface of the target shall be 9 m.

(3) Penetration test: the specimen shall be subjected to the test specified in marginal 3635 (6) except that the height of fall shall be increased to 1.7 m from the 1 m specified in marginal 3635 (6) (b).

7. Tests for demonstrating ability to withstand accident conditions in transport

3637

(1) The specimen shall be subjected to the cumulative effects of the mechanical tests specified in paragraph (2) and the thermal test specified in paragraph (3) in that order. A separate specimen shall be subjected to the effect of the water immersion test in paragraph (4).

(2) Mechanical test: the test shall consist of two drops onto a target. The order in which the specimen is subjected to the two drops shall be such that, on completion of the mechanical test, the specimen will have suffered such damage as will lead to the maximum damage in the thermal test which follows.

(a) For drop I, the specimen shall fall onto the target so as to suffer the maximum damage, and the height of fall measured from the lowest point of the specimen to the upper surface of the target shall be 9 m.

(b) For drop II, the specimen shall fall onto the target so as to suffer the maximum damage, and the height of fall measured from the intended point of impact of the specimen to the upper surface of the target shall be 1 m. The target in this case shall be the upper end of a solid mild steel bar of circular section, 15 cm ± 0.5 cm in diameter. The target surface shall be flat and horizontal with its edges rounded off to a radius of not more than 6 mm. The bar shall be rigidly mounted perpendicularly on the foundation target described in marginal 3634 and shall be 20 cm long unless a longer bar would cause greater damage; in that case, a bar of sufficient length to cause maximum damage shall be used.

(3) Thermal test: any thermal test shall be considered as satisfactory provided that the heat flux incident on the specimen is not less than that which would result from exposure for 30 minutes of the whole specimen to a radiation environment of 800°C with an emissivity coefficient of at least 0.9. For purposes of calculation, the surface absorptivity shall be either that value which the package may be expected to possess if exposed to a fire or 0.8, whichever is greater. In addition, when significant, convective heat input shall be included on the basis of still ambient air at 800°C during the thirty-minute period. After cessation of the external heat input to the specimen:

(a) the specimen shall not be cooled artificially until another three hours have elapsed or until it has been demonstrated that all internal temperatures have begun to fall, whichever is the earlier; and

(b) any combustion of materials of the specimen shall be allowed to proceed for three hours after the cessation of external heating to the specimen unless it terminates earlier naturally.

(4) Water immersion test: the specimen shall be immersed under a head of water of at least 15 m for a period of not less than eight hours. For test purposes, an external pressure of water of 1.5 kg/cm^2 (gauge) will be considered to meet these conditions.

8. Water in-leakage test for packages containing fissile substances

3638

(1) Packages other than Fissile Class I or Fissile Class II packages and any packages for which water in-leakage or out-leakage to the extent which results in greatest reactivity has been assumed for purpose of assessment under marginals 3614 (2) and 3619 (b) shall be exempted from the test.

(2) Before the specimen is subjected to the water in-leakage test specified below, it shall be subjected to the tests in marginals 3637 (2) and (3).

(3) The specimen shall be immersed under a head of water of at least 0.9 m for a period of not less than eight hours and in the attitude for which maximum leakage is expected. For this test an ambient temperature of 38°C is not required.

9. Tests for integrity of containment and shielding

3639

Any test or inspection method may be employed to determine whether the requirements of this Chapter have been met after the specimen has been subjected to the tests in marginals 3635 to 3637, provided that the method can be demonstrated to meet the relevant requirements of marginals 3601 to 3604.

C. TESTS FOR SPECIAL FORM RADIOACTIVE SUBSTANCES

1. General

3640

(1) The tests are: the impact test, the percussion test, the bending test and the heat test.

(2) Specimens (solid radioactive substances or capsules) to be tested shall be prepared as normally presented for transport. The radioactive substances shall be duplicated as closely as practicable.

(3) A different specimen may be used for each of the tests.

(4) The specimen shall not break or shatter when subjected to the impact, percussion or bending tests.

(5) The specimen shall not melt or disperse when subjected to the heat test.

(6) After each test, a leaching assessment shall be performed on the specimen by a method no less sensitive than the methods given in marginal 3642.

2. Test methods

3641

(1) Impact test: the specimen shall fall onto the target from a height of 9 m. The target shall be as defined in marginal 3634.

(2) Percussion test: the specimen shall be placed on a sheet of lead which is supported by a smooth solid surface and struck by the flat face of a steel billet so as to produce an impact equivalent to that resulting from a free fall of 1.4 kg through 1 m. The flat face of the billet shall be 25 mm in diameter with the edges rounded off to a radius of 3 mm ± 0.3 mm. The lead, of hardness number 3.5 to 4.5 on the Vickers scale and not more than 25 mm thick, shall cover an area greater than that covered by the specimen. A fresh surface of lead shall be used for each impact. The billet shall strike the specimen so as to cause maximum damage.

(3) Bending test: the test is applicable only to long, slender sources with both a minimum length of 10 cm and a length to minimum width ratio of not less than 10. The specimen shall be rigidly clamped in a horizontal position so that one half of its length protrudes from the face of the clamp. The orientation of the specimen shall be such that the specimen will suffer maximum damage when its free end is struck by the flat face of a steel billet. The billet shall strike the specimen so as to produce an impact equivalent to that resulting from a free vertical fall of 1.4 kg through 1 m. The flat face of the billet shall be 25 mm in diameter with the edges rounded off to a radius of 3 mm to ± 0.3 mm.

(4) Heat test: the specimen shall be heated in air to a temperature of 800°C and held at that temperature for a period of 10 min and shall then be allowed to cool.

3. Leaching assessment methods

3642

(1) For indispersible solid substances:

(a) The specimen shall be immersed for seven days in water at ambient temperature. The water shall have a pH of 6 to 8 and a maximum conductivity of 10μS/cm at 20°C.

(b) The water with specimen shall then be heated to a temperature of 50° ± 5°C and maintained at this temperature for four hours.

(c) The activity of the water shall then be determined.

(d) The specimen shall then be stored for at least seven days in still air of humidity not less than 90 per cent at 30°C.

(e) The specimen shall then be immersed in water of the same specification as in (a) above and the water with specimen heated to 50°C ± 5°C and maintained at this temperature for four hours.

(f) The activity of the water shall then be determined.

The activities determined in (c) and (f) above shall not exceed 0.05 μ Ci.

(2) For encapsulated substances:

(a) The specimen shall be immersed in water at ambient temperature. The water shall have a pH of 6-8 with a maximum conductivity of 10 μ S/cm. The water and specimen shall be heated to a temperature of 50°C ± and maintained at this temperature for four hours.

(b) The activity of the water shall then be determined.

(c) The specimen shall then be stored for at least seven days in still air at a temperature not less than 30°C.

(d) Repeat (a).

(e) The activity of the water shall then be determined.

The activities determined in (b) and (e) above shall not exceed 0.05 μ Ci.

D. INSPECTION REQUIREMENTS TO BE FULFILLED BEFORE FIRST USE AND BEFORE EACH SHIPMENT OF CERTAIN TYPES OF PACKAGES

1. Before first use

3643

Before first use of any package, the following requirements shall be complied with by the consignor:

(a) For each Type B(U) and Type B(M) package, it shall be ensured that the effectiveness of its shielding and containment, and, where necessary, the heat transfer characteristics, are within the limits applicable to or specified for the approved design.

(b) If the design pressure of the containment system exceeds 0.35 kg/cm^2 (gauge), it shall be ensured that the containment system of each package conforms with the approved design requirements relating to the capability of that system to maintain its integrity under pressure.

(c) Where, in order to comply with the nuclear safety criteria, neutron poisons are specifically included as components of the packaging primarily for this purpose, tests shall be performed to confirm the presence and distribution of that poisoning.

2. Before each shipment

3644

Before each shipment of any package, the following requirements shall be complied with be the consignor:

(a) Type B(U) and Type B(M) packages shall be held until equilibrium conditions have been closely enough approached to demonstrate compliance with the shipment requirements for temperature and pressure unless an exemption from these requirements has received unilateral approval.

(b) It shall be ensured that all the requirements specified in the approval certificates have been satisfied.

(c) It shall be ensured by examination and/or appropriate tests that all closures, valves and other openings of the containment system through which the radioactive contents might escape are properly closed and, where appropriate, sealed in the manner for which the demonstrations of marginals 3603 (1) and 3604 (2) were made.

(d) It shall be ensured that the provisions of marginal 3600 (5), with regard to lifting attachments have been complied with.

3645 -3649

CHAPTER IV. – CONTROLS FOR TRANSPORT AND STORAGE IN TRANSIT

A. MIXED PACKING

3650

A package containing radioactive substances shall not contain any other items except such articles and documents as are necessary for the use of the radioactive substances. Such items may be included, provided that there is no interaction between them and the packaging or contents that would reduce the safety of the package.

B. NON-FIXED RADIOACTIVE CONTAMINATION

3651

The non-fixed radioactive contamination on any external surface of the package shall be kept as low as practicable and shall at no time during normal transport exceed the levels laid down in Table XIX. The level of non-fixed radioactive contamination may be determined by wiping an area of 300 cm^2 of the surface concerned by hand with a filter paper, or a wad of cotton wool or any other material of this nature.

Packages used for the transport of radioactive substances such as irradiated fuel, shall be assessed to determine whether activity is likely to be leached to the surface e.g. by rain. The frequency of such assessment shall be related to the likelihood of radioactive contamination having been absorbed into the surface coating, particularly paint. When activity is likely to be leached to the surface of the package, the continued use of such a package shall be conditional upon a radiation safety assessment by a qualified person.

TABLE XIX. MAXIMUM PERMISSIBLE LEVELS OF NON-FIXED RADIOACTIVE CONTAMINATION

Contaminant	Maximum permissible level (see Note[a]) (μCi/cm^2)
Natural and depleted uranium and natural thorium only	10^{-3}
Beta and gamma emitters and the low-toxicity alpha emitters specified in Note[b] below	10^{-4}
All other alpha emitters	10^{-5}

Notes: [a] The above levels are permissible when averages over any area of 300 cm^2 of any part of the surface.

[b] Low toxicity alpha emitters:

Uranium-235 or uranium-238; thorium-232; thorium-228 and thorium-230 when diluted to a specific activity of the same order as that of natural uranium and natural thorium; radionuclides with a half-life of less than 10 days.

C. CATEGORIES

3652

Packages and containers (both large and small) shall be in one of the following three categories:

1. Category I-WHITE

3653

(1) Packages: When the radiation level originating from the package at any time during normal transport does not exceed 0.5 mrem/h at any location on the external surface of the package, and the package does not belong to Fissile Class II or III.

(2) Containers: When the container contains packages of radioactive substances none of which is in a category higher than Category I-WHITE.

2. Category II-YELLOW

3654

(1) Packages: When the radiation level limit in marginal 3653(1) is exceeded, or the package belongs to Fissile Class II, provided that:

(a) the radiation level originating from the package at any time during normal transport does not exceed 50 mrem/h at any location on the external surface of the package; and

(b) the transport index at any time during normal transport does not exceed 1.0.

(2) Containers: When the trasnport index of the container at any time during normal transport does not exceed 1.0, and when it contains no packages of Fissile Class III.

3. Category III-YELLOW

(1) Packages: When either of the two limits in marginal 3654(1) is exceeded, or when the package belongs to Fissile Class II or Class III, or when the package is being tranported under special arrangement, provided that:

(a) the radiation level originating from the package at any time during normal transport does not exceed 200 mrem/h at any location on the external surface of the package, except that, for full load shipments under the conditions specified in marginal 3659(7), the maximum allowable level shall be 1000 mrem/h; and

(b) the transport index at any during nomarl transport does not exceed 10 unless the package is being transported as full load.

(c) Containers: when the transport index of the container, at any time during normal transport, exceeds 1.0, or when the container carries packages belonging to Fissile Class III, or when it is being trasnported under special arrangement.

D. LABELLING AND MARKING (see Appendix A.9)

3656

(1) Each package and container (both large and small) shall bear at least two labels which comform to the models 6A, 6B or 6C in Appendix A.9 according to the category (see maginals 3652 to 3655) of that package or container.

(2) The labels shall be affixed to two opposite sides of the outside of the package, or on the outside of all for sides of the container.

(3) The labels shall be completed as follows in a clear and indelible manner:

(a) next to the word «contents» shall be indicated the radionuclide or the substance whose presence constitutes the principal danger in the event of damage to the package (for example: strontium -90, irradiated uranium, radioactive LSA);

(b) next to the word «activity» shall be written the activity in curies;

Note. This activity may also be expressed in micro, milli or kilocuries on condition that the prefixed micro, milli and kilo are written in full;

(c) on the label to model Nos. 6B and 6C shall be written, in addition, the transport index in the largest possible figures in the frame intended for that purpose.

(4) Each package of gross weight exceeding 50 kg shall have its gross weight plainly and durably marked on the outside of the package.

(5) Each package which conforms to a Type A packaging design shall be plainly and durably marked on the outside of the package with «Type A».

(6) Each package which conforms to a design approved under marginals 3672 to 3674 shall be plainly and durably marked on the outside of the package with the identification mark allocated to that design by the competent authority and, in the case of a Type B(U) or Type B(M) package design, with «Type B(U)» or «Type B(M)».

(7) Each package which conforms to a Type B(U) or Type B(M) package design shall have the outside of the outermost receptacle which is resistant to the effects of fire and water plainly marked by embossing, stamping or other means resistant to the effects of fire and water with the trefoil symbol shown in the labels to models 6A to 6C.

E. SEGREGATION OF RADIOACTIVE SUBSTANCES

3657

Packages of Category II-YELLOW or III-YELLOW shall be separated in carriage and in storage from packages which bear a label with the word «FOTO» by the safety distances given in the table in marginal 240 001 of Appendix B.4.

F. STORAGE IN TRANSIT

3658

(1) Packages of radioactive substances shall not be stored near dangerous goods with which mixed loading is prohibited (see marginal 2700(3)).

(2) The number of Category II-YELLOW and Category III-YELLOW packages and containers stored in any one storage area, such as a transit area, terminal building, store - romm or assembly yard, shall be so limited that the total sum of the transport indices in any individual group of such packages or containers does not exceed 50. Groups of such packages and containers shall be stored so as to maintain a spacing of at least 6 metres from other groups of such packages or containers.

(3) Where control of package accumulations is effected by reference to the red bands marked on the labels there shall not be more than 50 Category II-YELLOW or 5 Category III-YELLOW packages in any one group of packages.

Where packages of both categories are present, one Category III-YELLOW package shall be taken as equivalent to ten Category II-YELLOW packages.

(4) Except in the case of Fissile Class II or Class III packages, the limitations in marginal 3658(2) do not apply to packages marked «RADIOACTIVE LSA» and containing low specific activity substance or those marked «RADIOACTIVE LLS» and containing low level solid radioactive substance when they are maintained in a compact stack or in containers.

(5) Mixing of different kinds of packages, including Fissile Class I packages with Fissile Class II packages, is permitted.

G. TRANSPORT

1. Packages

3659

(1) Packages shall be so loaded in vehicles that they cannot shift dangerously, upset or fall.

(2) Provided that its average surface heat flux does not exceed $15w/m^2$, and that the surrounding cargo is not in sacks or bags, a package may be carried among packaged general cargo without any special stowage provisions except as may be specially repuired by the competent authority in an appropriate certificate. If the heat flux exceeds $15W/m^2$ the package shall be carried as full load.

(3) Categories I-WHITE, II- or III-YELLOW packages shall not be carried in compartments occupied by passengers, except those exclusively reserved for couriers specially authorized to accompany such packages.

(4) Mixing of different kinds of packages, including Fissile Class I packages with Fissile Class II packages, is permitted.

(5) Accumulation of packages and containers shall be controlled as follows:

(a) For both packages and containers, the number of packages and containers shall be so limited that the total sum of the transport indices in any vehicle does not exceed 50. Where this control of packages is effected by reference to the red bands marked on the packages see marginal 3658 (3).

(b) In the case of full loads the limits under paragraph (5)(a) shall not apply, provided that the radiation level under normal conditions of transport does not exceed 200 mrem/h. at any point on, and 10 mrem/h at 2m from the outside surface of a freight container or vehicle. For Fissile Class II or III consignments, or mixtures thereof, the full load shall not include more than the allowable

number of packages (see footnote to marginal 2700).

(6) Vehicles and large containers carrying packages or containers labelled with any of the labels to Models 6A, 6B or 6C, or carrying full load consignments of any radioactive substances shall display the placard in marginal 240 010 of Appendix B.4 on the outside of each of the two lateral sides and the rear wall in the case of a vehicle.

(7) In the case of full loads the radiation level shall not exceed:

(a) 1000 mrem/h at any point on the external surface of any package, provided that:

(i) the vehicle is equipped with an enclosure which, during normal transport, prevents the access of unauthorized persons to the interior of the enclosure:

(ii) provisions are made to secure the packages so that their position within the vehicle remains fixed during normal transport;

(iii) there are no loading or unloading operations between the beginning and end of the transport.

Under other contitions, the radiation level at any point on the external surface of the package shall not exceed 200 mrem/h.

(b) 200 mrem/h at any point on the outer surface of the vehicle or large container, including the upper and lower surfaces, and, in the case of an open vehicle at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load, and on the lower external of the vehicle and

(c) 10mrem/h at any point 2m from the vertical planes represented by the outer lateral surfaces of the vehicle or large container, and, if the load is transported in an open vehicle at any point 2m from the vertical planes projected from the outer edges of the vehicle.

(8) (a) The radiation level in any normally occupied position of a vehicle shall not exceed 2 mrem/h during transport. Under such circumstances the carrier shall ensure that the driver or any accompanying personnel, shall not receive more radiation than 0.5 rem. in any 12 month period.

Maintaining the minimum distances listed in the table in marginal 240 000 of Appendix B.4, even in the absence of a protective shield, shall be considered as keeping within the 2 mrem/h limit.

(b) As an alternative to (a) above, the carrier may operate to a scheme of work approved by the competent authority whereby records must be kept by him of the times spent by persons travelling in his vehicles and the radiation levels those persons and subjected to, in order that no person receives a greater dose than 375 mrem in any calendar quarter.

2. Tank Vehicles

3660

Low - specific - activity substances, LSA (I), of marginal 2703, schedule 5, other than uranium hexafluoride and substances liable to spontaneous ignition, may be carried in tank - vehicles in accordance with the requirements of Appendix B.1a.

3. Tank - Containers

3661 -3662 -3669

Low specific - activity substances, LSA (I), of marginal 2703, schedule 5, including natural or depleted uranium hexafluoride, may be carried in tank - containers in accordance with the requirements of Appendix B.1b.

CHAPTER V. - ADMINISTRATIVE REQUIREMENTS

3670

Approval by competent authorities is not required for package designs for substances consigned under Schedules 1 to 4 and, provided the contents are not fissile substances requiring approval under marginal 3674, for package designs for substances consigned under schedules 5 to 8.

A. APPROVAL OF SPECIAL FORM RADIOACTIVE SUBSTANCES

3671

(1) Any design for special form radioactive substances, with the exception of the substances specified in Schedules 3 and 4, shall require unilateral approval.

An application for approcal shall include:

(a) a detailed description of the substances or, if a capsule, the contets; particular reference shall be made to both physical and chemical states;

(b) a detailed statement of the design of any capsule to be used, including complete engineering drawings and schedules of materials and methods of construction to be used;

(c) a statement of the tests which have been done and their results, or evidence based on calculative methods to show that the substances are capable of meeting the tests, or other evidence that the special form radioactive substances meet the requirements of this Appendix.

(2) The competent authority shall establish a certificate stating that the approved design meets the definition of special form radioactive substances as defined in marginal 2700 (2) and shall attribute to that design an identification mark. The certificate shall specify the details, of the radioactive substances.

B. APPROVAL OF PACKAGE DESIGNS

1. Approval of Type B(U) package designs (including those for Fissile Class I, Class II and Class III packages which are also subject to marginal 3674).

3672

(1)Any design of Type B(U) package originating in a country party to ADR shall be approved by the competent authority of this country; if the country where the package has been designed is not party to ADR, carriage is possible on condition that:

(a) a certificate has been supplied by this country, proving that the package satisfies the technical regulations of ADR, and that this certificate is counter - signed by the competent authority of the first ADR country reached by the consignment;

(b) if no certificate has been supplied, the package design is approved by the competent authority of the first ADR country reached by the consignment;

(2) An application for approval shall include:

3672

(a) a detailed description of the proposed contents with particular reference to their physical and chemical states and the nature of the radiation emitted;

(b) a detailed statement of the design, including complete engineering drawings and schedules of materials and methods of construction to be used;

(c) a statement of the tests which have been done and their results, or evidence based on calculative methods or other evidence that the package design is adecuate to meet the requirements of marginals 3602 and 3603;

(d) the proposed operating and maintenance instructions for the use of the package, in particular, in the case of packages likely to be immersed in contaminated ponds, the provisions incorporated to ensure that the surface of the package is not contaminated above the permitted levels;

(e) if the package is designed to have a maximum normal operating pressure in excess of 1.0 Kg/cm^2 (gauge), the application for approval shall, in particular, state, in respect of the materials of construction of the containment system, the specifications, the samples to be taken and the tests to be made;

(f) where the proposed contents are irradiated fuel, the applicant shall state and justify any assumption in the safety analysis relating to the characteristics of the fuel;

(g) any special stowage provisions necessary to ensure the safe dissipation of heat from the package; consideration shall be given to the type of vehicle or

container (see marginal 3681 (1) (a));

(h) a reproducible illustration not larger than 21 cm × 30 cm, showing the make-up of the package.

(3) the competent authority shall establish a certificate stating that the approved design meets the requirements for Type B(U) packages (see marginals 3677 and 3678).

2. Approval of Type B(M) package design (including those for Fissile Class I, Class II and Class III packages which are aslo subject to marginal 3674)

(1) Each type B(M) package design shall require multilateral approval

(2) An application for approval of a Type B(M) package design shall include, in addition to the information required in marginal 3672 (2) for Type B(U) packages:

(a) a list of those specific additional requirements for Type B(U) packages specified in marginal 3603 with the package does not conform;

(b) any proposed supplementary operational controls[5] to compensate for the deficiencies listed in (a) above; and

(c) a statement relative to any special loading, carriage, unloading, or handling procedures;

(d) the maximum and minimum ambient conditions (temperature, solar radiation) expected to be encountered during transport and which have been taken into account in the design.

(3) The competent authority shall establish a certificate stating that the approved package design meets the requirements for Type B(M) packages (see marginals 3677 to 3679).

3. Approval of Fissile Class I, Class II and Class III package design

(1)Package designs complying with the examples in marginal 3620, 3623 or 3624 shall require no further competent authority approvals.

(2) Package designs complying with the examples in marginals 3616 and 3622 shall require unilateral approval.

(3) All other package designs shall require multilateral approval.

(4) An application for approval shall include all information necessary to satisfy the competent authority that the design meets the requirements of marginals 3610 to 3624.

(5) The competent authority shall establish a certificate (see marginals 3677 to 3679) stating that the approved package design meets the requirements of marginals 3610 to 3624.

C. APPROVAL OF SHIPMENTS

(1) Multilateral shipment approvals shall be required for the following packages:

(a) Type B(M) packages specially designed to allow continuous venting.

(b) Type B(M) packages containing radioactive materials with an activity greater than 3×10^3 A_1 or 3×10^3 A_2, as appropriate, or 3×10^4 Ci, whichever iw the lower;

c) Fissile Class II packages with marginal 3620.

d) Fissile Class III packages.

However, a competent authority can authorize transport into or through its country, without shipment approval, by a specific provision in its design approval.

2) An application for shipment approval shall include:

a) the period of time, related to the shipment, for which the approval is sought;

b) the actual contents, the type of vehicle and the probable or proposed route; and

c) how the special precautions and special administrative and operational controls referred to in the package design certificates issued under marginals 3673 and 3674, are to be put into effect.

3) Upon approval of the shipment, the competent authority shall issue a certificate (see marginals 3677 to 3679).

4) The package and shipment certificates may be combined into a single certificate.

3673 D. APPROVAL OF TRANSPORT BY SPECIAL ARRANGEMENT

3676

1) A consignment of radioactive substances which does not satisfy all the applicable requirements of this Appendix shall be transported only by special arrangement, which always requires multilateral approval. The special arrangements shall be adequate to ensure that the overall level of safety in transport is at least equivalent to that which would be provided if all the applicable requirements of this Appendix had been met.

2) An application for approval shall include the information required under marginals 3672 to 3675 and also:

a) a statement of the respects in which, and of the reasons why, the consignment cannot be made in full accordance with the applicable requirements of this Appendix; and

b) a statement of any special precautions or special administrative or operational controls which shall be taken during transport to compensate for the failure to meet the applicable requirements of this Appendix.

3674

3) Upon approval of the special arrangement, the competent authority shall issue a certificate (see marginals 3677 to 3679).

E. COMPETENT AUTHORITY CERTIFICATES OF APPROVAL

1. Competent authority identification marks

3677

1) Each approval certificate issued by a competent authority shall be identified by an identification mark. The mark shall be of the following generalized type:

Symbol of nationality of country[6] Number/Type Code

a) The number shall be assigned by the competent authority, and shall be unique and specific with regard to the particular design or shipment. The shipment approval identification mark shall be clearly identified with the package design approval identification mark.

3675

b) The following type codes shall be used in the order listed to indicate the types of approval certificates issued:

A Type A package design (when also a fissile class package)
B(U) Type B(U) package desing
B(M) Type B(M) package design
F Fissile class package design
S Special form material approval
T Shipment
X Special arrangement

2) These type codes shall be applied as follows:

a) Each certificate and each package shall bear the appropriate identification mark composed of the symbols prescribed in paragraph (1) except that for packages, only the applicable package design type codes shall appear following the second stroke, i.e. the «S», «T» and «X» shall not appear in the indentification marking on the package. Where the package design approval and shipment approval are combined, the applicable Type Codes do not need to be repeated. For example:

5 That is, operational controls during transport not routinely provided for in this Appendix but which are considered necessary to ensure the safety of the package during transport, such as human intervetion for temperature or pressure measurements or for periodical venting. These controls shall also take into account the possibility of unexpected delay.

6 The signs referred to are the national distinguishing signs for motor vehicles in international traffic.

A/132/B(M)F: A Type B(M) Fissile Class package approved by Austria for package design number 132 (to be marked on both the package itself and on the package design approval certificate).

A/132/B(M)FT: The shipment approval certificate identification mark issued for that package design (to be marked on the certificate only).

A/137/X: The shipment approval certificate identification mark issued for Austrian design 137 under a special arrangements shipment (to be marked on the certificate only).

b) Where multilateral approval is effected by validation, only the identification marks issued by the country of origin of the design or shipment would be used. Where multilateral approval is effected by issue of certificates by successive countries, each certificate would bear the appropriate mark and the package whose design was so approved would bear all appropriate identification marks. For example,

(A/132/B(M)F)
(CH/28/B(M)F)

would be the identification marks of a package which was originally approved by Austria and was subsequently approved, by separate certificate, by Switzerland. Additional identification marks would be tabulated in a similar manner on the package.

c) The revision of certificate numbers shall be indicated by a parenthetical expression following the identification mark on the certificate. For example, A/132/B(U)F. (Rev.2) would indicate revision 2 of the Austrian-approved package design certificate; or A/132/B(U)F. (Rev.0) would indicate the original issue of the Austrian-approved package design certificate. For original issue the parenthetical expression is optional and other words such as «(original issue)» may also be used in lieu of «(Rev.0)». Certificate revision numbers may only be issued by the country issuing the original certificate number. Revision by other than the issuing country shall require a new certificate and identification number.

d) Additional symbols (as may be necessitated by national requirements) may be added in brackets to the end of the identification mark. For example, A/132/B(U)F (SP503).

e) It is not necessary to alter the identification mark on the package each time that a revision to the package certificate is made. Such alteration shall be made only in those cases where the revision of the package design certificate involves a change in the letter type codes for the package design, following the second stroke.

2. Information required in certificates

3678

Each approval certificate issued by a competent authority shall include the relevant information from the following:

a) The competent authority identification mark.

b) A brief description of the packaging, including materials of construction, gross weight, general outside dimensions, and appoarance. This shall include a reproducible illustration not larger than 21 cm by 30 cm, showing the make-up of the package.

c) A brief specification of the permitted contents, including any restrictions on contents which might not be obvious from the nature of the packaging. This should include the physical and chemical forms, the activities in curies (including those of the various isotopes, if appropriate), amounts in grams for fissile substances, and whether in special form.

d) Additionally, for fissile class packages:

i) Fissile Class I: a detailed description of the permissible contents and any special features, on the basis of which the leakage of water in respect of certain void spaces has been assumed in the criticality assesment (see marginal 3613(b)).

ii) Fissile Class II: a detailed description of the permissible contents, the corresponding allowable numbers (or transport index) and any special features, on the basis of which the leakage of water in respect of certain void spaces has been assumed in the criticality assessment (see marginal 3618(b)).

iii) Fissile Class III: a detailed description of the individual consignments including the permissible contents and the corresponding allowable numbers (or transport indices) together with any special precautions to be taken during transport.

e) A statement regarding the ambient conditions assumed for purposes of design (see marginal 3602 (4)).

f) For Type B(M) packages, a statement specifying those prescriptions of marginal 3603 with which the package does not conform and any amplifying information which may be useful to other competent authorities.

g) A reference to the following information provided by the applicant:

i) instructions on the use and maintenance of the packaging;

ii) the actions to be taken by the consignor prior to the shipment, e.g. any special decontamination procedures.

h) A detailed listing of any supplementary operational requirements (see footnote 5) for package preparation, loading, transport, storage, unloading, and handling, including any special stowage provisions for the safe dissipation of heat from the package, or a statement that no such controls are required.

j) A statement authorizing shipment where shipment approval is required under marginal 3675.

k) Any restrictions on the types of vehicle containers, and any necessary routing instructions.

l) Emergency arrangements specific to the approved design.

m) The following statement: «This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be transported».

n) An issue date, and, if appropriate, an expiry date.

o) Signature and identification of the certifying official.

p) Appendices containing certificates for alternative package contents, other competent authority validations, or additional technical data or information.

3. Validation of certificates

Multilateral approvals may be by validation of the original certificate issued by the competent authority of the country of origin of the design or shipment.

F. CONSIGNOR'S RESPONSIBILITIES

1. Particulars of consignment

The consignor shall include in the transport document for each consignment or radioactive substances, as well as the description given in the appropriate schedule, the following details:

a) The statement «The nature of the goods and the packaging are in conformity with the provisions of ADR».

b) The identification mark for each competent authority certificate (special form, package design, and shipment) applicable to the consignment).

c) The name of the radioactive substances, or nuclide.

d) A description of the physical and chemical form of the substance, or whether it is in special form.

e) The activity of the radioactive substances in appropriate curie units.

f) The category of the package, i.e. I-WHITE, II-YELLOW, III-YELLOW.

g) The transport index (Categories II-and III-YELLOW only).

h) For a consignment of fissile substances:

i) if excmpted under marginal 3610, the words «FISSILE EXEMPT»; or

ii) if not so exempted, the fissile class of the package(s).

2. Information and notification for carriers

3681

1) The consignor shall provide in the transport doc-

ument a statement regarding actions, if any, that must be taken by the carrier. The statement shall be in the languages deemed necessary by the carrier or the authorities concerned, and shall include at least the following points:

a) supplementary operational requirements for loading, transport, storage, unloading, handling, and stowage for safe dissipation of heat, or a statement that no supplementary operational requirements are necessary (see marginal 3678 (h);

b) any necessary routing instructions (see marginal 3678 (k)).

c) emergency arrangements specific to the approved design (see marginal 3678 (i).

2) In all cases where approval of the shipment or prior notification to the competent authority is required, all the carriers shall be informed of the requirements in advance, in order that they may take in good time any measures required for the transport.

3. Notification to competent authorities

3682

1) Before the first shipment of a Type B(U) package containing radioactive substances with an activity greater than 3×10^3A1 or 3×10^3A2, as appropriate, or 3×10^4Ci, whichever is the lower, the consignor shall ensure that copies of each applicable competent authority certificate applying to that package design have been submitted to the competent authority of each country in whose territory the consignment is to be transported. The consignor is not required to await an acknowledgement from the competent authority, nor is the competent authority required to make such acknowledgement of receipt of the certificate.

2) For each shipment listed in a) to d) below inclusive, the consignor shall notify the competent authorities of each country in whose territory the consignment is to be transported. This notification shall be in the hands of each competent authority prior to the commencement of the shipment, and preferably at least 15 days in advance.

a) Type B(U) packages containing radioactive substances with an activity greater than $3 \times 10^3 A_1$ or $3 \times 10^3 A_2$, as appropriate, or 3×10^4Ci, whichever is the lower.

b) Type B(M) packages.

c) Fissile Class III packages under marginal 3674 (3).

d) Transport by special arrangement.

3) The consignment notification shall include:

a) sufficient information to enable the identification of the package, including all applicable certificate numbers and identification marks; and

b) information on the date of shipment, the expected date of arrival and proposed routing.

(4) The consignor is not required to send a separate notification if the required information has been included in the application for shipment approval (see marginal 3675 (2)).

4. Possession of certificates

3683

The consignor shall have in his possession a copy of each certificate required under this Appendix and a copy of the instructions with regard to the proper closing of the package and other preparation for shipment before making any shipment under the terms of the certificates.

G. QUALITY CONTROL IN FABRICATION AND MAINTENANCE OF PACKAGING

3684

The manufacturer, consignor, or user of an approved package design shall be prepared to demonstrate to any cognizant competent authority that:

(a) the constructional methods and materials used for the construction of the packaging are in accordance with the approved design requirements; the competent authority may carry out inspection of the packaging during construction;

(b) all packagings built to an approved design shall be maintained in good condition so that they continue to comply with all relevant regulatory criteria, even after repeated use.

3685 - 3689

CHAPTER VI - ACTIVITY LIMITS

DETERMINATION OF A_1 AND A_2

1. Single radionuclides

3690

(1) For single radionuclides of known identity, the values of A_1 and A_2 are given in Table XX. The values of A_1 and A_2 are also applicable for radionuclides contained in (a, n) or (γ, n) neutron sources.

TABLE XX. A_1 and A_2 VALUES FOR RADIONUCLIDES

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
^{227}Ac	Actinium (89)	1.000	0.003	7.2x10
^{228}Ac		10	4	2.2×10^6
^{105}Ag	Silver (47)	40	40	3.1×10^4
^{110}Ag^m		7	7	4.7×10^3
^{111}Ag		100	100	1.6×10^5
^{241}Am	Americium (95)	8	0.008	3.2
^{243}Am		8	0.008	1.9×10^{-1}
^{37}Ar (compressed or uncompressed)	Argon (18)	1.000	1000	1.0×10^5
^{41}Ar (uncompressed)		20	20	4.3×10^7
^{41}Ar (compressed)		1	1	4.3×10^7
^{73}As	Arsenic (33)	1.000	400	2.4×10^4
^{74}As		20	20	1.0×10^5
^{76}As		10	10	1.6×10^6
^{77}As		300	300	1.1×10^6
^{211}At	Astatine (85)	200	7	2.1×10^6
^{193}Au	Gold (79)	200	200	9.3×10^5
^{196}Au		30	30	1.2×10^5
^{198}Au		40	40	2.5×10^5
^{199}Au		200	200	2.1×10^5
^{131}Ba	Barium (56)	40	40	8.7×10^4
^{133}Ba		40	10	4.0×10^2
^{140}Ba		20	20	7.3×10^4
^{7}Be	Beryllium (4)	300	300	3.5×10^5
^{206}Bi	Bismuth (83)	5	5	9.9×10^4
^{207}Bi		10	10	2.16×10^2
^{210}Bi(RaE)		100	4	1.2×10^5
^{212}Bi		6	6	1.5×10^7
^{249}Bk	Berkelium (97)	1.000	1	1.8×10^3
^{82}Br	Bromine (35)	6	6	1.1×10^6
^{14}C	Carbon (6)	1.000	100	4.6
^{45}Ca	Calcium (20)	1.000	40	1.9×10^4
^{47}Ca		20	20	5.9×10^5
^{109}Cd	Cadmium (48)	1.000	70	2.6×10^3
^{115}Cd^m		30	30	2.6×10^4
^{115}Cd		80	80	5.1×10^5
^{139}Ce	Cerium (58)	100	100	6.5×10^3
^{141}Ce		300	200	2.8×10^4
^{143}Ce		60	60	6.6×10^5
^{144}Ce		10	7	3.2×10^3
^{249}Cf	Californium (98)	2	0.002	3.1
^{250}Cf		7	0.007	1.3×10^2
^{252}Cf		2	0.009	6.5×10^2
^{36}Cl	Chlorine (17)	300	30	3.2×10^{-2}
^{38}Cl		10	10	1.3×10^8
^{242}Cm	Curium (96)	200	0.2	3.3×10^3
^{243}Cm		9	0.009	4.2×10
^{244}Cm		10	0.01	8.2×10
^{245}Cm		6	0.006	1.0×10^{-1}
^{246}Cm		6	0.006	3.6×10^{-1}
^{56}Co	Cobalt (27)	5	5	3.0×10^4
^{57}Co		90	90	8.5×10^3
^{58}Co^m		1.000	1.000	5.9×10^6
^{58}Co		20	20	3.1×10^4
^{60}Co		7	7	1.1×10^3
^{51}Cr	Chromium (24)	600	600	9.2×10^4

→

$^{131}_{Cs}$	Caesium (55)	1.000	1.000	1.0×10^{5}
$^{134}_{Cs}$m		1.000	1.000	7.4×10^{6}
$^{134}_{Cs}$		10	10	1.2×10^{3}
$^{135}_{Cs}$		1.000	100	8.8×10^{-4}
$^{136}_{Cs}$		7	7	7.4×10^{4}
$^{137}_{Cs}$		30	20	9.8x10
$^{64}_{Cu}$	Copper (29)	80	80	3.8×10^{6}
$^{165}_{Dy}$	Dysprosium (66)	100	100	8.2×10^{6}
$^{166}_{Dy}$		1.000	200	2.3×10^{5}
$^{169}_{Er}$	Erbium (68)	1.000	300	8.2×10^{4}
$^{171}_{Er}$		50	50	2.4×10^{6}
$^{152}_{Eu}$m	Europium (63)	30	30	2.2×10^{6}
$^{152}_{Eu}$		20	20	1.9×10^{2}
$^{154}_{Eu}$		10	5	1.5×10^{2}
$^{155}_{Eu}$		400	90	1.4×10^{3}
$^{18}_{F}$	Fluorine (9)	20	20	9.3×10^{7}
$^{52}_{Fe}$	Iron (26)	6	6	7.3×10^{6}
$^{55}_{Fe}$		1.000	1.000	2.2×10^{3}
$^{59}_{Fe}$		10	10	4.9×10^{4}
$^{72}_{Ga}$	Gallium (31)	7	7	3.1×10^{6}
$^{153}_{Gd}$	Gadolinium (64)	200	100	3.6×10^{3}
$^{159}_{Gd}$		300	300	1.1×10^{6}
$^{71}_{Ge}$	Germanium (32)	1.000	1.000	1.6×10^{5}
$^{3}_{H}$	Hydrogen (1) see T-Tritium			
$^{181}_{Hf}$	Hafnium (72)	30	30	1.6×10^{4}
$^{197}_{Hg}$m	Mercury (80)	200	200	6.6×10^{5}
$^{197}_{Hg}$		200	200	2.5×10^{5}
$^{203}_{Hg}$		80	80	1.4×10^{4}
$^{166}_{Ho}$	Holmium (67)	30	30	6.9×10^{5}
$^{125}_{I}$	Iodine (53)	1.000	70	1.7×10^{4}
$^{126}_{I}$		40	10	7.8×10^{4}
$^{129}_{I}$		1.000	2	1.62×10^{-4}
$^{131}_{I}$		40	10	1.2×10^{5}
$^{132}_{I}$		7	7	1.1×10^{7}
$^{133}_{I}$		30	30	1.1×10^{6}
$^{134}_{I}$		8	8	2.7×10^{7}
$^{135}_{I}$		10	10	3.5×10^{6}
$^{113}_{In}$m	Indium (49)	60	60	1.6×10^{7}
$^{114}_{In}$m		30	20	2.3×10^{4}
$^{115}_{In}$m		100	100	6.1×10^{6}
$^{190}_{Ir}$	Iridium (77)	10	10	6.2×10^{4}
$^{192}_{Ir}$		20	20	9.1×10^{3}
$^{194}_{Ir}$		10	10	8.5×10^{5}
$^{42}_{K}$	Potassium (19)	10	10	6.0×10^{6}
$^{85}_{Kr}$m (uncompressed)	Krypton (36)	100	100	8.4×10^{6}
$^{85}_{Kr}$m (compressed)		3	3	8.4×10^{6}
$^{85}_{Kr}$m (uncompressed)		1.000	1.000	4.0×10^{2}
$^{85}_{Kr}$ (compressed)		5	5	4.0×10^{2}
$^{87}_{Kr}$ (uncompressed)		20	20	2.8×10^{7}
$^{87}_{Kr}$ (compressed)		0.6	0.6	2.8×10^{7}
$^{140}_{La}$	Lanthanum (57)	30	30	5.6×10^{5}
LLS	Low-level solid radioactive material See Marginal 2450 (2)			
LSA	Low specific activity material See Marginal 2450 (2)			
$^{177}_{Lu}$	Lutetium (71)	300	300	1.1×10^{5}
MFP	Mixed fission products	10	0.4	
$^{28}_{Mg}$	Magnesium (12)	6	6	5.2×10^{6}
$^{52}_{Mn}$	Manganese (25)	5	5	4.4×10^{5}
$^{54}_{Mn}$		20	20	8.3×10^{3}
$^{56}_{Mn}$		5	5	2.2×10^{7}
$^{99}_{Mo}$	Molybdenum (42)	100	100	4.7×10^{5}
$^{22}_{Na}$	Sodium (11)	8	8	6.3×10^{3}
$^{24}_{Na}$		5	5	8.7×10^{6}
$^{93}_{Nb}$m	Niobium (41)	1.000	200	1.1×10^{3}
$^{95}_{Nb}$		20	20	3.9×10^{4}
$^{97}_{Nb}$		20	20	2.6×10^{7}
$^{147}_{Nd}$	Neodymium (60)	100	100	8.0×10^{4}
$^{149}_{Nd}$		30	30	1.1×10^{7}
$^{59}_{Ni}$	Nickel (28)	1.000	900	8.1×10^{-2}
$^{63}_{Ni}$		1.000	100	4.6x10
$^{65}_{Ni}$		10	10	1.9×10^{7}
$^{237}_{Np}$	Neptunium (93)	5	0.005	6.9×10^{-4}
$^{239}_{Np}$		200	200	2.3×10^{5}
$^{185}_{Os}$	Osmium (76)	20	20	7.3×10^{3}
$^{191}_{Os}$		600	400	4.6×10^{4}
$^{191}_{Os}$m		200	200	1.2×10^{6}
$^{193}_{Os}$		100	100	5.3×10^{5}
$^{32}_{P}$	Phosphorus (15)	30	30	2.9×10^{5}
$^{230}_{Pa}$	Protoactinium (91)	20	0.8	3.2×10^{4}
$^{231}_{Pa}$		2	0.002	4.5×10^{-2}
$^{233}_{Pa}$		100	100	2.1×10^{4}
$^{210}_{Pb}$	Lead (82)	100	0.2	8.8x10
$^{212}_{Pb}$		6		1.4×10^{6}
$^{103}_{Pd}$	Palladium (46)	1.000	700	7.5×10^{4}
$^{109}_{Pd}$		100	100	2.1×10^{6}
$^{147}_{Pm}$	Promethium (61)	1.000	80	9.4×10^{2}
$^{149}_{Pm}$		100	100	4.2×10^{5}
$^{210}_{Po}$	Polonium (84)	200	0.2	4.5×10^{3}
$^{142}_{Pr}$	Praseodymium (59)	10	10	1.2×10^{6}
$^{143}_{Pr}$		300	200	6.6×10^{4}
$^{191}_{Pt}$	Platinum (78)	100	100	2.3×10^{5}
$^{193}_{Pt}$		200	200	
$^{197}_{Pt}$m		300	300	1.2×10^{7}
$^{197}_{Pt}$		300	300	8.8×10^{5}
$^{238}_{Pu}$	Plutonium (94)	3	0.003	1.7x10
$^{239}_{Pu}$		2	0.002	6.2×10^{-2}
$^{240}_{Pu}$		2	0.002	2.3×10^{-1}
$^{241}_{Pu}$		1.000	0.1	1.1×10^{2}
$^{242}_{Pu}$		3	0.003	3.9×10^{-3}
$^{223}_{Ra}$	Radium (88)	50	0.2	5.0×10^{4}
$^{224}_{Ra}$		6	0.5	1.6×10^{5}
$^{226}_{Ra}$		10	0.05	1.0
$^{228}_{Ra}$		10	0.05	2.3×10^{2}
$^{86}_{Rb}$	Rubidium (37)	30	30	8.1×10^{4}
$^{87}_{Rb}$		Unlimited	Unlimited	6.6×10^{-8}
Rb (natural)		Unlimited	Unlimited	1.8×10^{-8}
$^{186}_{Re}$	Rhenium (75)	100	100	1.9×10^{5}
$^{187}_{Re}$		Unlimited	Unlimited	3.8×10^{-8}
$^{188}_{Re}$		10	10	1.0×10^{6}
Re (natural)		Unlimited	Unlimited	2.4×10^{-8}
$^{103}_{Rh}$m	Rhodium (45)	1.000	1.000	3.2×10^{7}
$^{105}_{Rh}$		200	200	8.2×10^{5}
$^{222}_{Rn}$	Radon (86)	10	2	1.5×10^{5}
$^{97}_{Ru}$	Ruthenium (44)	80	80	5.5×10^{5}
$^{103}_{Ru}$		30	30	3.2×10^{4}
$^{105}_{Ru}$		20	20	6.6×10^{6}
$^{106}_{Ru}$		10	7	3.4×10^{3}
$^{35}_{S}$	Sulphur (16)	1.000	300	4.3×10^{4}
$^{122}_{Sb}$	Antimony (51)	30	30	3.9×10^{5}
$^{124}_{Sb}$		5	5	1.8×10^{4}
$^{125}_{Sb}$		40	30	1.4×10^{3}
$^{46}_{Sc}$	Skandium (21)	8	8	3.4×10^{4}
$^{47}_{Sc}$		200	200	8.2×10^{5}
$^{48}_{Sc}$		5	5	1.5×10^{6}
$^{75}_{Se}$	Selenium (34)	40	40	1.4×10^{4}
$^{31}_{Si}$	Silicon (14)	100	100	3.9×10^{7}
$^{147}_{Sm}$	Samarium (62)	Unlimited	Unlimited	2.0×10^{-8}
$^{151}_{Sm}$		1.000	90	2.6x10
$^{153}_{Sm}$		300	300	4.4×10^{5}
$^{113}_{Sn}$	Tin (50)	60	60	1.0×10^{4}
$^{125}_{Sn}$		10	10	1.1×10^{5}
$^{85}_{Sr}$m	Strontium (38)	80	80	3.2×10^{7}
$^{85}_{Sr}$		30	30	2.4×10^{4}
$^{87}_{Sr}$m		50	50	1.2×10^{7}
$^{89}_{Sr}$		100	40	2.9×10^{4}
$^{90}_{Sr}$		10	0.4	1.5×10^{2}
$^{91}_{Sr}$		10	10	3.6×10^{6}
$^{92}_{Sr}$		10	10	1.3×10^{7}
T (uncompressed)	Tritium (1)	1.000	1.000	9.7×10^{3}
T (compressed)		1.000	1.000	
T (activated luminous paint)		1.000	1.000	
T (absorbed on solid carrier)		1.000	1.000	
T (tritiated water)		1.000	1.000	
T (other forms)		20	20	

^{182}Ta	Tantalum (73)	20	20	6.2×10^{3}
^{160}Tb	Terbium (65)	20	20	1.1×10^{4}
$^{96}Tc^{m}$	Technetium (43)	1.000	1.000	3.8×10^{7}
^{96}Tc		6	6	3.2×10^{5}
$^{97}Tc^{m}$		1.000	200	1.5×10^{4}
^{97}Tc		1.000	400	1.4×10^{-3}
$^{99}Tc^{m}$		100	100	5.2×10^{6}
^{99}Tc		1.000	80	1.7×10^{-2}
$^{125}Te^{m}$	Tellurium (52)	1.000	100	1.8×10^{4}
$^{127}Te^{m}$		300	40	4.0×10^{4}
^{127}Te		300	300	2.6×10^{6}
$^{129}Te^{m}$		30	30	2.5×10^{4}
^{129}Te		100	100	2.0×10^{7}
$^{131}Te^{m}$		10	10	8.0×10^{5}
^{132}Te		7	7	3.1×10^{5}
^{227}Th	Thorium (90)	200	0.2	3.2×10^{4}
^{228}Th		6	0.008	8.3×10^{2}
^{230}Th		3	0.003	1.9×10^{-2}
^{231}Th		1.000	1.000	5.3×10^{5}
^{232}Th		Unlimited	Unlimited	1.1×10^{-7}
^{234}Th		10	10	2.3×10^{4}
Th (natural)		Unlimited	Unlimited	(see Table XXI)
Th (irradiated)		a	a	
^{200}Tl	Thallium (81)	20	20	5.8×10^{5}
^{201}Tl		200	200	2.2×10^{5}
^{202}Tl		40	40	5.4×10^{4}
^{204}Tl		300	30	4.3×10^{2}
^{170}Tm	Thulium (69)	300	40	6.0×10^{3}
^{171}Tm		1.000	100	1.1×10^{3}
^{230}U	Uranium (92)	100	0.1	2.7×10^{4}
^{232}U		30	0.03	2.1x10
^{233}U		100	0.1	9.5×10^{-3}
^{234}U		100	0.1	6.2×10^{-3}
^{235}U		100	0.2	2.1×10^{-6}
^{236}U		200	0.2	6.3×10^{-5}
^{238}U		Unlimited	Unlimited	3.3×10^{-7}
U (natural)		Unlimited	Unlimited	(see Table XXI)
U (enriched) <20%		Unlimited	Unlimited	(see Table XXI)
20% or greater		100	0.1	
U (depleted)		Unlimited	Unlimited	(see Table XXI)
U (irradiated)		b	b	
^{48}V	Vanadium (23)	6	6	1.7×10^{5}
^{181}W	Tungsten (74)	200	100	5.0×10^{3}
^{185}W		1.000	100	9.7×10^{-3}
^{187}W		40	40	7.0×10^{5}
$^{131}Xe^{m}$ (compressed)	Xenon (54)	10	10	1.0×10^{5}
$^{131}Xe^{m}$ (uncompressed)		100	100	1.0×10^{5}
^{133}Xe (uncompressed)		1.000	1.000	1.9×10^{5}
^{133}Xe (compressed)		5	5	1.9×10^{5}
^{135}Xe (uncompressed)		70	70	2.5×10^{6}
^{135}Xe (compressed)		2	2	2.5×10^{6}
^{90}Y	Yttrium (39)	10	10	5.3×10^{5}
$^{91}Y^{m}$		30	30	4.1×10^{7}
^{91}Y		30	30	2.5×10^{4}
^{92}Y		10	10	9.5×10^{6}
^{93}Y		10	10	3.2×10^{6}
^{175}Yb	Ytterbium (70)	400	400	1.8×10^{5}
^{65}Zn	Zinc (30)	30	30	8.0×10^{3}
$^{69}Zn^{m}$		40	40	3.3×10^{6}
^{69}Zn		300	300	5.3×10^{7}
^{93}Zr	Zirconium (40)	1.000	200	3.5×10^{-3}
^{95}Zr		20	20	2.1×10^{4}
^{97}Zr		20	20	2.0×10^{6}

a. The values for A_1 and A_2 shall be calculated in accordance with marginal 3691 (3) taking into account the activity of the fission products and uranium-233 in addition to that of thorium.

b. The values for A_1 and A_2 shall be calculated in accordance with marginal 3691 (3) taking into account the activity of the fission products and plutonium isotopes in addition to that of the uranium.

TABLE XXI. ACTIVITY-MASS RELATIONSHIPS FOR URANIUM AND NATURAL THORIUM[a]
(This table is referred to in Table XX).

Radioactive material	Ci/g	g/Ci
Uranium (wt% 235_U present)		
0.45	5.0×10^{-7}	2.0×10^{6}
0.72 (natural)	7.06×10^{-7}	1.42×10^{6}
1.0	7.6×10^{-7}	1.3×10^{6}
1.5	1.0×10^{-6}	1.0×10^{6}
5.0	2.7×10^{-6}	3.7×10^{5}
10.0	4.8×10^{-6}	2.1×10^{5}
20.0	1.0×10^{-5}	1.0×10^{5}
35.0	2.0×10^{-5}	5.0×10^{4}
50.0	2.5×10^{-5}	4.0×10^{4}
90.0	5.8×10^{-5}	1.7×10^{4}
93.0	7.0×10^{-5}	1.4×10^{4}
95.0	9.1×10^{-5}	1.1×10^{4}
Natural thorium	2.2×10^{-7}	4.6×10^{6}

(2)For any single radionuclide whose identity is known, but which is not listed in Table XX, the values of A_1 and A_2 shall be determined according to the procedure given below:

(a) If the radionuclide emits only one type of radiation, A_1 shall be determined according to the rules in (i), (ii), (iii) and (iv) below. For radionuclides emitting different kinds of radiation, A_1 shall be the most restrictive value of those determined for each individual radiation. However, in both cases A_1 shall be restricted to a maximum of 1000 Ci. If a parent nuclide decays into a shorter lived daughter, of a half-life not greater than 10 days, A_1 shall be calculated for both the parent and the daughter, and the more limiting of the two values should be assigned to the parent nuclide.

(1) For gamma emitters, A_1 is determined by the expression:

$$A_1 = \frac{9}{\Gamma} \text{ curies}$$

where Γ is the gamma-ray constant, corresponding to the dose in R/h at 1 m per Ci; the number 9 results from the choice of 1 rem/h at a distance of 3 m as the reference dose equivalent rate.

(ii) For X-ray emitters, A_1 is determined by the atomic number of the nuclide:

for $Z \leq 55$; $A_1 = 1.000$ Ci
for $Z > 55$; $A_1 = 200$ Ci

(iii) For beta emitters, A_1 is determined by the maximum beta energy (E_{max}) according to Table XXII.

(iv) For alpha emitters A_1 is determined by the expression:

$$A_1 = 1.000\ A_3$$

where A_3 is the value listed in Table XXIII.

(b) A_2 shall be the more restrictive of the following two values:

(1) the corresponding A_1 and (2) the value A_3 obtained from Table XXIII.

TABLE XXII
RELATIONSHIP BETWEEN A_1 AND E_{max} FOR BETA EMITTERS

E_{max}(MeV)	A_1(Ci)
< 0.5	1.000
0.5 - < 1.0	300
1.0 - < 1.5	100
1.5 - < 2.0	30
> 2.0	10

a. The figures for uranium include the activity of uranium -234 which is concentrated during the enrichment process. The activity for thorium includes the equilibrium concentration of thorium -228.

TABLE XXIII
RELATIONSHIP BETWEEN A_3 AND THE ATOMIC NUMBER OF THE RADIONUCLIDE

Atomic number	A_3		
	Half-life less than 1000 days	Half-life 1000 days to 10^6 years	Half-life greater than 10^6 years
1 to 81	3 Ci	50 mCi	3 Ci
82 and above	2 mCi	2 mCi	3 Ci

(3) For any single radionuclide whose identity is unknown, the value of A_1 shall be taken to be 2 Ci and the value of A_2 shall be taken to be 0.002 Ci. However, if the atomic number of the radionuclide is known to be less than 82, the value of A_1 shall be taken to be 10 Ci and the value of A_2 shall be taken to be 0.4 Ci.

2. Mixtures of radionuclides, including radioactive decay chains

(1) For mixed fission products the following activity limits may be assumed, if a detailed analysis of the mixture is not carried out:

$$A_1 = 10 \text{ Ci}$$
$$A_2 = 0.4 \text{ Ci}$$

(2) A single radioactive decay chain in which the radionuclides are present in their naturally occurring proportions and in which no daughter nuclide has a half-life either longer than 10 days or longer than that of the parent nuclide shall be considered as a single radionuclide. The activity to be taken into account and the A_1 or A_2 value to be applied shall be those corresponding to the parent nuclide of that chain.

However, in the case of radioactive decay chains in which any daughter nuclide has a half-life either longer than 10 days or greater than that of the parent nuclide, the parent and such daughter nuclides shall be considered as mixtures of different nuclides.

(3) In the case of a mixture of different radionuclides, where the identity and activity of each radionuclide are known, the permissible activity of each radionuclide R_1, R_2 ..: R_n shall be such that $F_1 + F_2 + \ldots F_n$ is not greater than unity, where

$$F_1 = \frac{\text{Total activity of } R_1}{A_i(R_1)}$$

$$F_2 = \frac{\text{Total activity of } R_2}{A_i(R_2)}$$

$$F_n = \frac{\text{Total activity of } R_n}{A_i(R_n)}$$

$A_i (R_1)$, $A_i (R_2)$, ... $A_i (R_n)$, is the value of A_1 or A_2 as appropriate for the nuclide R_1, R_1 ... R_n.

(4) When the identity of each radionuclide is known but the individual activities of some of the radionuclides are not known, the formula given in paragraph (3) shall be applied to establish the values of A_1 or A_2 as appropriate. All the radionuclides whose individual activities are not known (their total activity will, however, be known) shall be classed in a single group and the most restrictive value of A_1 and A_2 applicable to any one of them shall be used as the value of A_1 or A_2 in the denominator of the fraction.

(5) Where the identity of each radionuclide is known but the individual activity of none of the radionuclides is known, the most restrictive value of A_1 or A_2 applicable to any one of the radionuclides present shall be adopted as the applicable value.

(6) When the identity of none or only some of the nuclides is known, the value of A_1 shall be taken to be 2 Ci and the value of A_2 shall be taken to be 0.002 Ci. However, if alpha emitters are known to be absent, the value of A_2 shall be taken to be 0.4 Ci.

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- 3694

CHAPTER VII. DECONTAMINATION, LEAKING PACKAGES AND ACCIDENTS

3695

(1) If a package containing radioactive substances is broken or is visibly leaking or is involved in an accident during carriage, the vehicle or affected area shall be isolated so as to prevent all contact of persons with radioactive substances and, when possible, shall be duly marked off or surrounded by barriers. No-one shall be authorised to stay within the isolated area until qualified persons arrive to supervise the handling and salvage work. The sender and authorities concerned shall be notified immediately. Notwithstanding these provisions, the presence of radioactive substances shall not be considered as a bar to operations for the rescue of people or fire-fighting.

(2) If radioactive substances have leaked, have been spilled or have been scattered in any way whatever in a place, area or on to goods or equipment used in storage, qualified persons shall be called in as soon as possible to direct decontamination operations. The place, area or equipment thus contaminated shall only be put back into service when its use has been declared free from danger by qualified persons.

(3) Except as provided for in paragraph (4) any vehicles, equipment or part thereof, which have been contaminated in the course of carriage of radioactive substances shall be decontaminated as soon as possible by a qualified person and shall not be reused unless the non-fixed radioactive contamination is below the levels specified in Table XIX and the vehicles, equipment or part thereof have been declared safe in respect of residual radiation levels by a qualified person.

(4) Vehicles or compartments used for the bulk transport or tank transport of low specific activity substances, or for the transport of packages of low specific activity substances carried as a full load or for the transport of low level solid radioactive substances as a full load shall not be used for other goods until decontaminated as specified in paragraph (3).

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- 3699

APPENDIX A.7

3700
- 3799

Reserved

APPENDIX A.8

3800
- 3899

Reserved

APPENDIX A.9

Provisions relating to danger labels

3900

(1) Labels Nos. 1, 2A, 2B, 2C, 2D, 3, 4, 4A, 5, 6A, 6B and 6C shall be in the form of a square of 10 cm side standing on a corner. They have a black line 5 mm in the edge and running parallel to it. Labels to be affixed to fixed tanks (tank-vehicles and tank-trailers) shall be of not less than 30 cm side.

(2) Labels Nos. 7, 8 and 9 shall be rectangular, of standard format A5 (148 × 210 mm). For packages, these dimensions may be reduced to a format not less than A7 (74 × 105 mm).

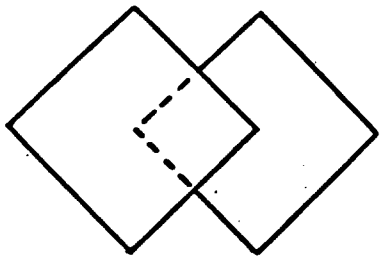
(3) An inscription, in figures or letters, concerning the nature of the danger may be placed on the lower part of the labels.

3901

(1) Danger labels, where they are required under the provisions of this Annex, must be stuck on packages and

fixed tanks or affixed in some other suitable manner. Only where the state of the outside of a package does not permit this should labels be stuck on cards or tablets securely attached to the package. On outer packagings and fixed tanks, indelible danger markings corresponding exactly to the prescribed models may be used instead of labels.

(2) Where a package is required to bear two labels of the same model, the labels shall be affixed in the manner indicated hereafter:



(3) It is the sender's duty to affix the labels to packages, and, where appropriate, to fixed tanks and containers.

2. Explanation of symbols

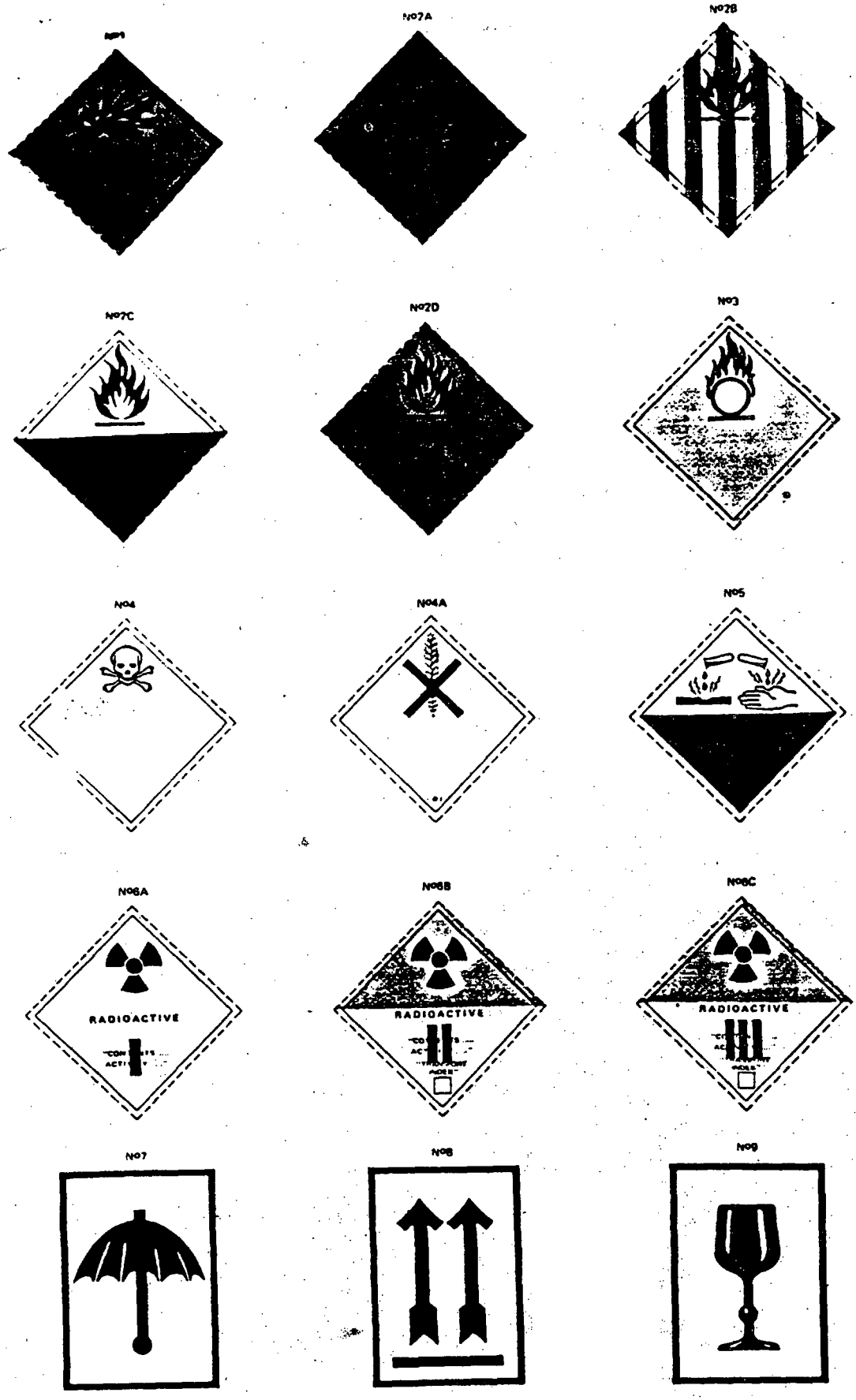
3902

The danger labels prescribed for substances and articles of Classes 1 to 8 (see annexed plate) have the following meanings:

No. 1 (black bomb on orange ground): prescribed in marginals 2117 (1) and (2), 2145 and 2563;	liable to explosion;
No. 2A (black flame on red ground): prescribed in marginals 2224 (3), 2316 (3), 2478 (2), 2307 (1) and 2632 (1);	danger of fire (inflammable liquids);
No. 2B (black flame on ground of equidistant alternate red and white vertical stripes): prescribed in marginal 2414 (1);	danger of fire (inflammable solids);
No. 2C (black flame on white ground, lower triangle of label red): prescribed in marginal 2443 (1);	substance liable to spontaneous ignition;
No. 2D (black flame on blue ground): prescribed in marginal 2478 (1);	danger of emission of inflammable gases on contact with water;
No. 3 (flame over a circle, black on yellow ground): prescribed in marginals 2511 (1) and 2563 (1);	oxidizing substance or organic peroxide;
No. 4 (death's head on cross-bones, black on white ground): prescribed in marginals 2307 (1), 2316 (3), 2632 (1) and 2643 (3);	toxic substance: to be kept apart in vehicles and at loading, unloading or transloading points from foodstuffs and other articles for consumption;
No. 4A (St. Andrew's Cross on ear of corn, black on white background): prescribed in marginals 2632 (1) and 2643 (3);	harmful substance: to be kept apart from foodstuffs in vehicles and at loading, unloading or transloading points;
No. 5 (liquid dripping from a test-tube on to a plate and from another test-tube on to a hand; black on white ground, lower triangle of label black with a white border): prescribed in marginals 2511 (1), 2824 (1) and 2835 (3);	corrosive substance;
No. 6A (stylized trefoil, inscription RADIOACTIVE, a vertical stripe in the lower half, with following text: Contents ... Activity ... Symbol and inscriptions black on white ground, vertical stripe red): prescribed in schedules 5 to 12 as appropriate and in marginal 3656 (1), (2) and (3);	radioactive substance in packages of Category I - WHITE; in the event of damage to the packages, danger to health by ingestion or inhalation of, or contact with, spilled contents;
No. 6B (like the foregoing, but with two vertical stripes in the lower half and the following text: Contents ... Activity ... Transport index. Symbol and inscriptions black; upper half of ground yellow; lower half of ground white; vertical stripes red): prescribed in schedules 5 to 12 as appropriate and in marginal 3656 (1), (2) and (3);	radioactive substance in packages of Category II - YELLOW; packages to be kept away from packages containing undeveloped radiographic or photographic plates or films; in the event of damage to packages, danger to health by ingestion or inhalation of, or contact with, spilled contents, and risk of external irradiation at a distance;
No. 6C (like the foregoing, but with three vertical stripes in the lower half): prescribed in schedules 5 to 12 as appropriate and in marginal 3656 (1), (2) and (3);	radioactive substance in packages of Category III - YELLOW; packages to be kept away from packages containing undeveloped radiographic or photographic plates or films; in the event of damage to packages, danger to health by ingestion or inhalation of, or contact with, spilled contents, and risk of external irradiation at a distance;
No. 7 (open black umbrella on white ground): prescribed in marginal 2478 (1);	keep dry
No. 8 (two black arrows on white ground): prescribed in marginals 2117 (2), 2224 (2), 2307 (3), 2414 (2), 2443 (2) and (3), 2478 (3), 2511 (2), 2563 (2), 2632 (2), 2664, 2709 (3), 2824 (2) and (3);	this side up: label to be affixed, with arrows pointing upwards, on two opposite sides of the package;
No. 9 (red wineglass on white ground): prescribed in marginals 2117 (2), 2182, 2224 (1), (2) and (3), 2307 (3), 2414 (2), 2443 (3), 2478 (3), 2511 (2), 2562 (2), 2632 (2), 2664, 2709 (3) and 2824 (2);	handle with care, or: do not drop.

3903 - 3999

APPENDICE A 9
DANGER LABELS
(See marginal 19021
Reproduction on reduced scale



ECONOMIC COMMISSION FOR EUROPE
INLAND TRANSPORT COMMITTEE

European Agreement

concerning the international carriage
of dangerous goods by road (ADR)
and protocol of signature

done at Geneva on 30 September 1957

VOLUME III
(Annex B)

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1978

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FOREWORD

The text below comprises, in addition to the Agreement itself and the Protocol of signature, the annexes in the form in which they entered into force on 29 July 1968 as well as the amendments thereto up to 1 October 1978.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR)

ANNEX B

PROVISIONS CONCERNING TRANSPORT EQUIPMENT AND TRANSPORT OPERATIONS

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ANNEX B
PROVISIONS CONCERNING TRANSPORT EQUIPMENT AND TRANSPORT OPERATIONS

4000
9999

Plan of the Annex 10 000

This Annex comprises:

(a) general provisions applicable to the carriage of dangerous substances of all Classes (Chapter I);

(b) special provisions applicable to the carriage of dangerous substances of Classes 1 to 8 (Chapter II);

(c) Appendices as follows:

– Appendix B.1a concerning fixed tanks (tank - vehicles), demountable tanks and batteries of receptacles;
– Appendix B.1b concerning tank-containers;
– Appendix B.1c concerning fixed tanks and demountable tanks in reinforced plastics;
– Appendix B.1d relating to requirements concerning the materials and construction of fixed tanks, of demountable tanks, and of shells of tank - containers, intended for the carriage of deeply - refrigerated liquefied gases of Class 2;
– Appendix B.2 concerning electrical equipment;
– Appendix B.3 containing a model certificate of approval for vehicles;
– Appendix B.4 containing tables concerning the carriage of substances of Class 7 and a model label to be affixed to vehicles carrying these substances;
–Appendix B.5 containing the list of substances mentioned under marginal 10 500 (2)

(2) The general provisions of Chapter I and the special provisions of Chapter II are divided into sections with the following headings:

Section 1. General (this section contains, inter alia, the provisions concerning authorizations for the carriage of goods in bulk, in containers or in tanks);

Section 2. Special requirements to be fulfilled by vehicles and their equipment;

Section 3. General service provisions;

10000 (contd.)

Section 4. Special provisions concerning loading, unloading and haudling (this section contains the provisions concerning methods of despatch, restrictions on forwarding and prohibitions on mixed loading);

Section 5. Special provisions concerning the operations of vehicles;

Section 6. Transitional provisions, derogations, and provisions peculiar to certain countries.

Applicability of other regulations, national or international 10001

(1) If the vehicle carrying out a transport operation subject to the provisions of ADR is conveyed over a section of the journey otherwise than by road haulage, then any national or international regulations which govern the carriage of dangerous goods on that section by the mode of transport used for conveying the road vehicle shall alone be applicable to that section of the journey.

(2) In cases where a transport operation subject to the provisions of ADR is likewise subject over the whole or a part of the road journey to the provisions of an international convention which regulates the carriage of dangerous goods by a mode of transport other than road carriage by virtue of clauses extending the applicability of that convention to certain motor - vehicle services, then the provisions of that international convention shall apply, over the journey in question, concurrently with those of ADR which are not incompatible therewith; the other clauses of ADR shall not apply over the journey in question.

Applicability of the provisions of Chapter 1 of this Annex 10002

Where provisions of Chapter II or of the Appendices to this Annex conflict with provisions of Chapter I, those provisions of Chapter I shall not apply.

Nevertheless

(a) the provisions of marginal 10 100 shall take precedence over those of Chapter II;

(b) the provisions of marginal 10 403 shall take precedence over the prohibitions on mixed loading prescribed in the Sections 4 of Chapter II.

10 003-
10 099

Chapter I
GENERAL PROVISIONS APPLICABLE TO THE CARRIAGE OF DANGEROUS SUBSTANCES OF ALL CLASSES
(see, however, marginal 10002)

Section 1
General

Scope of this Annex 10100

(1) Annex A exempts from the provisions of the present Annex carriage performed under the conditions (of packaging, weight, etc.) laid down in marginals 2201a, 2301a, 2401a, 2431a, 2471a, 2501a and 2801a.

(2) (a) Limited quantities of dangerous substances in packages may be carried without application of the provisions of this Annex relating:
– to the types of vehicles (marginals «...104» of Chapters I and II, and marginals 11 105 and 11 106 of Chapter II concerning Classes 1a, 1b and 1c);
– to the crews of vehicles and to supervision (Marginals «...171» of Chapters I and II);
– to the carriage of passengers (Marginal 10 172);
– to instructions in writing (Marginals 10 181 (1) (b), 10 185 and 61 185);
– to the special certificate of approval for vehicles (marginals 10 182 and 11 182);
– to the special requirements to be fulfilled by vehicles and their equipment (all Sections 2 of Chapters I and II), subject, however, to compliance with the provisions of marginal 21 212;
– to places of loading and unloading (marginals 11 407, 21 407 and 61 407); and
– to the operation of vehicles (all Sectipns 5 of Chapters I and II), subject, however, to compliance with the provisions of marginal 61 515.

Section 1

10 100 (contd.)

(b) The exemptions under (a) above shall apply to the loading on one transport unit of:

1. One or more of the following dangerous substances, whatever the weight on condition that there are no other dangerous substances of ADR in the transport unit

Class 1a	– empty packagings of 15°
Class 1c	– safety matches of 1° (a);
Class 3	– empty receptacles of 6°;
Class 4.1	– substances of 9° and 10°;
Class 4.2	– empty packagings of 14° and 15°;

Class 4.3	– empty receptacles of 5°;
Class 5.1	– empty packagings of 11°;
Class 5.2	– empty packagings of 99°;
Class 6.1	– empty packagings of 91° and 92°;
Class 6.2	– articles of 12°; and
Class 8	– sodium sulphide of 36° and empty receptacles of 51°;

2. One only of the dangerous substances listed below, on condition that the gross weight of all the packages containing the dangerous substance does not exceed the weight shown and that there are no other dangerous substances of ADR in the transport unit

Class 1b	– articles of 2° (b) or 4°: 100 kg;
Class 1c	– slow - combustion fuses of 3°: 100 kg;
Class 2	– cyanogen chloride of 3° (ct): 5 kg; phosgene (carbonyl chloride) of 3° (at): 25 kg;
	– fluorine of 1° (at): 50 kg;
Class 3	– diethyl ether, carbon disulphide of 1° (a) or mixtures of 1° (b) such as collodions and semi - collodions containing diethyl ether: 3 kg;
	– acetaldehyde, acetone or acetone mixtures of 5°: 75 kg
Class 4.1	– sulphur of 2° (a), napthalene of 11° (b): 250 kg;
Class 4.3	– calcium carbide of 2° (a), calcium silicide of 2° (d) or manganese calcium silicide of 2° (d): 1,000 kg;
Class 5.2	– substances of 45°, 46° (a), 47° (a) and (b) packed in conformity with the provisions of marginal 2559: 2 kg*; (not including the weight of the refrigerating system, if any)
Class 5.2 (contd.)	Section 1
	– substances of 1° to 22°, 30° and 31° packed in conformity with the provisions of marginal 2561: 5kg; and 10 100 (contd)
	– substances of 1° to 22°, 30°, 31° and 40° packed in conformity with the provisions of marginals 2553 to 2556 and 2558: 10 kg;
Class 6.1	– substances of 41°, 61° and 62°, 71° to 75°, 83° and 84°: 100 kg;
Class 8	– substances of 6° (a), 7°, 9°, 11°, 12°, 14°, 15°, 22° 23° 34° and 35°: 10 kg;

3. One or more dangerous substances listed below of the same Class, on condition that the total gross weight of all the packages containing each dangerous substance does not exceed the weight indicated:

Class 1a	– any dangerous substance of the Class other than those listed in 1 above: 5 kg;
Class 1b	– any article of the Class other than those listed in 2 above: 10 kg;
Class 1c	– any dangerous substance of the Class other than those listed in 1 and 2 above: 15 kg;
Class 2	– any dangerous substance of the Class other than those listed in 2 above: 300 kg;
Class 3	– any substance of the Class other than those listed in 1 and 2 above: 250 kg;
Class 4.1	– any substance of the Class other than those listed in 1 and 2 above: 50 kg;
Class 4.2	– substances of the Class other than those of 1°, 2°, 3° and 4° and the empty packagings listed in 1 above: 250 kg;
Class 4.3	– any substance of the Class other than those listed in 1 and 2 above: 10 kg;
Class 6.1	– any substance of the Class other than those listed in 1 and 2 above: 5 kg;
Class 6.2	– any substance of the Class other than those listed in 1 above: 300 kg; and
Class 8	– any substance of the Class other than those listed in 1 and 2 above: 250 kg;

* Not including the weight of the refrigerating system, if any.

Section 1

(3) For the purposes of paragraph (2) above, the weights of liquids or gases carried in the ordinary fixed tanks of vehicles for propelling the vehicles or operating their special - purpose equipment (e.g. refrigerating equipment) and for ensuring their safety shall not be taken into account. 10100

(4) The only provisions of Chapter I of this Annex which are applicable to the carriage of dangerous substances of Class 6.2 shall be those of Chapter II which relate to this Class and those of the marginals of this Chapter I which are expressly rendered applicable by the aforesaid provisions of Chapter II.

(5) Derogatins from the provisions of this Annex may be made in the case of emergency transport to save human life.

10101

Definitions 10102

(1) For the purposes of this Annex:

- the term «competent authority» means the authority designated as such in each country and in each specific case by the Government;
- the term «fragile package» means a package containing a fragile receptacle (i.e. a receptacle made of glass, porcelain, stoneware or similar materials) which is not enclosed in a packaging with complete sides protecting it effectively against shock

[see also Aneex A, marginal 2001(5)];

- the term «gas» means a gas or vapour;
- the term «dangerous substances», when used alone, means the substances and articles designated as being substances and articles of ADR;
- the term «RID» means the International Regulations concerning the Carriage of Dangerous Goods by Rail [Annex 1 to the International Convention concerning the Carriage of Goods by Rail (CIM)];
- the term «carriage in bulk» means the carriage of a solid substance without packaging;
- the term «carriage in bulk» means the carriage of a solid substance without packaging;
- the term «container» means an article of transport equipment (lift van, demountable tank or other similar structure)
- of a permanent character and accordingly strong enough to be suitable for repeated use;
- specially designed to facilitate the carriage of goods, by one or more means of transport, without breakage of load;
- fitted with devices permitting its ready handling, particular when being transloaded from one means of transport to another;
- so designed as to be easy to fill and empty, and having an internal volume of not less than one cubic metre;
- the term «container» does not cover conventional packagings, or vehicles, or tank containers;
- the term «large container» means a container having an internal volume of more than 3 cubic metres;
- the term «small container» means a container having an internal volume of not less than 1 cubic metre and not more than 3 cubic metres;

- the term «tank-container» means an article of transport equipment conforming to the definition of the term «container» given above and built to contain liquid, gaseous, powdery or granular substances but having a capacity of more than 0.45 cubic metres;

- the term «battery of receptacles» means an assembly comprising a number of receptacles (called «elements») whose individual or average capacity is over 150 litres and which are interconnected by a manifold and permanently mounted on a frame [for frames of gas cylinders, see Annex A, marginal 2212(d)];

- the term «demountable tank» means a tank, other than a fixed tank, a tank- container or a battery of receptacles, which has a capacity of over 1.000 litres, is not designed for the carriage of goods without breakage of load, and normally cannot be handled except when it is empty;

- the term «fixed tank» means a tank which is structurally attached to a vehicle (which then becomes a tank-vehicle) or is an integral part of the frame of such vehicle;

- the term «tank», when used alone, means a tank-container or a tank of a capacity exceeding 1 m^3 which may be a fixed tank, a demountable tank or a battery or receptacles. (See, however, a limitation of the meaning of the word «tank» in the provisions common to the B.1 Appendices, marginal 200.000(2));

- the term «transport unit» means a motor vehicle without an attached trailer, or a combination consisting of a motor vehicle and an attached trailer;

- the term «closed vehicle» means a vehicle having a body capable of being closed;

- the term «open vehicle» means a vehicle the platform of which has no superstructure or is merely provided with side boards and a tailboard;

- the term «sheeted vehicle» means an open yehicle provided with a sheet to protect the load;

- the term «tank-vehicle» means a vehicle built to carry liquids, gases, or powdery or granular substances and comprising one or more fixed tanks;

- the term «battery-vehicle» means a tank-vehicle comprising a number of fixed tanks (called «elements») interconnected by a manifold.

(2) For the purposes of this Annex, tanks [see definition (1) above] are not placed on the same footing as receptacles, the term «receptacle» being used in a restrictive sense. Provisions concerning receptacles apply to fixed tanks, batteries of receptacles, demountable tanks and tank -containers only if this is expressly stipulated.

(3) The term «full load» means any load originating from one sender, for which the use of a vehicle or a large container is exclusively reserved and all operations for loading and unloading which are carried out in conformity with the instructions of the sender or consignee [see marginal 10 108].

(4) Unless expressly stated otherwise, the sign «%» or the expression «per cent» in this Annex represents:

(a) in the case of mixtures of solids or of liquids, and also in the case of solutions and of solids wetted by a liquid: a percentage by weight based on the total weight of the mixture, the solution or the wetted solid;

(b) in the case of gaseous mixtures: a percentage by volume based on the total volume of the gaseous mixture.

(5) All weights mentioned for packages in this Annex are, unless otherwise specified, gross weights. The weight of containers or tanks used for the carriage of goods is not included in the gross weight.

(6) Pressures of all kinds relating to receptacles (such as test pressure, internal pressure, safety-value opening pressure) are always indicated in kg/cm^2 gauge pressure (pressure in excess of atmospheric pressure); however, the vapour pressure of substances is always expressed in kg/cm^2 absolute pressure.

(7) Where this Annex specifies a degree of filling for receptacles or tanks, that degree of filling is always referred to a temperature of thw substances of 15°C unless some other temperature is indicated.

10103
10104

Types of vehicles 10103

(1) A transport unit loaded with dangerous substances may in no case include more than one trailer or semi-traler. 10104

(2) Special provisions concerning the types of vehicles to be used for the carriage of certain dangerous substances will, where appropriate, be found in Chapter II of this Annex (see also the marginals dealing with carriage in containers, the carriage of solid substances in bulk, carriage in tanks, and tanks).

(3) Packages comprising packagings made of materials sensitive to moisture shall be loaded on to closed or on to sheeted vehicles.

10105
10107

Full Load 10108

Where the provisions relating to carriage as a «full load» are applied, the competent authorities may require the vehicle or large container used for such carriage to be loaded at only one point and unloaded at only one point.

10109
10110

Carriage in bulk 10111

(1) Solid dangerous substances may not be carried in bulk unless this mode of carriage is expressly authorized for the said substances by the provisions of Chapter II of this Annex, and then only under the conditions stipulated by those provisions. Nevertheless, empty packagings, uncleaned, may be carried in bulk if this mode of carriage is not explicitly prohibited by the requirements of Annex A, Part II.

(2) For carriage in bulk in containers, see marginal 10118 (2) and (5).

10112
10117

Carriage in containers 10118

Note: The provisions concerning carriage in tank-containers will be found in the marginals headed «Carriage in tanks».

(1) The carriage of packages in containers is authorized.

(2) Substances may not be carried in bulk in containers unless their carriage in bulk is expressly authorized (see marginal 1011 1); small containers must be of the closed type and have complete walls.

(3) Large containers must meet the requirements concerning the body of the vehicle which are laid down in this Annex for the load in question; the body of the vehicle need not then satisfy those provisions.

(4) Subject to the provisions of the last phrase in (3) above, the fact that dangerous substances are enclosed in one or more containers shall not affect the conditions required to be met by the vehicle by reason of the nature and quantities of the dangerous substances carried.

(5) If the dangerous substances carried in a container are such that, under Annex A, one or more danger labels are required to be affixed to the packages containing them, the same label or labels shall be affixed to the outside of the container containing those substances in packages or in bulk. However, label No. 8 need not be affixed if the container comprises a device or inscription clearly showing which way up it should be kept.

10119
10120

Carriage in tanks 10121

(1) Dangerous substances may be carried in tanks only if this mode of carriage is expressly authorized for those substances by the provision of Chapter II of this Annex; carriage must then comply with the provision of this Annex. Reinforced-plastics tanks may be used only if their use is expressly authorized in Chapter II. The temperature of the substance carried shall not exceed 50°C at the time of filling. See marginal 10500 for the marking and labelling of vehicles.

(2) If the substances carried in a demountable tank, a battery of receptacles or a tank-container are such that, under Annex A, one or more danger labels are required to be affixed to the packages containing them, the same

label or labels shall be affixed to the outside of the demountabe tank, battery of receptacles or tank-container. However, label No. 8 need not be affixed if the tank comprises a device or inscription clearly showing which way up it should be kept.

10122
10126
10127

Tanks

(1) The provisions concerning the design, inspection, filling and use of fixed tanks, demountable tanks and batteries of receptacles, and various provisions concerning tank-vehicles and their use, will be found in Appendix B.la and, so far as the design of fixed tanks, demountable tanks and batteries of receptacles intended for the carriage of refrigerated liquefied gases of Class 2 is concerned, in Appendix B. ld (for the approval of tank-vehicles, see marginal 10182).

(2) The provisions concerning the construction, items of equipment, type approval, tests, marking, etc, of tank-containers are to be found in Appendix B.lb and, so far as the construction of tank-containers intended for the carriage of deeply-refrigerated liquefied gases of Class 2 is concerned, in Appendix B.ld.

(3) The provisions concerning the construction of fixed tanks and demountable tanks in reinforced plastics are to be found in Appendix B. lc.

(4) The provisions common to the B.1 Appendices are to be found in marginal 200000.

(5) For receptacles, see Annex A.

10128
10170
10171

Crews of vehicles: Supervision

(1) Where the provisions of this Annex concerning specific goods require the driver to be accompanied by an assistant, the assistant must be able to take over from the driver.

Section 1

10171

(2) The requirements of this marginal relating to supervision during the time when a vehicle is parked shall apply only to dangerous substances carried in quantities in excess of the exemption limits.

Transport units carrying dangerous goods for which the exemption limit is less than 1,000 kg shall be supervised at all times in order to prevent any malicious act and to alert the driver and the competent authorities in the event of loss or fire.

Transport units carrying dangerous goods for which the exemption limit is 1,000 kg or more shall either be supervised or alternatively may be parked, unsupervised in an isolated position in the open in a secure depot or secure factory premises. If such facilities are not available, the transport unit, after having been properly secured, may be parked in an isolated position meeting the requirements of paragraphs (i), (ii) or (iii) below. The parking facilities permitted in paragraph (ii) shall be used only if those described in paragraph (i) are not available, and those described in paragraph (iii) may be used only if facilities described in paragraphs (i) and (ii) are not available.

(i) A vehicle park supervised by an attendant who has been notified of the nature of the load and the whereabouts of the driver.

(ii) A public or private vehicle park where the transport unit is not likely to suffer damage from other vehicles, or

(iii) A suitable open separated from the public highway and human habitation, where the public do not normally pass or assemble.

10172

Carriage of passengers

No passengers not members of the vehicle's crew may be carried in transport units conveying dangerous substances.

10173
10180
10181

Transport documents

(1) In addition to the documents required under other regulations, the following documents shall be carried on the transport unit:

(a) the transport documents prescribed in Annex A, marginal 2002(3) and (4), covering all the dangerous goods carried; and

(b) instructions, as prescribed in marginal 10185, relating to all the dangerous substances carried.

(2) Where the provisions of this Annex require the following documents to be drawn up, the said documents shall likewise be carried on the transport unit:

(a) the special certificate of approval referred to in marginal 10182, for each vehicle: and

(b) the permit authorizing the transport operation.

10182

Approval of vehicles

(1) Tank-vehicles and, where so required under the provisions of Chapter II of this Annex, other vehicles shall be subject to technical inspection in their country of registration to make sure that they conform to the provisions of this Annex, including those of its Appendices, and the general safety regulations (concerning brakes, lighting etc.) in force in their country of origin; if these vehicles are trailers or semi-trailers coupled behind a drawing vehicle, the drawing vehicle shall be subject to technical inspection for the same purposes.

(2) A special certificate of approval shall be issued by the competent authority of the country of registration for each vehicle whose inspection yields satisfactory results. It shall be drawn up in the language or one of the languages of the country issuing it, and also, if that language is not English, or French, or German, in English, French or German, unless agreements concluded between the countries concerned in the transport operation provide otherwise. It shall conform to the model shown in Appendix B.3.

(3) A special certificate of approval issued by the competent authorities of one Contracting Party for a vehicle registered in the territory of that Contracting Party shall be accepted, so long as its validity continues, by the competent authorities of the other Contracting Parties.

(4) The validity of special approval certificates shall expire not later than one year after the date of the technical inspection of the vehicle preceding the issue of the certificate. However, in the case of tanks subject to compulsory periodic inspection this provision shall not have the result of requiring tightness (leakproofness) tests, hydraulic pressure tests or internal inspections of tanks to be carried out at intervals shorter than those laid down in Appendix B.1a and B.1c.

10183
10184
10185

Instrunctions in writing

(1) As a precaution against any accident or emergency that may occur or arise during carriage, the driver shall be given instructions in writing specifying concisely:

(a) the nature of the danger inherent in the dangerous substances being carried, and the safety measures that need to be taken to avert it;

(b) the action to be taken and treatment to be given in the event of persons coming into contact with the goods being carried or with any substances which might escape therefrom;

(c) the measures to be taken in case of fire and, in particular, the fire-fighting equipment or equipment not to be used;

(d) the measures to be taken in case of breakage or deterioration of packagings or of the dangerous substances being carried, particularly where such dangerous substances have spilled over the road.

(2) These instructions shall be prepared for each dangerous substance or Class of dangerous substances by the manufacturer or the sender, in a language of the country of origin; where that language is not the same as those of the countries of transit or destination, the instructions shall also be drawn up in the language of those countries. A set of these instructions shall be kept in the driver's cab.

(3) These instructions shall be supplied to the carrier at the latest when the transport order is given, so as to

enable him to take all necessary steps to ensure that the employees concerned are aware of these instructions and are capable of carrying them out efficiently.

10186
10199

Section 2
Special requirements to be fulfilled by vehicles and their equipment

10200
10215

Rear protection for vehicles carrying fixed tanks, demountable tanks or batteries of receptacles 10216

A bumper sufficiently resistant to rear impacts shall be fitted over the full width of the tank at the rear of the vehicle. There shall be a clearance of at least 100 mm between the rear wall of the tank and the rear of the bumper, this clearance being measured from the rearmost point of the tank wall or from projecting fittings or accessories in contact with the substance being carried.

10217
10239

Fire-fighting appliances 10240

(1) Every transport unit carrying dangerous substances shall be equipped with

(a) at least one portable fire extinguisher of adequate total capacity, suitable for fighting a fire in the engine or in any other part of the transport unit, and such that, if it is used to fight a fire in the load, it does not aggravate the fire and, if possible, controls it; however, if the vehicle is equipped with a fixed fire extinguisher, automatic or easily brought into action, for fighting a fire in the engine, the portable extinguisher need not be suitable for fighting a fire in the engine;

(b) in addition to the equipment prescribed under (a) above, at least one portable fire extinguisher of adequate total capacity, suitable for fighting a fire in the load, and such that, if it is used to fight a fire in the engine or in any other part of the transport unit, it does not aggravate the fire and, if possible, controls it;

(2) The fire-extinguishing agents contained in the fire extinguisher with which a transport unit is equipped shall be such that they are not liable to release toxic gases into the driver's cab or under the influence of the heat of the fire.

(3) Where a transport unit comprises a trailer and the laden trailer is uncoupled and left on the public highway, at a distance from the drawing vehicle, the trailer shall be equipped with at least one fire extinguisher conforming to the provisions of sub-paragraph (1) (b) of this marginal.

10241
10250

Section 2

Electrical equipment 10251

The provisions concerning the electrical equipment of vehicles carrying various dangerous substances will be found in Appendix B.2.

10252
10259

Miscellaneous equipment 10260

(1) Every transport unit carrying dangerous goods shall be equipped with:

(a) a tool kit for emergency repairs to the vehicle;

(b) for each vehicle, at least one scotch of a size suited to the weight of the vehicle and to the diameter of the wheels;

(c) two amber lights. These lights shall be independent of the electrical equipment of the vehicle and be so designed that their use cannot cause the goods being carried to ignite; they shall be steady or flashing.

(2) The provisions of sub-paragraph (1) (c) of this marginal shall not apply in the territory of the United Kingdom.

10261
10299

Section 3
General service provisions

10300
10339

Fire-fighting appliances 10340

The crew of the vehicle must know how to use the fire-fighting appliances.

10341
10352

Portable lighting apparatus 10353

A vehicle may not be entered by persons carrying lighting apparatus comprising a flame. In addition, the lighting apparatus used shall not exhibit any metal surface liable to produce sparks.

10354
10373

Prohibition of smoking 10374

Smoking shall be prohibited during handling operations, in the vicinity of packages awaiting handling, near halted vehicles, and inside the vehicles.

10375
10399

Section 4
Special provisions concerning loading, unloading and handling

10 400

Limitation of the quantities carried 10 401

The fact that dangerous substances are enclosed in one or more containers shall not affect the weight limitations laid down by this Annex regarding carriage in a single vehicle or in a single transport unit.

10 402

Prohibition of mixed loading on one vehicle 10 403

Unless the contrary is explicitly prescribed by the provisions of the Sections 4 of Chapter II of this Annex, the prohibitions of mixed loading on one vehicle shall not apply to consignments of goods packed together in the manner permitted by the provisions on mixed packing contained in Annex A.

Compliance with the prohibitions on mixed loading shall be based on the danger labels of Appendix A.9, which shall be affixed to packages in accordance with the requirements laid down for the various Classes in Annex A.

Prohibition of mixed loading in one container 10 404

The prohibitions of mixed loading on one vehicle shall also be observed within each container.

Prohibition of mixed loading with goods contained in a container 10 405

For the purpose of the application of the prohibitions of mixed loading on one vehicle, no account shall be taken of substances contained in closed containers with complete sides.

10 406
10 412

Cleaning before loading 10 413

All the provisions in this Annex which relate to the cleaning of vehicles before loading shall also apply to the cleaning of containers.

Handling and stowage. 10 414

(1) The various components of a load comprising dangerous substances shall be suitably stowed on the vehicle and wedged by appropriate means to prevent them from being displaced in any way in relation to each other and to the walls of the vehicle.

(2) If the load comprises goods of different categories the packages of dangerous substances shall be separated from the other packages.

(3) All the provisions in this Annex which relate to the loading and unloading of vehicles and to the stowage and handling of substances shall also apply to the loading, stowage and unloading of containers on to and from vehicles.

(4) Nothing whatsoever may be loaded on top of a fragile package.

(5) A driver or a driver's assistant may not open a package containing dangerous substances.

Cleaning after unloading 10 415

(1) If, when a vehicle which has been loaded with packed

dangerous substances is unloaded, some of the contents are found to have escaped from the packagings, the vehicle shall be cleaned as soon as possible and in any case before reloading.

(2) Vehicles which have been loaded with dangerous substances in bulk shall be suitably cleaned before reloading unless the new load consists of the same dangerous substance as did the preceding load.

(3) All the provisions of this Annex which relate to the cleaning or decontamination of vehicles shall also apply to the cleaning or decontamination of containers.

10 416
-10 418

Loading and unloading of dangerous substances in containers. 10 419

The provisions of this Annex which relate to the loading and unloading of vehicles and the stowage and handling of dangerous substances shall also apply to the loading and unloading of dangerous substances in containers.

10 420
10 430

Running the engine during loading or unloading 10 431

Except where the engine has to be used to drive the pumps or other appliances for loading or unloading the vehicle and the laws of the country in which the vehicle is operating permit such use, the engine shall be shut off during loading and unloading operations.

10 432
-10 499

Section 5
Special provisions concerning the operation of vehicle

Vehicle signs 10 500

(1) Transport units carrying dangerous substances specified in the ... 500 marginals shall display two rectangular reflectorized orange-coloured plates of 40 cm base and not less than 30 cm high, set in a vertical plane. The plates shall have a black border not more than 15 mm wide. They shall be affixed one at the front and the other at the rear of the transport unit, both perpendicular to the longitudinal axis of the transport unit. They shall be clearly visible.

Note. The colour of the orange plates in conditions of normal use should have chromaticity co-ordinates lying within the area on the chromaticity diagram formed by joining the following co-ordinates:

Chromaticity co-ordinates of points at the corners of the area on the chromaticity diagram.				
x	0.52	0.52	0.578	0.618
y	0.38	0.40	0.422	0.38

Luminance factor of reflectorized colour: $B \geq 0.12$.
Reference centre E, Standard Illuminant C,
normal incidence 45° and viewed at 0°.
Co-efficient of reflex luminous intensity at an angle of illumination of 5°, viewed at 0.2°: not less than 20 candelas per lux per m^2.

(2) Transport units fixed tanks carrying only one of the substances listed in Appendix B.5 shall display orange-coloured plates as prescribed above, on which the indentification numbers shown in that Appendix shall apear.

(3) However, where two different substances are carried in an transport unit consisting of a tank-vehicle drawing a tank-trailer, the vehicle and the trailer shall each display at both front and rear an orange-coloured plate bearing the respective identification numbers of the substances being carried.

(4) Where a number of different substances are carried on a tank-vehicle in separate tanks or tank-compartments, orange-coloured plates identically similar to those prescribed in paragraph (1), set parallel to the longitudinal axis of the vehicle and bearing the appropriate identification numbers, shall be so displayed on the sides of each tank or tank-compartment as to be clearly visible. In this case the plates prescribed in paragraph (1) above shall display no number.

(5) The identification numbers shall be made up of black digits 100 mm high and of 15 mm stroke thickness. The hazard-identification number shall be inscribed in the upper part of the plate and the substance-identification number in the lower part; they shall be separated by a horizontal black line, 15 mm in stroke width, extending from side to side of the plate at mid height (see Appendix B.5). The identification numbers shall be indelible and shall remain legible after 15 minutes' engulfment in fire.

(6) The foregoing requirements are also applicable to empty tanks, uncleaned and not degassed. After the dangerous substances have been unloaded and the tanks been cleaned and degassed, the orange-coloured plates shall no longer be visible.

(7) Tank-vehicles shall also bear on both sides and at the rear the labels prescribed in Section 5 of each Class.

10 501
-10 502

Parking in general 10 503

No transport unit carrying dangerous subastances may be parked without the parking brake's being applied.

10 504

Parking at night or when visibility is poor 10 505

(1) If a vehicle is parked at night, or when visibility is poor, and its lights are not working, the amber lights referred to in marginal 10 260 (1)(c) shall be placed on the road,

one about 10 m ahead of the vehicle, and

the other about 10 m to the rear of the vehicle.

(2) The provisions of this marginal shall not apply in the territory of the United Kingdom.

10 506

Parking of a vehicle constituting a special danger 10 507

Without prejudice to the measures prescribed in marginal 10 505 above, if the nature of the dangerous substances carried in the parked vehicle constitutes a source of special danger to road-users (e.g. in the event of substances dangerous to pedestrians, animals or vehicles spilling over the road) and the crew of the vehicle is unable to eliminate the danger quickly, the driver shall alert the nearest competent authorities, or cause them to be alerted, immediately. He shall also, where necessary, take the measures prescribed in the instructions provided for in marginal 10 185.

10 508
-10 598

Other provisions 10 599

As to provisions not included in this Chapter or in Chapter II of this Annex which concern the operation of vehicles carrying dangerous goods, the relevant measures adopted in this sphere by each Contracting Party on the basis of its domestic legislation and relating to domestic carriage shall be appliable to international carriage using its territory.

Section 6
Transitional provisions, derogations, and provisions peculiar to certain countries

10 600
-10 601

Rapid procedure for authorizing derogations for the purpose of trials 10 602

For the purpose of carrying out the trials necessary with a view to amending the provisions of this Annex in order to adapt them to technological and industrial developments, the competent authorities of the Contracting Parties may agree directly among themselves to authorize certain transport operations in their territories by temporary derogation from the provisions of this Annex. The authority which has taken the initiative with respect to the temporary derogation so granted shall notify the competent service of the United Nations Secretariat of the derogation,

which service shall bring it to the attention of the Contracting Parties.

10 603
10 999

Chapter II

SPECIAL PROVISIONS APPLICABLE TO THE CARRIAGE OF DANGEROUS SUBSTANCES OF CLASSES 1 to 8

Classes 1a Explosive substances and articles

1b Articles filled with explosive substances

1c Limiters, fireworks and similar goods

Section 1

General

11 000
–11 103

Types of vehicles 11104

(See also marginals 11 105 and 11 106)

Dangerous substances of Classes 1a, 1b and 1c may be carried only in closed vehicles or in sheeted vehicles fitted with side boards and a tailboard. The sheet of a sheeted vehicle must be of impermeable material not readily inflammable. It must be tautened so as to cover the vehicle on all sides, with an overlap of not less than 20 cm down the sides of the vehicle, and be kept in position by lockable metal bars of chains.

Categories of vehicles 11105

For the purposes of this Annex, transport units authorized to carry dangerous substances of Classes 1a, 1b and 1c are classified as follows:

(1) «A» transport units: Transport units whose engines use a liquid fuel with a flash-point below 55° C.

(2) «B» transport units: Transport units whose engines use a liquid fuel with a flash-point of 55° C or more; this category B comprises the following sub-categories:

Classes 1a, 1b and 1c

(a) «B.I.» transport units:

These have either no trailer or a trailer meeting the following conditions:

its coupling device is quickly detachable and is robust: and

it is fitted with an effective braking device acting on all the wheels, actuated by the drawing vehicle's service-brake control, and automatically stopping the trailer in the event of breakage of the coupling.

(b) «B.II» transport units:

These have the following characteristics in addition to those of sub-category B.I.:

1. Engine and exhaust system

The engine and the exhaust system are placed forward of the front wall of the body. The exhaust-pipe outlet is directed outwards from the vehicle.

2. Fuel tank

The fuel tank is placed well away from the engine, the electric wiring and the exhaust-gas piping, and in such a manner that in the event of leakage from the tank the fuel drains directly on to the ground and cannot reach the load of explosives. The fuel tank is well away from the storage battery, or is at least separated from it by a leak-proof partition. It is so placed as to be so far as possible protected in a collision. The engine is not gravity-fed.

3. Driver's cab

No inflammable material has been used in the construction of the driver's cab, except in the seating equipment.

Classes 1a, 1 b and 1c

(c) «B.III» transport units

These have all the characteristics of sub-category B.II and, in addition, their body exhibits the following features:

1. It is closed and has a continuous surface; it is separated from the driver's cab by a space of not less than 15 cm; it is robustly constructed in such a manner and of such materials that it adequately protects the goods carried; the materials used for the lining are incapable of producing sparks; the insulating and heat-resisting properties of the body are at all points at least equivalent to those of a partition consisting of a layer of asbestos board 5 mm thick between two metal walls or to those of a partition consisting of an outer metal wall lined with a layer of fire-proofed wood 10 mm thick.

2. The door or doors are provided with a lock and key; all joints and closures are of overlapping type. The door or doors must be so constructed as to reduce the strength of the body as little as possible.

Restrictions on the use of vehicles of certain categories 11106

(1) «A» transport units may carry only articles of Class 1b, 2° (b), 4° (a), (b) and (e), and of Class 1c, 1° (a) and 3°.

No special limitation of weight is prescribed for such carriage.

(2) «B.I.» transport units may carry

(a) without special weight limitations, articles of Class 1b, 2° (b) and 4°, and of Class 1c, 1° (a) and 3°;

(b) subject to the weight limitations prescribed in marginal 11 401, the dangerous substances referred to in that marginal.

(3) The provisions relating to restrictions, in the light of the weight and nature of the load, on the use of «B.II» and «B.III» transport units will be found in marginal 11 401.

11107
–11 117

Carriage in containers 11118

Small containers shall satisfy the requirements prescribed in respect of the body of the vehicle for the transport operation concerned; it will then not be necessary for the body of the vehicle to satisfy those requirements.

11119
–11170

Crews of vehicles: Supervision 11171

(1) A driver's assistant shall be carried on every transport unit. If the national regulations so provide, the competent authority of a contracting country may require an approved official to be carried in the vehicle at the carrier's expense.

(2) The provisions of marginal 10 171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

Class 1a: Sudstances and articles of 1° - 14°: 5 Kg;

Class 1b: Articles of 1° (b), (c) and (d), 5° - 7° and 9° - 11°: 50 Kg; and

Class 1c: Articles of 21° - 23°: 50 Kg.

11172
–11181

Approval of vehicles 11182

The requirements of marginal 10 182 shall be applicable to «B.III» transport units. 11183
11199

Section 2

Special requirements to be fulfilled by vehicles and their equipment

Materials to be used in the construction of vehicle bodies 11200

In the construction of the body, no materials shall be used which are likely to form dangerous compounds with the explosives carried (e.g. lead in the case of the carriage of hexyl, picric acid, picrates, explosive organic nitro-compounds soluble in water, or explosives of an acid nature [see also marginal 11 105 (2) (c)].

11201 – 11215

Driver's cab 11216

[See marginal 11 105 (2) (b) 3.]

11217 –11224

Combination of drawing vehicle and trailer 11225

[See marginal 11 105 (2) (a)]

11226 –11230

Engine and exhaust system 11231

[See marginal 11 105 (2) (b) 1.]

11232 –11239

Fire-fighting appliances 11240

The provisions of marginal 10 240 (1) (b) and (3) shall not apply to the carriage of dangerous substances of Class 1c, 1° to 3°, 5° to 20°, 24°, 25° and 27°.

11241 11250

Electrical equipment 11251

(1) The rated voltage of the electric lighting system shall not exceed 24 V.

(2) No circuit shall be installed inside the bodies of «B.II» and «B.III» transport units.

(3) The provisions of Appendix B.2, marginal 220 000(2), shall not apply to the electrical equipment of vehicles carrying articles of Class 1c, 1° (a) and 3°, or carrying articles of Class 1c, 1° (b) in a quantity not exceeding 500 kg.

(4) The provisions of Appendix B.2, marginal 220 000 (2) (a) and (c), shall not apply to the electrical equipment of vehicles carrying dangerous substances of Class 1c, 2°, 5° to 20°, 24°, 25° and 27°, or carrying articles of Class 1c, 1o (b) in a quantity exceeding 500 kg.

11252 –11299

Section 3

General service provisions (No special provisions) 11300 –11399

Classes 1a, 1b and 1c

Section 4

Special provisions concerning loading unloading and handling

Method of despatch and restrictions on forwarding 11 400

Substances oc Class 1a, 13° and 14° (a) and (b), may be carried only as a complete load. However, packages weighing not more than 10 kg and handed over for carriage in a quantity not exceeding 100 Kg may be carried otherwise than as a complete load.

Limitation of the quantities carried. 11 401

The quantity of dangerous substances of Classes 1a, 1b and 1c which may be carried on one transport unit shall be limited as follows (see also Marginals 11 402 and 11 403 as regards the prohibition of mixed loading).

(1) A «B.I» transport unit may carry only

(a) one of the loads authorized by marginals 11 106 (1) and (2) (a); or

(b) not more than 500 Kg of articles of Class 1c, 1° (b); or

(c) not more than 300 Kg of substances of Class 1a, 12°; or

(d) not more than 100 Kg of substances of Class 1a 11°, 13° and 14°.

(2) A «B.II» transport unit may carry only

(a) one of the loads authorized in (1) above for «B.I» transport units; or

(b) not more than 500 Kg of substances of Class 1a, 1° to 10° and 12°; of articles of Class 1b, 1° to 4° and 6° to 11°; or of dangerous substances of Class 1c. However, substances of Class 1a, 3° , 4° and 5° must be packed in accordance with what is prescribed for consignments carried otherwise than as a complete load.

(3) A. «B.III» transport unit may carry only

(a) one of the loads authorized in (2) above for «B.II» transport units; or,

(b) provided that the weight of the load, of dargerous substances does not exceed 90 per cent of the weight of the load of ordinary goods declared permissible for the vehicle by the competent authority of the country of regis tration of the vehicle, not more than 9,000 kg of the dangerous substances of Classes 1a, 1b or 1c per articulated vehicle or vehicle without trailer, or than 15,000 kg of those dangerous substances per transport unit of another kind. However, if the load includes one or more substances of Class 1a, 11°, 13° or 14° or one or More substances of Class 1b, 5°, 6° and 11°, these limits shall be reduced to 6,000 kg and 10,000 kg respectively.

11 402

Prohibition of mixed loading on one vehicle 11 403

(1) Substances and articles of Class la shall not be loaded together on one vehicle with:

(a) articles of Class 1b enclosed in packages bearing two labels conforming to model No 1; with

(b) packages bearing a label of any of the models Nos 2D, 4, 4A, 6A, 6B and 6C; or with

(c) packages bearing a label or two labels or any of the models Nos. 2A, 2B, 2C and 5.

(2) Articles of Class 1b enclosed in packages bearing a label conforming to model No 1 shall not be loaded together on one vehicle with:

(a) articles of Class 1b enclosed in packages bearing two labels conforming to model No 1; with

(b) packages bearing a label of any of the models Nos 2D, 4, 4A, 6A, 6B and 6C; or with

(c) packages bearing a label or two labels of any of the models Nos 2A, 2B, 2C, 3 and 5.

(3) Articles of Class 1b enclosed in packages bearing two labels conforming to model No 1 shall not be loaded together on one vehicle with:

(a)substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label conforming to model No 1; or with

(b) the substances indicated under (2) (b) and (2) (c) above,

(4) Articles of Class 1c enclosed in packages bearing a label conforming to model No 1 shall not be loaded together in one vehicle with:

(a) articles of Class 1b enclosed in packages bearing two labels conforming to model No 1; with

(b) packages bearing a label of any of the models Nos. 2D, 4, 4A, 6A, 6B and 6C; or with

(c) packages bearing a label or two labels of any of the models Nos. 2A, 2B, 2C,3 and 5.

Prohidition of mixed loading with goods contained in a container 11 405

(1) The prohibitions of mixed loading of goods laid down in marginal 11 403 shall apply within each container.

(2) The provisions of marginal 11 403 shall apply as between the dangerous substances contained in a container and the other dangerous substances loaded on the same vehicle, whether or not the latter substances are enclosed in one or more other containers.

11 406

Places of loading and unloading 11 407

(1) The following operations are prohibited:

(a) loading or unloading dangerous substances of Classes 1a, 1b and 1c in a public place in a built – up area without special permission from the competent authorities;

(b) loading or unloading dangerous substances of the said Classes in a public elsewhere than in a built – up area without prior notice there of having been given to the competent autorities, unless the said operations are justified for serious reasons of safety.

(2) If, for any reason, handling operations have to be carried out in a pyblic place, then:

– substances and articles of different kinds shall be separated according to the labels; and 11408 11412

packages fitted with handles or supports shall be kept flat.

Cleaning before loading 11 413

Before dangerous substances of Classes 1a, 1b, or 1c are loaded, all remnants of straw, rags, paper and similar materials, and all iron objects (nails, screws, etc) not being an integral part of the body of the vehicle, shall be removed.

Handling and stowage 11 414

(1) The use of readily inflammable materials for stowing packages in vehicles is prohibited.

(2) Packages containing dangerous substances of Classes 1a, 1b and 1c shall be loaded in such a manner that they can be unloaded one by one at the point of destination without its being necessary to rearrange the load.

(3) Packages shall be so stowed in the vehicle that they cannot be displaced therein. They shall be protected against any friction or impact. If casks are carried lying on their sides, they shall be so arranged that their longitudinal axis lies parallel to that of the vehicle, and wooden wedges shall be applied to prevent any lateral movement.

11 415

Section 5 11 499

Spesial provisions concerning the operation of vehicles

Vehicle signs 11 500

The provisions of marginal 10 500, paragraphs (1) and (6), shall apply to the carriage of dangerous substances of Classes 1a, 1b and 1c.

11 501
11 507

Halts for passage through Customs 11 508

When a transport unit or convoy of vehicles carrying dangerous substances of Classes 1a, 1b, and 1c is to pass a frontier Customs post, the transport unit (or convoy) shall stop at least 50 m from the Customs port. The driver's assistant shall proceed to the Customs port to inform the authorities of the arrival of the transport unit (or convoy) carrying dangerous substances.

Halts of limited duration for service requirements 11 509

So far as is possible, halts, for service requirements shall not be made near inhabited places or places of resort. A halt near such a place may not be prolonged except with the agreement of the competent authorities.

11 510
11 519

Convoys 11 520

(1) When vehicles carrying dangerous substances of Classes 1a, 1b and 1c travel in convoy, a distance of not less than 80 m shall be maintained between each transport unit and the next.

(2) If, for any reason, the convoy is obliged to halt and if, in particular, loading or unloading operations have to be carried out in a public place, a distance of not less, than 50 m shall be maintained between the halted vehicles.

(3) The competent authorities may lay down rules for the order or composition of convoys.

11 521
11 599

Section

Transitional provisions, derogations, and provisions peculiar to certain countries

11 600
11 604

Transitional provisions 11605

By derogation from article 4, paragraph 2, of the Agreement, vehicles which were in service in the territory of a Contracting Party at the time of the entry into force of this Annex or were put into service there within two months after its entry into force may be used for the international carriage of dangerous substances of Classes 1a, 1b and 1c only during a period of one year from such entry into force if their design and equipment do not fully satisfy the requirements laid down in this Annex for sush carriage.

11 606
11 609

Provisions peculiar to certain countries. 11 610

The carriage of dangerous substances of Classes 1a, 1b and 1c shall be subject in the territory of the United Kingdom to the regulations in force in that country at the time of carriage.

11 611
20 999

Class 2

Gases: compressed, liquefied or dissolved under pressure

Section 1

General

21000-
21117

Carriage in containers 21118

The carriage in small containers of packages containing gases of 7°(a) and 8°(a) is prohibited.

21119-
21120

Carriage in tanks 21121

(1) Gases of Class 2 other than those listed below may be carried in fixed tanks, in demountable tanks, or in batteries of receptacles: fluorine and silicon tetrafluoride [1°(a t)]; nitric oxide [1°(c t)]; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2°(b t)]; mixtures of hydrogen with not more than 10 per cent diborane by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2°(c t)]; boron chloride, chlorine trifluoride, nitrosyl chloride, sulphuryl fluoride and tungsten hexafluoride [3°(a t)]; methylsilane [3°(b)]; arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [(3°(b t)]; cyanogen, cyanogen chloride and ethylene oxide [3°(c t)]; mixtures of methylsilanes [4°(b t)]; ethylene oxide containing not more than 50 per cent methyl formate by weight [4°(c t)]; silane [5°(b)]; substances of 5°(b t) and (c t); dissolved acetylene [9°(c)]; and gases of 12° and 13°.

Class 2

(2) Cases of Class 2 other than those listed below may be carried in tank-containers: fluorine and silicon tetrafluo- 21121

ride [1°(a t)]; nitric oxide [1°(c t)]; mixtures of hydrogen with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume; mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent hydrogen selenide or phosphine or silane or germane by volume or with not more than 15 per cent arsine by volume [2°(b t)]; mixtures of hydrogen with not more than 10 per cent diborane by volume;mixtures of nitrogen or rare gases (containing not more than 10 per cent xenon by volume) with not more than 10 per cent diborane by volume [2°(c t)]; boron chloride, chlorine trifluoride, nitrosyl chloride, sulphuryl fluoride and tungsten hexafluoride [3°(at)]; methylsilane [3°(b)]; arsine, dichlorosilane, dimethylsilane, hydrogen selenide and trimethylsilane [3° (b t)]; cyanogen, cyanogen chloride and ethylene oxide [3° (c t)]; mixtures of methylsilanes [4°(b t]; ethylene oxide containing not more than 50 per cent methyl formate by weight [4°(c t)]; silane [5°(b)], and the gases of 12° and 13°. However, chlorine and phosgene [3°(a t)] shall not be carried in tank-containers of a cubic capacity exceeding 1 m^3.

(3) Tank-containers containing substances of 1°(b); 2°(b); 3°(b); chloroethane (ethyl chloride) or dimethyl ether of 3°(b t); substances of 3°(c); vinyl bromide or methyl vinyl ether of 3°(c t); or substances of 4°(b), 4°(c), 5°(b), 5° (c), 6°(c), 7°(b) or 8°(b) shall bear on both their sides a label conforming to model No. 2A.

Tank-containers containing oxygen of 1° (a); boron trifluoride of 1°(a t); mixtures containing more than 20 per cent oxygen by volume, of 2°(a); nitrous oxide of 5°(a); nitrous oxide or oxygen of 7°(a); or liquid air or mixtures containing more than 20 per cent oxygen by weight of 8°(a), shall bear on both their sides a label conforming to model No.

Tank-containers containing ammonia, bromomethane, chlorine or sulphurdioxide, of 3°(a t), or ethylene oxide containing not more than 10 per cent by weight carbon dioxide, of 4°(c t), shall bear on both their sides a label conforming to model No. 4.

Tank-containers containing gases of 1°(b t) or 2°(b t), or dimethylamine, ethylamine, hydrogen sulphide, methylamine, methyl chloride, methyl mercaptan, or trimethylamine, of 3°(b t), shall bear on both their sides labels conforming to models Nos. 2A and 4.

Tank-containers containing nitrous dioxide or phosgene of 3° (a t) shall bear on both their sides labels conforming to models Nos. 3 and 4.

Tank-containers containing hydrogen bromide of 3°(a t) or hydrogen chloride of 5°(a t) shall bear on both their sides labels conforming to models Nos. 4 and 5.

Class 2

21122-21127

Empty tanks 21128

(1) For empty fixed tanks, empty batteries of receptacles and empty demountable tanks, see Annex A, marginal 2201, 14°, Note 1.

(2) For tank-containers, see marginal 212 177.

21129-21170

Crews of vehicles: Supervision 21171

The provisions of marginal 10 171 (2) shall apply only to the dangerous goods listed below in quantities exceeding the weights indicated:

– boron trifluoride and fluorine [1°(a t)]; the substances of 3°(a t)]; of 3°(b t) other than dimethyl ether and ethyl chloride; and of 3°(c t); hydrogen chloride of 5°(a t); and the deeply-refrigerated liquefied gases of 7°(a) and 8°(a): 1,000 kg

– the substances of 3°(b); dimethyl ether and ethyl chloride of 3°(b t); vinyl chloride of 3°(c); the substances of 4°(b); and the inflammable liquefied gases of 7°(b) and 8°(b): 10,000 kg

21172-21199

Class 2

Section 2
Special requirements to be fulfilled by vehicles and their equipment

21200-21211

Ventilation 21212

If packages containing gases of 1° to 6° and 9°(c) are carried in a closed vehicle, the vehicle shall be provided with adequate ventilation.

21213-21230

Engine and exhaust system 21231

The engine of a vehicle carrying a gas of Class 2 in a fixed tank, in a demountalbe tank or in a battery of receptacles, and where appropriate the engine driving the decanting pump, shall be so equipped and placed, and the exhaust pipes so directed or protected, as to avoid any danger to the load through heating or ignition.

21232-21239

Fire-fighting appliances 21240

The provisions of marginal 10 240 (l) (b) and (3) shall not apply to carriage other than that of inflammable gases or articles listed in marginal 220 002, or of empty packagings of 14° which have contained such gases.

21241-21250

Electrical equipment 21251

The provisions of appendix B.2 shall not apply to carriage other than that of inflammable gases or articles listed in marginal 220002, or of empty packagings of 10° which have contained such gases.

21252-21259

Special equipment 21260

When compressed gases or liquefied gases harmful to the respiratory organs of entailing a poison risk and identified by the letter «t» in the list of substances are being carried, the crew of the vehicle shall be provided with gas masks (respirators) of a type appropriate to the gases being carried.

21261-21299

Class 2

Section 3
General service provisions

21300-21352

Portable lighting apparatus 21353

When inflammable gases or articles listed in marginal 220002 are being carried, a closed vehicle may not be entered by persons carrying lighting apparatus other than portable lamps so designed and constructed that they cannot iginte any gases which may have penetrated into the interior of the vehicle.

21354-21399

Class 2

Section 4

Special provisions concerning loading, unloading, and handling

Method of dispatch and restrictions on forwarding 21400

Carbon dioxide and nitrous oxide of 7°(a), mixtures containing carbon dioxide and nitrous oxide of 8°(a), and the gases of 7°(b) and 8°(b) may be carried only in fixed tanks, in demountable tanks, in batteries of receptacles or in tank-containers.

21401-21402

Prohibition of mixed loading on one vehicle 21403

Articles of Class 2 enclosed in packages bearing a label conforming to model No.2A shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No. 1.

21404-21406

Places of loading and unloading 21407

(1) The following operations are prohibited:

(a) loading or unloading the following substances in a public place in a built-up area without special permission from the competent authorities: hydrogen bromide, chlorine, nitrogen dioxide, sulphur dioxide or phosgene [3°(a t); hydrogen sulphide [3°(b t)]; and hydrogen chloride [5°(a t)];

(b) loading or unloading the substances listed under (a) above in a public place elsewhere than in a built-up area without prior notice there of having been given to the competent authorities, unless the said operations are justified for serious reasons of safety.

(2) If for any reason handling operations have to be carried out in a public place, then:

– substances and articles of different kinds shall be separated according to the labels; and

– packages fitted with means of handling shall be kept flat while being handled.

21408-21413

Class 2

Handling and stowage 21414

(1) Packages shall not be thrown or subjected to impact.

(2) Receptacles shall be so stowed in the vehicle that they cannot overturn or fall and that the following requirements are met:

(a) the cylinders referred to in marginal 2212 (1) (a) shall be laid parallel to or at right angles to the longitudinal axis of the vehicle; however, those situated near the forward transverse wall shall be laid at right angles to the said axis.

Short cylinders of large diameter (about 30 cm and over) may be stowed longitudinally with their valve-protecting devices directed towards the middle of the vehicle.

Cylinders which are sufficiently stable or are carried in suitable devices effectively preventing them from overturning may be placed upright.

Cylinders which are laid flat shall be so welged or attached that they cannot shift;

(b) receptacles containing gases of 7°(a) or 8°(a) shall always be placed in the position for which they were designed and be protected against any possibility of being damaged by other packages.

21415-21499

Class 2

Section 5

Special provisions concerning the operation of vehicles

Vehicle signs 21500

(1) The provisions of marginal 10 500, paragraphs (1) and (6) shall apply to the carriage of dangerous substances of Class 2. The provisions of paragraphs (2) to (5) shall additionally apply to the carriage of substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear the following labels on both sides and at the rear:

Air, liquefied	3
Ammonia, anhydrous	4
Butadiene	2A
Butane	2A
Butylene	2A
Chlorine	4
Cyclopropane	2A
Dimethyl ether	2A
Ethyl chloride	2A
Ethylene	2A
Ethylene, liquid (refrigerated)	2A
Hydrocarbons, mixtures of (Mixtures A, A0, A1, B and C)	2A
Hydrogen bromide	4+5
Hydrogen chloride	4+5
Isobutane	2A
Isobutylene	2A
Methane, liquid (refrigerated)	2A
Methylamine, anhydrous	4
Methyl bromide	4
Methyl chloride	2A+4
Methyl vinyl ether	2A
Natural gas, liquid (refrigerated)	2A
Nitrogen dioxide NO_2	3+4
Nitrous oxide N_2O	3
Oxygen (refrigerated)	3
Phosgene	3+4
Propylene	2A
Trimethylamine, anhydrous	2A+4
Vinyl chloride	2A

21501-21508

Class 2

Halts of Limited duration for service requirements 21509

In the carriage of dangerous substances of Class 2 other than those of 1°, (a) and (at); 7° (a); 8° (a); and 10°, halts for service requirements shall so far as possible not be made near inhabited places or places of resort. A halt near such a place may not be prolonged except with the agreement of the competent authorities.

21510-21599

Class 2

Section 6

Transitional provisions, derogations and provisions peculiar to certain countries

21600-21609

Provisions peculiar to certain countries 21610

The carriage of dangerous substances of Class 2 shall be subject in the territory of the United Kingdom to the regulations in force in that country at the time of carriage.

21611-30999

Class 3

Inflammable Liquids

Section 1
General

31000
31117

Carriage in containers 31118

Fragile packages within the meaning of marginal 10 102 (1) may not be carried in small containers.

31119
31120

Carriage in tanks 31121

(1) All the liquids of Class 3 except nitromethane (3°) may be carried in fixed tanks and in demountable tanks.

(2) All substances of Class 3 except nitromethane (mononitromethane) (3°) may de carried in tank-containers,

(3) The following substances may be carried in reinforced-plastics tanks conforming to the provisions of Appendix B.1c:

Crude petroleum and other crude oils; volatile products from the distillation of crude petroleum and of other crude oils (1°(a)).

Semi-heavy products from the distillation of petroleum andf of ther crude oils (3°).

Heating oils and diesel oils (4°).

31122
31127

Empty tanks 31128

(1) To be accepted for carriage, empty fixed tanks and empty demountable tanks which have contained inflammable liquids of Class 3 shall be closed in the same manner and leak-proof in the same degree as though they were full.

(2) For tank-containers, see marginal 212177.

31129
31170

Crews of vehicles; Supervision 31171

The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

Class 3

The substances of 1° other than carbon disulfhide, acrylaldehyde (acrolein) and chloroprene (chlorobutadiene), and the substances of 5°: 10,000 kg
Carbon disulphide, acrylaldehyde (acrolein) and chloroprene (chlorobutadiene) of 1°: 1,000 kg

31172
31199

Class 3

Section 2

Special requirements to be fulfilled by vehicles and their equipment

31200
31215

Cab 31216

No readily-inflammable material shall be used in the construction of the cabs of vehicles carrying, liquids of 1° in fixed tanks or in demountable tanks.

31217
31230

Engine and exhaust system 31231

The engine of a vehicle carrying a liquid of 1° in a fixed tank or a demountable tank shall be so constructed and placed, and the exhaust pipe so directed or protected, as to avoid any danger to the load through heating or ignition.

Air-intake piping 31232

In the case of vehicles carrying liquids of 1° in fixed tanks or in demountable tanks, the intake pipe of every petrol engine shall be fitted with a filter capable of serving as a flame-trap.

31233
31234

Fuel tank 31235

The fuel tank supplying the engine of a vehicle carrying a liquid of 1° in a fixed tank or in a demoyntable tank shall be so placed that it is protected so far as possible against forceful impact and that in the event of leakage of fuel the latter can drain directly to the ground. The fuel tank shall in no circumstances be placed directly above the exhaust pipe. If the tank contains petrol, it shall be equipped with an efficient flametrap fitting the filler hole or with a device by which the filler hole can be kept hermetically closed.

31236
31250

Electrical equipment 31251

The provisions of Appendix B.2, marginal 220000, shall not apply to the carriage of dangerous substances of Class 3 other than inflammable liquids of 1°, 2° and 3° and acetaldehyde, acetone and acetone mixtures of 5°.

31252
31299

Class 3

Section 3

General service provisions

31300
31352

Use of portable lighting apparatus 31353

A closed vehicle may not be entered by persons carrying lighting apparatus other than portable lamps so designed and constructed that they cannot ignite any gas which may have penetrated into the interior of the vehicle.

31354
31399

Clase 3
Section 4
Special provisions concerning loading, unloading and handling

31400
31402

Prohibition of mixed loading on one vehicle 31403

(1) Liquids of Class 3 enclosed in packages bearing a label or two labels conforming to model No. 2A shall not be loaded together on one vehicle with substances or articles of Classes la, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No. 1.

(2) Substances of Class 3 enclosed in packages bearing two labels conforming to model No. 2A shall not be loaded together on one vehicle with:

(a) substances of Classes 5.1 or 5.2 enclosed in packages bearing two labels conforming to model No. 3; or with

(b) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5.

31404
31413

Handling and stowage 31414

The use of readily inflammable materials for stowing packages in vehicles is prohibited.

31415

Precautions against electrostatic charges 31416

Before filling or emptying reinforced-plastics tanks with substances with a flash point of 55° C or lower, measures shall be taken in order to establish a good electrical connexion from the vehicle chassis to earth.

The filling rate for substances with a flash point of 55° C or lower shall be limited so as to avoid the generation of unsafe electrostatic charges. 31417

31418
31499

Class 3
Section 5
Special provisions concerning the operation of vehicles
Vehicle signs 31500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1°, 3°, 4° and 5°. The provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) Fixed tanks containing substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 2A; those containing or (empty tanks, uncleaned) having contained acrylaldehyde (acrolein) or chloroprene (chlorobutadiene [1° (a)] or methanol (methyl alcohol) (5°) shall in addition bear labels conforming to model No. 4.

31501
31599

Class 3
Section 6
Transitional provisions, derogations, and provisions peculiar to certain countries

31600
31604
Transitional provisions 31605

Tanks which were in service in the territory of a Contracting Party at the time of the entry into force of the Agreement under article 7, paragraph 1, or were put into service there within two months after its entry into force, may be used for the international carriage of dangerous substances during a period of three years from such entry into force even if their design and equipment do not fully satisfy the requirements laid down in Appendix B.1.

31606
31609
Provisions peculiar to certain countries 31610

The carriage of liquids of Class 3 whose flash-point is below 23° C shall be subject in the territory of the United Kingdom to the regulations in force in that country at the time of carriage.

31611
40999

Class 4.1
Inflammable solids

Section 1
General

41000
41103
Types of vehicles 41104

Packages containing substances of 4° to 8° shall be loaded on to closed vehicles or on to sheeted vehicles.

41105
41110
Carriage in bulk 41111

(1) Sulphur of 2° (a) may be carried in bulk.

(2) Naphthalene of 11° (a) and (b) may be carried in bulk; it must in that case be carried in closed vehicles with a metal body or in sheeted vehicles with a non-inflammable sheet and either having a metal body or having a sheet of closely-woven material spread on the floor. For the carriage of naphthalene of 11°(a), the floors of vehicles shall be protected by an oil-proof lining.

41112
41117
Carriage in containers 41118

For the carriage of naphthalene of 11°(a) and (b), small wooden containers shall be fitted with an oil-proof lining.

41119
41120
Carriage in tanks 41121

(1) Sulphur (2°), phosphorus sesquisulphide, phosphorus pentasulphide (8°) and naphthalene (11°) may be carried in fixed tanks or in demountable tanks.

(2) These same substances may also be carried in tank-containers.

41122
Class 4.1 41127
Empty tanks 41128

For tank-containers, see marginal 212177.

41129
41170
Crews of vehicles; Supervision 41171

(1) A driver's assistant shall be carried on every transport unit carrying more than 300 kg of substances of 6°.

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

The substances of 7°(a), (b) and (c): 1,000 kg.

41172
Class 4.1 41199
Section 2
Special requirements to be fulfilled by vehicles and their equipment

41200
41250
Electrical equipment 41251

The provisions of Appendix B.2, marginal 220000, shall not apply to carriage other than that of substances of 3° to 7°.

41252
Class 4.1 41299
Section 3
General service provisions

41300
(No special provisions) 41399

Class 4.1
Section 4
Special provisions concerning loading, unloading and hanbling
Method of despatch and restrictions on forwarding 41400

Sulphur in the melted state [2°(b)] and naphthalene in the melted state [11°(c)] may be carried only in tank-vehicles and tank-containers.

41401
41402
Prohibition of mixed loading on one vehicle 41403

(1) Substances of Class 4.1 enclosed in packages bearing a label or two labels conforming to model No. 2B shall not be loaded together on one vehicle with substances or articles of Classes la, lb or lc enclosed in packages bearing a label or two labels conforming to model No.1.

(2) Substances of Class 4.1 enclosed in packages bearing two labels conforming to model No. 2B shall not be loaded together on one vehicle with:

(a) substances of Classes 5.1 or 5.2 enclosed in packages bearing two labels conforming to model No. 3; or with

(b) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5.

41404
Class 4.1 41499
Section 5
Special provisions concerning the operation of vehicles
Vehicle signs 41500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 2°(b), 4° to 8° and 11°(c). The provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 2B.

41501
Section 6 41599
Transitional provisions, derogations, and provisions peculiar to certain countries

41600
(No special provisions) 41999

Class 4.2

Substances liable to spontaneous combustion

Section 1

General

42000
42103

Types of vehicles

42104

Packages containing substances of 4° and 10° shall be loaded on to closed vehicles or on to sheeted vehicles.

42105
42110

Carriage in bulk

42111

Substances of 5°, dust from blast-furnace filters [6°(a)] and substances of 10° may be carried in bulk. Substances of 5° and 10° shall in that case be carried in closed vehicles with a metal body, and dust from blast-furnace filters in closed vehicles with a metal body or in sheeted vehicles with a metal body.

42112
42120

Carriage in tanks

42121

(1) White or yellow phosphorus (1°) and newly-quenched charcoal, powdered or granulated, (8°) may be carried in fixed tanks or in demountable tanks.

(2) White or yellow phosphorus (1°), aluminium alkyls, halides and hydrides of aluminium alkyls (3°) and newly-quenched charcoal, powdered or granulated, (8°) may be carried in tank-containers.

42122
42127

Empty tanks

42128

(1) To be accepted for carriage, empty fixed tanks and empty demountable tanks which have contained phosphorus of 1° shall either

- be filled with nitrogen, in which case the transport document shall be required to certify that the tank, after closure, is gas-tight; or
- be filled to not less than 96 per cent of their capacity with water; between 1 October and 31 March this water shall contain, in a concentration making it impossible for the water to freeze during carriage, one or more non-corrosive anti-freezing agents not liable to react with phosphorus.

(2) For tank-containers, see 212177 and 212474.

42129
42170

Crews of vehicles; Supervision

42171

(1) A driver's assistant shall be carried on every transport unit carrying substances of 1°, 2°, 3° and 4°.

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

- The substances of 1° - 3°, powder of zirconium of 6°(a) and metals in a pyrophoric form of 6°(d): 10,000kg

42172
42199

Section 2

Special requirements to be fulfilled by vehicles and their ecuipment

42200
42250

Electrical equipment

42251

The provisions of Appendix B.2, marginal 220000, shall not apply to the carriage of dangerous substances of Class 4.2.

42252
42299

Section 3

General service provisions

42300

(No special provisions)

42399

Section 4

Special provisions concerning loading, unloading and handling

42400
42402

Prohibition of mixed loading on one vehicle

42403

(1) Substances of Class 4.2 enclosed in packages bearing a label or two labels conforming to model No.2 C shall not be loaded together on one vehicle with substances or articles of Classes la, lb or lc enclosed in packages bearing a label or two labels conforming to Model No. 1.

(2) Substances of 4° enclosed in packages bearing two labels conforming to model No. 2 C shall not be loaded together on one vehicle with:

(a) substances of Classes 5.1 or 5.2 enclosed in packages bearing two labels conforming to model No. 3; or with

(b) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5.

42404
42413

Handling and stowage

42414

(1) Receptacles and packages containing substances of 1° and 3° must not be subjected to impact. They shall be so placed in the vehicle that they cannot overturn or fall or be displaced in any way.

(2) The use of readily inflammable materials for stowing packages in vehicles is prohibited.

42415
42499

Section 5

Special provisions concerning the operation of vehicles

Vehicle signs

42500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1° to 4° and 6°. The provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 2C.

42501
42599

Section 6

Transitional provisions, derogations, and provisions peculiar to certain countries

42600

(No special provisions)

42999

Class 4.3

Substances which give off inflammable gases on contact with water

Section 1

General

43000-
43103

Types of vehicles

43104

Dangerous substances of Class 4.3. in packages shall be loaded on to closed or sheeted vehicles. However, receptacles containing calcium carbide [2°(a)] may also be loaded on to open vehicles.

43105-
43110

Carriage in bulk

43111

Calcium carbide [2°(a)] and calcium silicide in lumps [2°(d)] may be carried in bulk in vehicles equipped with movable or fixed receptacles which must conform to the general conditions of packing set forth in marginal 2472 (1), (2) and (3). Such receptacles must be so designed that the openings used for loading or unloading can be closed hermetically.

43112-
43117
43118

Carriage in containers

Small containers used for the carriage in bulk of the substances referred to in marginal 43111 shall conform to the provisions of that marginal concerning vehicles and the receptacles of vehicles.

43119-43120

Carriage in tanks 43121

(1) Sodium, potassium, and alloys of sodium or potassium [1°(a)], and trichlorosilane (silicochloroform) (4°), may be carried in fixed tanks or in demountable tanks.

(2) These same substances may also be carried in tank-containers.

43122-43127

Class 4.3

Empty tanks 43123

(1) To be accepted for carriage, empty tanks and empty demountable tanks which have contained sodium, potassium or alloys of sodium and potassium [1°(a)] shall be closed in the same manner and leak-proof in the same degree as though they were full.

(2) For tank-containers, see marginal 212177.

43129-43170

Crews of vehicles; Supervision 43171

(1) A driver's assistant shall be carried on every transport unit carrying substances of Class 4.3 other than calcium carbide [2°(a)] and calcium silicide [2°(d)].

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

– The alkali metals and substances containing alkali metals of 1°, alkali metal hydrides of 2°(b) and trichlorosilane (silicochloroform) of 4°: 10,000 kg

43172-43199

Class 4.3

Section 2

Special requirements to be fulfilled by vehicles and their equipment

43200-43299

(No special requirements)

Class 4.3

Section 3

General service provisions

43300-43399

(No special provisions)

Class 4.3

Section 4

Special provisions concerning loading, unloading and handling

43400-43402

Prohibition of mixed loading on one vehicle 43403

Substances of Class 4.3 shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No. 1.

43404-43413

Handling and stowage 43414

Packages shall be so stowed in the vehicle that they cannot be displaced therein. They shall be protected against any friction or impact. While packages are being handled, special measures shall be taken to prevent them from coming into contact with water.

43415-43499

Class 4.3

Section 5

Special provisions concerning the operation of vehicles

Vehicle signs 43500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of dangerous substances of Class 4.3. The provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 2D.

43501-43599

Class 4.3

Section 6

Transitional provisions, derogations, and provisions peculiar to certain countries

43600-50999

(No special provisions)

Class 5.1

Oxidizing substances

Section 1

General

51000-51110

Carriage in bulk 51111

(1) Sudstances of 4° to 6° and 7° (a) may carried in bulk as a complete load.

(2) Substances of 4° and 5° shall be carried in open metal «vat vehicles» (vehicules cuves) covered with an impermeable non-inflammable sheet,or in metal containers [see marginal 51118 (2)].

(3) Substances of 6° and 7° (a) and (b) shall be carried in closed vehicles or in vehicles covered with an impermeable non-inflammable sheet, the vehicles being so constructed either that the substance cannot come into contact with wood or any other combustible material or that the entire surface of the floor and walls, if combustible, has been provided with an impermeable and incombustible surfacing or treated with substances rendering the wood incombustible.

51112-51117

Carriage in containers 51118

(1) Fragile packages within the meaning of marginal 10102 (1) and those containing hydrogen peroxide or

solutions of hydrogen peroxide (1°) or tetranitromethane (2°) may not be carried in small containers.

(2) Containers intended for the carriage of substances of 4° and 5° shall be made of metal, be leak-proof, be covered with a lid or an impermeable sheet resistant to combustion, and be so constructed that the substances held in the containers cannot come into contact with wood or any other combustible material.

(3) Containers intended for the carriage of substances of 6° and 7° (a) and (b) shall be covered with a lid or an impermeable sheet resistant to combustion and be so constructed either that the substances held in the containers cannot come into contact with wood or any other combustible material or that the entire surface of the floor and walls, if made of wood, has been provided with an impermeable surfacing resistant to combustion or has been coated with sodium silicate or a similar substance.

51119
–51120

Carriage in tanks 51121

(1) Substances of 1° to 3°; solutions of 4° (also powdery sodium chlorate in the moist or the dry state); and hot aqueous solutions of ammonium nitrate of 6° (a) in a concentration of more than 80 per cent but not more than 93 per cent on condition that:

(a) the pH value, measured in a 10 per cent aqueous solution of the substance carried, is between 5 and 7, and that

(b) the solutions not containing any combustible substance in a quantity greater than 0.2 per cent or any chlorine compound in such quantity that the chlorine content exceeds 0.02 per cent may be carried in fixed tanks and in demountable tanks.

(2) The substances of 1° to 3°, the solutions of 4° and moist sodium chlorate of class 5.1 may be carried in tank-containers.

(3) Solutions of 4° (a), may be carried in reinforced-plastics tanks conforming to the provisions of Appendix B.1c.

51122
–51127

Empty tanks 51128

(1) To be accepted for carriage, empty fixed tanks and empty demountable tanks which have contained substances of Class 5.1 shall be closed in the same manner and leak-proof in the same degree as though they were full.

(2) For tank-containers, see marginal 212177.

(3) Empty fixed tanks and empty demountable tanks which have contained a chlorate, a perchlorate, a chlorite (4° and 5°), an inorganic nitrate (8°) or substances of 9° and 10° and have residues from their previous contents adhering to the outside are not to be accepted for carriage.

51129
– 51170

Crews of vehicles: Supervision 51171

(1) A driver's assistant shall be carried on every transport unit carrying sudstances of Class 5.1, 1°, 2° and 3°

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

– The substances of 1° to 3° and 9° (a): 10.000 kg

51172
– 51199

Class 5.1

Section 2

Special requirements to be fulfilled by vehicles and their equipment

(No special requirements) 51200
51215

Cab 51216

The following provisions shall apply to the carriage of liquids of 1° in fixed tanks or in demountable tanks:

(1) unless the driver's cab is made of fire-proof materials, a metal shield of the same width as the same tank shall be fitted at the back of the cab;

(2) any windows in the back of the driver's cab or in the metal shield shall be hermetically closed. They shall be made of fire-resistant safety glass and have fire-proof frames; and

(3) there shall be a clear space of not less than 15 cm between the tank and the driver's cab or the shield.

Vehicle body 51217

For the carriage of liquids of 1° in fixed tanks or in demountable tanks, no wood (unless covered with metal or a suitable synthetic material) shall be used in the construction of any part of the vehicle situated to the rear of the shield prescribed in marginal 51216 (1).

51218
–51230

Engine 51231

For the carriage of liquids of 1° in fixed tanks or in demountable tanks, the engine and (except where the vehicle is driven by a diesel engine) the fuel tank shall be placed forward of the rear wall of the driver's cab or of the shield, or shall if placed otherwise be specially protected.

51232
–51259

Special equipment 51260

Vehicles carrying liquids of 1° in fixed tanks or in demountable tanks shall carry on board a tank having a capacity of about 30 litres of water. The water tank shall be placed as securely as possible, and there shall be admixed to the water it contains an anti-freeze preparation which does not attack the skin or the mucous membranes and does not react chemically with the load.

51261
– 51299

Class 5.1

Section 3

General service provisions

51300
–51302

Precautions with respect to articles of consumption 51305

In vehicles and at places of loading, unloading or transloading, tetranitromethane of 2o, barium chlorate of 4° (b), barium perchlorate of 4° (b), barium nitrate and lead nitrate of 7° (c), inorganic nitrites of 8°, barium dioxide of 9° (b) and barium permanganate of 9° (c) shall be kept away from foodstuffs and other articles of consumption

51304
51399

Class 5.1

Section 4

Special provisions concerning loading, unloading and handling

51400
51402

Prohibition of mixed loading on one vehicle 51403

(1) Substances of Class 5.1 enclosed in packages bearing a label or two labels conforming to model No. 3 shall not be loaded together on one vehicle with substances of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No.1.

(2) Substances of Class 5.1 enclosed in packages bearing two labels conforming to model No.3 shall not be loaded together on one vehicle with:

(a) substances of Classes 3, 4.1 or 4.2 enclosed in packages bearing two labels conforming to models Nos. 2A, 2B or 2C; or with

(b) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5.

51404
–51413

Handling and stowage 51414

(1) Packages containing substances of Class 5.1 shall be placed flat on their bottoms. In addition, receptacles containing liquids of Class 5.1 shall be so wedged that they cannot overturn.

(2) The use of readily inflammable materials for stowing packages in vehicles is prohibited.

Cleaning after unloading 51415

After unloading, vehicles which have been carrying substnces of 4° to 6° and 7° (a) and (b) in bulk shall be copiously swilled.

51416
–51499

Class 5.1

Section 5
Special provisions concerning the operation of vehicles

Vehicle signs 51500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1°, 2°, 3° of chlorates and inorganic chlorate weedkillers of 4° (a), barium perchlorate of 4° (b), substances of 8° and go (b), and barium permanganate of 9° (c). the provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 3.

51501-
51999

Class 5.1

Section 6
Transitional provisions, derogations, and provisions peculiar to certain countries

51600-
51999

(No special provisions)

Class 5.2

Organic peroxides
Section 1
General

52000-
52103

Types of vehicles 52104

(1) Substances of 1° to 22°, 30° and 31° shall be loaded on to closed or sheeted vehicles. Substances of 45° to 55° enclosed in protective packagings filled with a refrigerant shall be loaded on to closed or sheeted vehicles. If the vehicles used are closed they shall be adequately ventilated. Sheeted vehicles shall be fitted with side boards and a tailboard. The sheets of these vehicles shall be of a impermeable material not readily inflammable.

(2) Where, by reason of the provisions of marginal 52400, substances are required to be carried in insulated, refrigerated or mechanically-refrigerated vehicles, those vehicles shall satisfy the requirements of marginal 52248.

52105-
52117

Carriage in containers 52118

Fragile packages within the meaning of marginal 10102 (1) shall not be carried in small containers.

52119-
52120

Carriage in tanks 52121

(1) Substances of 1°, 10°, 14°, 15° and 18° may be carried in fixed tanks and in demountable tanks.

(2) These substances may also be carried in tank containers.

52122-
52127

Class 5.2

Empty tanks 52128

(1) To be accepted for carriage, empty fixed tanks and empty demountable tanks of 99° shall be closed in the same manner and leak-proof in the same degree as though they were full.

(2) For tank-containers, see marginal 212177.

52129-
52170

Crews of vehicles: Supervision 52171

(1) A driver's assistant shall be carried on every transport unit loaded with substances of 46° (a), 47° (a) and 49° (a) and on every transport unit loaded with more than 2,000 kg of substances of 45°, 46°(b) and (c), 50°, 51° to 53° and 55°.

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

Group A.	Substances of 4°, 8°(a), 9°(a), 13°(a) and 17°(a)	: 1,000 kg
Group C.	Substances of 35°	: 1,000 kg
Group E.	Substances of 46°(a), 47°(a) and 49°(a)	: 100 kg
	Substances of 45°, 46°(b) and (c), 47°(b), 48°, 49°(b), 50°-55°	: 2,000 kg

52172-
52199

Class 5.2

Section 2
Special requirements to be fulfilled by vehicles and their equipment

52200-52247

52248 Insulated, refrigerated and mechanically - refrigerated vehicles

Insulated, refrigerated and mechanically - refrigerated vehicles used by reason of the requirements of marginal 52400 shall conform to the following provisions:

(a) the vehicle used shall be such and be so equipped as regards its insulation and source of cold that the maximum temperature prescribed in marginal 52400 is not exceeded whatever the atmospheric conditions may be;

(b) the vehicle shall be so equipped that vapours from the substances carried cannot penetrate into the cab;

c) a suitable device shall be provided enabling the temperature prevailing in the loading space to be determined at any time from the driver's cab;

(d) the loading space shall be provided with vents or ventilating valves if there is any risk of a dangerous excess pressure arising therein. Care shall be taken where necessary to ensure that refrigeration is not impaired by the vents or ventilating valves;

(e) the refrigerant used shall not be inflammable;

(f) the refrigerating appliance of a mechanically - refrigerated vehicle shall be capable of operating independently of the engine used to propel the vehicle.

52249-52299

Class 5.2

Section 3
General service provisions

52300-52399

(No special provisions)

Class 5.2
Section 4
Special provisions concerning loading, unloading and handling

52400 Method of despatch and restrictions on forwarding

(1) Substances of Group E shall be forwarded in such manner that the ambient temperatures indicated below are not exceeded:

substances of 45°	: maximum	temperature	+10°C
» » 46°(a)	: »	»	−10°C
» » 46°(b) and (c)	: »	»	−10°C
» » 47°(a)	: »	»	−10°C
» » 47°(b)	: »	»	−10°C
» » 48°	: »	»	+ 2°C
» » 49°(a)	: »	»	−10°C
» » 49°(b)			
» » with phlegmatizer	: »	»	+ 2°C
» » with solvent	: »	»	− 5°C
» » 50°	: »	»	0°C
» » 51°	: »	»	0°C
» » 52°	: »	»	+20°C
» » 53°	: »	»	−10°C
» » 54°	: »	»	+20°C
» » 55°	: »	»	+10°C

(2) Where substances of Group E are not carried in mechanically - refrigerated vehicles, the quantity of refrigerant in the protective packaging shall be so proportioned that the temperatures specified in paragraph (1) above are not exceeded at any time during carriage, which term here includes loading and unloading.

Class 5.2

52400 (contd)

(3) The use of liquid air liquid oxygen as a refrigerant is prohibited.

(4) The temperature of refrigeration shall be so selected as to avoid any danger which might arise from the separation of phases.

52401 Limitation of the quantities carried

A transport unit shall not carry more than 750 kg of substances of 46° (a), 47° (a) and 49° (a), no more than 5,000 kg of substances of 45°, 46° (b) and (c), 47° (b), 48°, 49°(b), 50° to 53° and 55°, no more than 10,000 kg of substances of 54°.

52402

52403 Prohibition of mixed loading on one vehicle

Substances of Class 5.2 shall not be loaded together on one vehicle with:

(a) substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No. 1; with

(b) substances of Classes 3, 4.1 or 4.2 enclosed in packages bearing two labels conforming to models Nos. 2A, 2B or 2C: or with

(c) liquids of Class 8 enclosed in packages bearing two labels conforming to model No. 5.

52404

52412

52413 Cleaning before loading

Vehicles for the carriage of packages containing substances of Class 5.2 shall be carefully cleaned.

52414 Handling and stowage

(1) Packages containing substances of Class 5.2 shall be loaded in such a manner that they can be unloaded one by one at the point of destination without its being necessary to rearrange the load.

(2) Packages containing substances of Class 5.2 shall be kept upright and be so secured and fixed that they cannot overturn or fall. They shall be protected against any damage which might be caused by other packages.

Class 5.2

52414 (contd)

(3) The use of readily inflammable materials for stowing packages in vehicles is prohibited.

(4) Packages containing substances of Group E shall not be placed on top of other goods; in addition, they shall be so stowed as to be readily accessible.

(5) Substances of Group E shall be loaded and unloaded without intermediate storage, and shall in the event of transloading be transferred directly from one vehicle to another. The prescribed maximum temperatures shall not be exceeded during such handling (see marginal 52400 (1)

52415

52499

Class 5.2
Section 5
Special provisions concerning the operation of vehicles

52500 Vehicle signs

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of dangerous substances of Class 5.2. The provisions of paragraphs (2) to (5) shall apply to substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No. 3.

52501

52508

52509 Halts of limited duration for service requirements

During the carriage of substances of 46° (a), 47° (a) and 49° (a), halts for service requirements shall so far as

possible not be made near inhabited places or places of resort. A halt near such a place may not be prolonged except with the agreement of the competent authorities. The same rule shall apply where one transport unit is loaded with more than 2,000 kg of substances of 45°, 46° (b) and (c), 48°, 49° (b) and 50° to 55°.

52510
52599

Class 5.2
Section 6
Transitional provisions,
derogations and provisions peculiar to certain countries

52600
(No special provisions) 60999

Class 6.1
Toxic substances
Section 1
General

61 000
-61 110

Carriage in bulk 61 111

(1) Substances of 41° and 73° may be carried in bulk as a complete load.

(2) Substances of 41° shall be carried in closed or sheeted vehicles and those of 73° in open, sheeted or movable-roof vehicles

61 112
-61 117

Carriage in containers 61 118

Fragile packages within the meaning of marginal 10 102 (1) may not be carried in small containers.

61 119
-61 120

Carriage in tanks 61 121

(1) The following substances may be carried in fixed tanks or in demountable tanks:

(a) the highly toxic substances listed by name in 1° (b) to 5°;

(b) the toxic substances, carried in the liquid state, of 11°(a); 12°, (b) to (e); 13°(b); 14°; 52°; 81°(a); and 82°(a); and substances assimilable to them;

(c) the other toxic and harmful substances carried in the liquid state, of 11° to 13°; 21° to 23°; 31°, (b) and (c); 32° (b); 61°; 62°; 81° to 83°; and substances assimilable to them; and

(d) the powdery or granular toxic and harmful substances of 21° to 23°; 31° (a); 41°; 62°; 71° to 75°; 82° to 84°; and substances assimilable to them.

(2) The following substances of marginal 2601 may be carried in tank-containers:

Acrylonitrile (2°(a)), acetronitrile (methyl cyanide) (2°(b)), aqueous solutions of ethyleneimine (3°), allyl chloride (4°(a)), methyl chloroformate (4°(b)), ethyl chloroformate (4°(c)), 2-cyanopropane-2-ol (acetone cyanchydrin) (11°(a)), aniline (11° (b)), 1-chloro-2,3-epoxypropane (epichlorohydrin) (12°(a)), 2,2-dichlorodiethyl ether (chloroethyl ether, 2-chloroethyl ether) (12°(f)), allyl alcohol (13°(a)), dimethyl sulphate (13°(d)), phenol (13°(c)), lead alkyls (14°), 2-bromophenylacetonitrile (bromobenzyl cyanide) (21°(a)), phenylcarbylamine chloride (21°(b)), 2,4-diisocyanatotoluene (21°(c)), and its mixtures with 2,6-diisocyanatotoluene (which are assimilated to it), allyl isothiocyanate (21°(d)), chloroanilines (21°(e)), mononitroanilines and dinitroanilines (21°(f)), naphthylamines (21°(g)), 2,4-diaminotoluene (21°(h)), dinitrobenzenes (21°(i)), chloronitrobenzenes (21°(k)), mononitrotoluenes (21°(l)), dinitrotoluenes (21°(m)), nitroxylenes (21°(n)), toluidines (21°(o)), xylidines (21°(p)), cresols (22°(a)), xylenols (22°(b)), xylyl bromide (23°(a)), phenacyl chloride (w-chloroacetophenone) (23°(b)), phenacyl bromide (w-bromoacetophenone) (23°(c)), 4-chloroacetophenone (methyl p-chlorophenylketone) (23°(d)), symmetrical dichloroacetone (23°(e)), solutions of inorganic cyanides (31°(b)), ethylene dibromide (symmetrical dibromoethane) (61°(a)), and carbon tetrachloride, chloroform and methylene chloride (which are assimilated to it), methyl chloroacetate (61°(e)), ethyl chloroacetate (61°(f)), benzyl chloride (61°(k)), benzene trichloride which is assimilated to sybstances of 62°, and substances and preparations used as pesticides (81° - 83°).

61 122
-61 126

Tanks 61 127

The outside of the tanks must not be contaminated with toxic substances.

Empty tanks 61 128

(1) To be accepted for carriage, empty fixed tanks and empty demountable tanks must not be contaminated on the outside with toxic substances; they shall be closed in the same manner and leak-proof in the same degree as though they were full.

(2) For tank containers, see marginal 212 177.

(3) Empty demountable tanks and empty tank-containers of 91°, if forwarded otherwise than as a full load, shall bear labels conforming to model No 4 (see Annex A, Appendix A.9).

61 129
-61 170

Crews of vehicles: Supervision 61 171

(1) A driver's assistant shall be carried on every transport unit carrying more than one metric ton of substances of Class 6.1 1° to 5° and 14°, or more than 250 kg of fragile packages containing these substances.

(2) The provisions of paragraph 10 171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

–The substances of 1° - 5°	:	1,000 kg
–The substances of 11°(a), 12°(a), (b) and (d), 13° (a) and (b), 14° and 81°	:	5,000 kg

61 172
-61 184

Instructions in writing 61 185

Where substances of 14°, or receptacles which have contained them, are carried, the text of the written instructions shall specify, inter alia, the following:

«(A) Precautions to be observed

The substance being carried is highly toxic. In the event of leakage from one of the receptacles the following precautions should be taken:

1. avoid:

(a) contact with the skin;

(b) inhalation of vapours;

(c) introduction of the liquid into the mouth;

2. when drums which are torn open or damaged or wetted with liquid are being handled, the use of the following is compulsory:

(a) respirators;

(b) gloves made of rubber or some suitable plastics material;

(c) boots made of rubber or some suitable plastics material.

In the event of a serious accident involving obstruction of the public highway, it is essential that persons arriving to clear the site should be warned of the danger incurred.

(B) Action to be taken

All practicable steps, including the use of the notices referred to in marginal 61 260, shall be taken to keep persons at a distance of not less than 15 metres from the site of the accident; the notices contained in the equipment box shall be set up round the enclosure and onlookers shall be kept away.

The respirators, gloves and boots will enable one person to approach the load and verify its condition.

Should any of the drums be torn open, the following should be done:

(a) additional respirators, gloves and boots with which to equip the worker should be procured urgently;

(b) drums still intact should be set aside;

(c) the liquid spilled on the vehicle or on the ground should be noutralized by copious swilling with an aqueous

solution of potassium permanganate (a neutralizing agent a bottle of which is kept in the equipment box); the solution is easily prepared by stirring 0.5 kg of permanganate with 15 litres of water in a bucket; swilling should be carried out several times, because it takes 2 kg of potassium permanganate to neutralize completely 1 kg of the substance being carried.

Where practicable, the best way to decontaminate the area is to pour petrol over the spilled fluid and ignite it.

(C) Important notice

In case of accident, one of the first steps which must be taken is to notify by telegram or telephone ... (insert here the addresses and telephone numbers of the establishments to be notified in each of the countries in whose territory carriage is to take place).

A vehicle which has been contaminated with the substance carried shall not be put back into service until it has been decontaminated under the supervision of a competent person. Any wooden parts of the vehicle which have been attacked by the substance carried shall be removed and burnt.»

61 186
-61 199

Section 2
Special requirements to be fulfilled by vehicles and their equipment

61 200
61 239

Fire-fighting appliances -61 240

The provisions of marginal 10 240 (1)(b) and (3) shall not apply to the carriage of dangerous substances of Class 6.1.

61 241
-61 250

Electrical equipment 61 251

(1) The provisions of Appendix B.2, marginal 220 000, shall not apply to the carriage of dangerous substances of Class 6.1.

(2) However, vehicles carrying liquids of 14° in fixed tanks or in demountable tanks shall be fitted with a switch enabling the entire electric circuit to be opened (cut-out switch). The switch shall be situated near the storage batteries. The electrical equipment shall satisfy the provisions of marginal 220 000 (2)(c) 2.

61 252
-61 259

Special equipment 61 260

Whenever substances of 14° or receptacles having contained them are carried, the driver shall, when he is given the transport document, at the same time be given a portable equipment box fitted with a handle and containing:

—three copies of the written instructions specifying the action to be taken in the event of an accident or incident occurring during carriage (see marginal 61 185);

—two pairs of gloves and two pairs of boots made of rubber or some suitable plastics material;

—two respirators with an activated-charcoal cartridge of 500 cm^3 capacity;

—a bottle (made of bakelite, for example) containing 2 kg of potassium permanganate and bearing the inscription «dissolve in water before use»;

Class 6.1

—six fibreboard notices bearing the inscription «DANGER - volatile poison spilled. Do not approach without respirator» in the language or languages of each of the countries in whose territory carriage takes place. - 61260

This equipment box shall be kept in the driver's cab in a place where it can easily be found by the decontamination team.

61261
61299

Section 3
General service provisions

61300
61301

Action to be taken in the event of accident 61302

(See marginal 61 185)

Precautions with respect to articles of consumption 61303

In vehicles and at places of loading, unloading or transloading, dangerous substances of Class 6.1 shall be kept from foodstuffs and other articles of consumption.

61304
61352

Portable lighting apparatus 61353

The provisions of marginal 10353 shall not apply.

61354
61373

Prohibition of smoking 61374

The provisions of marginal 10374 shall not apply.

61375

Section 4 61399
Special provisions concerning loading, unloading and handling

Method of despatch and restrictions on forwarding 61400

The substances referred to under 2° (a) (acrylonitrile) and 61° (1) (l-chloro-l-nitropropane) may be carried in non-returnable metal drums [see marginal 2604(1) (b)2 and 2623(2)(d)] only as a complete load on open vehicles.

61401
61402

Prohibition of mixed loading on one vehicle 61403

Substances of Class 6.1 enclosed in packages bearing a label conforming to models Nos. 2A, 4 or 4A shall not be loaded together on one vehicle with substances or articles of Classes la, ib or lc enclosed in packages bearing a label or two labels conforming to model No. 1.

61404
61406

Places of loading and unloading 61407

(1) The following operations are prohibited:

(a) loading or unloading substances of 1° to 5°, 13°(b) 14° and 81° in a public place in a built-up area without special permission from the competent authorities;

(b) loading or unloading the said substances in a public place elsewhere than in a built-up area without prior notice thereof having been given to the competent authorities, unless the said operations are justified for serious reasons of safety.

(2) If, for any reason, handling operations have to be carried out in a public place, then substances and articles of different kinds shall be separated according to the labels.

61408
61414

Cleaning after unloading 61415

(1) After unloading, vehicles which have been carrying substances of 41° and 73° in bulk shall be copiously swilled.

(2) A vehicle which has been contaminated with substances of 14° or with a mixture thereof shall not be put back into service until it has been decontaminated under the supervision of a competent person. Any wooden parts of the vehicle which have been attacked by substances of 14° shall be removed and burnt.

61416

Section 5 61499
Special provisions concerning the operation of vehicles

Vehicle signs 61500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1° to 5°, 11° to 14°, 21° to 23°, 31° to 33°, 41°, 51° to 54°, 61°, 62°, 81° and 82°. The provisions of paragraphs (2) to (5) shall also apply to the carriage of substances listed in Appendix B.5.

(2) Whenever substances of 14° are carried, the vehicle shall display on each side a warning notice to the effect that, if any liquid escapes, the gratest caution must be exercised and the vehicle must not be approached without gas-mask, gloves and boots of rubber or of some suitable plastics material.

(3) Fixed tanks containing substances listed in Appendix B.5 shall in addition bear on both sides and at the

rear a label conforming to model No. 4. Those containing or (empty tanks, uncleaned) having contained acetonitrile, 2-cyanopropan-2-ol (acetone cyanohydrin), allyl chloride or acrylonitrile shall in addition bear labels conforming to model No. 2A.

61501
61508

Halts of limited duration for service requirements 61509

Halts for service requirements shall so far as possible not be made near inhabited places or places of resort. A halt near such a place may not be prolonged except with the agreement of the competent authorities.

61510
61514

Protection against action of sun 61515

During the period April to October inclusive, when a vehicle carrying hydrocyanic acid [1°(a)] is stationary the packages shall, if the legislation of the country in which the vehicle is halted so requires, be effectively protected against the action of the sun, e.g. by means of sheets placed not less than 20 cm above the load.

61516
61599

Section 6
Transitional provisions, derogations, and provisions peculiar to certain countries

61.600
61.604

Transitional provisions 61605

Pursuant to the last sentence of article 4, paragraph 2, of the Agreement, vehicles which were in service in the territory of a Contracting Party at the time of the entry into force of the Agreement under article 7, paragraph 1, or were put into service there within two months after its entry into force, may be used for the international carriage of substances of 14° only during a period of two years from such entry into force if their design and equipment do not fully satisfy the requirements laid down in this Annex for such carriage.

61606
61999

Class 6.2
Repugnant substances and substances liable to cause infection
Section 1
General

62000
62099

Application of Chapter 1 of this Annex 62100

The only provisions of this Annex other than those of Sections 1 to 6 below which apply to the carriage of dangerous substances of Class 6.2 are those of marginals 10001, 10100, 10102, 10111, 10118, 10181(1)(a), 10404, 10405, 10413, 10414, 10415 and 10419.

62101

Carriage in bulk 62110

(1) Substances of 1°, 2°, 3° and 5° may be carried in bulk. Substances of 9° may not be carried otherwise than in bulk.

(2) When they are in bulk

(a) substances of 1°(a) and (c) and 2° shall be loaded on to specially fitted covered vehicles equipped with ventilating installations. During the months from November to February these substances may also be loaded on to open vehicles on condition that they been sprayed with suitable disinfectants to remove their bad odour;

(b) the following shall be loaded on to open vehicles;
substances of 1°(b), after being sprayed with suitable disinfectants to remove their bad odour;
substances of 3°;
substances of 5°, after being sprayed with limewash so that no putrid odour is discernible; and
substances of 9°.

Class 6.2

(3) In addition, when they are loaded on to open vehicles, they shall be covered with: 62111

(a) a sheet impregnated with suitable disinfectants and itself covered with a second sheet: substances of 1°(a) and (c) and 2°;

(b) a sheet or tarred or bituminized fibreboard (and sprayed with suitable disinfectants): fresh horns, claws, hoofs or bones [1°(b)];

(c) a sheet: substances of 3°, unless they are sprayed with suitable disinfectants to prevent any bad odour; and

(d) a sheet: substances of 9°.

62112
62117

Carriage in containers 62118

The carriage of substances of 9° in small containers is prohibited.

62119
62170

Crews of Vehicles; Supervision 62171

The provisions of marginal 10171 (2) shall not apply.

62172
62199

Class 6.2
Section 2
Special requirements to be fulfilled by vehicles and their equipment

62200

(No special requirements) 62299

Class 6.2
Section 3
General service provisions

62300
62302

Precautions with respect to articles of consumption 62303

In vehicles and at places of loading, unloading and transloading, dangerous substances of Class 6.2 other than substances of 7° and than substances of 8° packed in conformity with the provisions of Annex A, marginal 2659 (2) (a) or (b), shall be kept away from foodstuffs and other articles of consumption.

62304
62399

Class 6.2
Section 4
Special provisions concerning loading, unloading and handling

62400
62402

Prohibition of mixed loading on one vehicle 62403

Substances of 9° and 10° shall not be loaded together on one vehicle with dangerous substances of Class 5.2.

62404
62414

Cleaning after unloading 62415

After unloading, vehicles which have been carrying substances of Class 6.2 in bulk shall be copiously swilled and treated with suitable disinfectants.

62416
62499

Class 6.2
Section 5
Special provisions concerning the operation of vehicles

62500

(No special provisions) 62599

Class 6.2
Section 6
Transitional provisions, derogations and provisions peculiar to certain countries

62600

(No special provisions) 70999

Class 7
Radioactive Substances
Section 1
General

Carriage 71000

For details see the relevant schedule in marginal 2703.

71001
71170

Crews of vehicles: supervision 71171

The provisions of marginal 10171 (2) shall apply to all substances, in whatever quantity. However, the provisions of marginal 10171 (2) need not be applied where:

(a) the loaded compartment is locked and the packages carried are otherwise protected against any illicit unloading, and

(b) the dose rate does not exceed 0.5 mR/h at any accessible point on the surface of the vehicle.

71172
71199

Class 7
Section 2
Special requirements to be fulfilled by vehicles and their equipment

Provisions 71200

For details see the relevant schedule in marginal 2703.

71201
71299

Section 3
General Service Provisions

Provisions 71300

For details see the relevant schedule in marginal 2703.

71301
71373

Prohibition of smoking 71374

The provisions of marginal 10374 shall not apply.

71375
71399

Section 4
Special provisions concerning loading, unloading and handling

Provisions 71400

For details see the relevant schedule in marginal 2703.

71401
71499

Section 5
Special provisions concerning the operation of vehicles

Vehicle signs 71500

(1) Marginal 10500 shall not apply.

(2) Every road vehicle carrying radioactive substances shall bear on the outside of each side wall and of the rear wall a label conforming to the model shown in Appendix B.4, marginal 240010. If loading is done by the sender, it shall be his duty to affix these labels to the vehicles.

71501
71506

Parking of a vehicle constituting a special danger 71507

(See, in addition to marginal 10507, marginal 3695 of Appendix A.6).

71508
71599

Section 6
Transitional provisions, derogations, and provisions peculiar to certain countries

71600

(No special provisions). 80999

Class 8

Corrosive substances

Section 1

General 81000
–81110

Carriage in bulk 81111

(1) Lead sludge containing sulphuric acid [1° (e)] and bisulphates (13°) may be carried in bulk as a full load.

(2) For such carriage, the body of the vehicle shall be lined with lead or with a sufficient thickness of paraffin-waxed or tarred fibreboard, and if the vehicle is sheeted the sheet shall be so placed that it cannot touch the load.

81112
–81117

Carriage in containers 81118

(1) Fragile packages within the meaning of marginal 10102 (1) and those containing dangerous substances of 1° to 7°, 9°, 14°, 33° and 41° shall not be carried in small containers.

(2) Small containers used for the carriage of bisulphates (13°) in bulk shall be lined with lead or with a sufficient thickness of paraffin
-waxed or tarred fibreboard.

(3) The carriage in bulk in small containers of lead sludge containing sulphuric acid of 1° (e) is prohibited.

81119
–81120

Carriage in tanks 81121

(1) All substances of marginal 2801 or covered by a collective heading may, if their physical state so permits, be carried in fixed tanks or in demountable tanks.

(2) these same substances may also be carried in tank-containers. However, hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)] may not be carried in tank-containers of a cubic capacity exceeding 1 m^3.

(3) The following may be carried in reinforced-plastics tanks comforming to the provisions of Appendix B.1c: substances of 1° (b), (c) and (d) and 2° (b) and (c), solutions of hydrochloric acid of 5°, and substances of 32°, 37° and 41°.

Class 8

81122
–81127

Empty tanks 81128

(1) Empty fixed tanks and empty demountable tanks of 51° shall be closed in the same manner and leak-proof in the same degree as though they were full. Fixed tanks which have contained bromine (14°) shall be hermetically closed.

(2) For tank-containers, see marginal 212177.

(3) Tank-containers and demountable tanks which have contained hydrofluoric acid (6°) or dromine (14°) shall bear a label conforming to model No.5 (Appendix A.9). They shall have no traces of acid or bromine on the outside.

81129
81170

Crews of vehicles; Supervision 81171

(1) A driver's assistant shall be carried on every transport unit carrying more than 250 kg of dangerous substances of Class 8 in fragile packages, or more than three metric tons of substances of 6°, 7°, 11°, 14°, 22°, 31°, 32° and 37°.

(2) The provisions of marginal 10171 (2) shall apply only to the dangerous goods listed below in quantities exceeding those specified below:

Chlorosulphonic acid, chlorides and oxychlorides of sulphur, and silicon tetrachloride, of 11° (a), antimony pentafluoride of 15° (b), bromine trifluoride and bromine pentafluoride of 15° (d), acetyl chloride, acetyl bromide and benzoyl chloride of 22°, and hydrazine in aqueous solutions containing not more than 72% hydrazine, of 34°: 10.000 kg.

Bromine of 14°: 1.00 kg.

81172
–81199

Class 8

Section 2

Special requirements to be fulfilled by vehicles and their equipment

81200
-81239

Fire-fighting appliances 81240

The provisions of marginal 10240 (1) (b) and (3) shall not apply to the carriage of dangerous substances of Class 8 other than those of 2° (a) and 3° (a).

81241
-81250

Electrical equipment 81251

The provisions of Appendix B.2, marginal 220000, shall not apply to the carriage of dangerous substances of Class 8 other than those of 2° (a) and 3° (a).

81252
-81299

Class 8

Section 3

General service provisions

81300
-81352

Portable lighting apparatus 81353

The provision of marginal 10353 shall not apply.

81354
-81373

Prohibition of smoking 81374

The provisions of marginal 10374 shall not apply.

81375
81399

Class 8

Section 4

Special provisions concerning loading, unloading, and handling

81400
-81402

Prohibition of mixed loading on one vehicle 81043

(1) Substances of Class 8 enclosed in packages bearing a label or two labels conforming to model No.5 shall not be loaded together on one vehicle with substances or articles of Classes 1a, 1b or 1c enclosed in packages bearing a label or two labels conforming to model No.1.

(2) Liquids of Class 8 enclosed in packages bearing two labels conforming to model No.5 shall not be loaded together in one vehicle with:

(a) substances of Classes 3, 4.1 or 4.2 enclosed in packages bearing two labels conforming to models Nos. 2A, 2B or 2C; or with

(b) substances of Classes 5.1 or 5.2 enclosed in packages bearing two labels conforming to model No.3.

81404
-81412

81413

Cleaning before loading

Vehicles for the carriage of packages containing substances of 2° (a) and 3° (a) shall be carefully cleaned and, in particular, cleared of any combustible waste (straw, hay, paper, etc.).

Handling and stowage 81414

(1) All packages containing substances of 2° (a) and 3° (a) shall rest on a stout floor, be placed with their openings at the top, and be so wedged that they cannot overturn.

(2) The use of readily inflammable materials for stowing such packages in vehicles is prohibited.

(3) Fragile packages shall be so wedged so as to prevent any displacement and any spilling of the contents.

81415
-81499

Class 8

Section 5

Special provisions concerning the operation of vehicles

Vehicle signs 81500

(1) The provisions of marginal 10500, paragraphs (1) and (6), shall apply to the carriage of substances of 1° to 7°, 9°, 11°, 12°, 14°, 15°, 21° (b), (c) and (e), 22°, 31° to 35°, 37° and 41°. The provisions of paragraphs (2) to (5) shall also apply to substances listed in Appendix B.5.

(2) Fixed tanks containing or (empty tanks, uncleaned) having contained substances listed in Appendix B.5 shall in addition bear on both sides and at the rear a label conforming to model No.5.

81501
-81599

Class8

Section 6

Transitional provisions, derogations, and provisions peculiar to certain countries

(No special provisions) 81600
199999

APPENDICES
PROVISIONS COMMON TO THE B.1 APPENDICES

(1) The scope of application of the various B.1 Appendices is as follows: 200000

(a) Appendix B.1a applies to tanks other than tank-containers;

(b) Appendix B.1b applies to tank-containers;

(c) Appendix B.1c applies to tanks, other than batteries of receptacles and tank-containers, made of reinforced plastics;

(d) for receptacles, see the relevant requirements of Annex A (Packages); and

(e) Appendix B.1d is concerned with the materials and construction of fixed tanks, of demountable tanks, and of shells of tank-containers, intended for the carriage of deeply - refrigerated liquefied gases of Class 2.

(2) By derogation from the definition given in marginal 10102 (1), the term «tank» when used alone in Appendix B.1a and Appendix B.1c does not cover tank-containers. However, some of the requirements of Appendix B.1a may be made applicable to tank-containers by the provisions of Annex B and Appendix B.1b.

(3) It is recalled that marginal 10121 (1) prohibits the carriage of dangerous substances in tanks except where such carriage is expressly authorized. The B.1 Appendices are therefore confined to provisions applicable to tanks or

tank-containers used for transport operations which are expressly allowed.

200001-211099

Appendix B.1a
PROVISIONS CONCERNING FIXED TANKS (TANK-VEHICLES), DEMOUNTABLE TANKS AND BATTERIES OF RECEPTACLES

Note: Chapter I sets out the requirements applicable to fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles intended for the carriage of substances of any Class. Chapter II contains special requirements supplemeting of modifying the requirements of Chapter I.

Chapter I
REQUIREMENTS APPLICABLE TO ALL CLASSES

Section 1
General; scope; definitions

These requirements shall apply to fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles used for the carriage of liquid, gaseous, powdery or granular substances. 211100

(1) In addition to the vehicle proper, or the units of running gear used in its stead, a tank-vehicle comprises one or more shells, their items of equipment and the fittings for attaching them to the vehicle or to the running-gear units. 211101

(2) When attached to the carrier vehicle, the demountable tank or battery of receptacles shall meet the requirements prescribed for tank-vehicles.

In the following requirements. 211102

(1) (a) «shell» means the tank proper (including the openings and their closures);
(b) «service equipment of the shell» means the filling, discharge, venting, safety, heating and heat-insulating devices and the measuring instruments;
(c) «structural equipment» means the reinforcing, fastening, protective and stabilizing members external or internal to the shell;
(2) (a) «calculation pressure» means a notional pressure which is used to calculate the thickness of the walls of the shell. It is equal to the test pressure except in relation to certain dangerous goods for which a special, higher calculation pressure is laid down. External or internal reinforcing devices shall not be taken into account in this calculation;

Appendix B.1a

(b) «maximum working pressure» means the highest of the following three pressures: 211102
1. the highest effective pressure allowed in the shell during filling (maximum filling pressure allowed);
2. the highest effective pressure allowed in the shell during discharge (maximum discharge pressure allowed);
3. the effective pressure to which the shell is subjected by its contens (including such extraneous gases as it may contain) at the maximum working temperature;
(c) «test pressure» means the highest effective pressure applied during the pressure test of the shell;
(d) «filling pressure» means the highest pressure actually built up in the shell when it is being filled under pressure;
(e) «discharge pressure» means the highest pressure actually built up in the shell when it is being discharged under pressure;
(3) «Leakage test» or «leakproofness test» means the test which consists in subjecting the shell to an effective internal pressure equal to the maximum working pressure, but not less than 0.2 kg/cm² (gauge pressure), by a procedure approved by the competent authority.

211103-211119

Section 2
Construction

The materials used shall meet the following requirements 211120
(1) Shells shall be made of suitable metallic materials which, unless other temperature ranges are prescribed in the various Classes, shall be resistant to brittle fracture and to fissurizing corrosion under tensile stress between -20°C and +50°C.
(2) For welded shells only materials of faultless weldability and whose adequate impact strength at an ambient temperature of -20°C can be guaranteed, particularly in the welds and the zones adjacent thereto, shall be used.
(3) Welds shall be skilfully made and shall afford the fullest safety.
With regard to the execution and checking of weld beads, see also marginal 211127 (7).

Appendix B.1a

211120 (contd)

Shells whose minimum wall thicknesses have been determined in accordance with marginal 211127 (3) to (6) shall be checked by the methods described in the definition of the weld coefficient 0.8.
(4) The materials of shells, or of their protective linings in contact with the contents, shall not contain substances liable to react dangerously with the contents, to form dangerous compounds, or substantially to weaken the material.
(5) The protective lining shall be so designed that its leakproofness remains unimpaired whatever the deformation liable to occur in normal carriage [211127 (1)].
(6) If contact between the substance carried and the material used for the construction of theshell entails a progressive decrease in the thickness of the walls, this thickness shall be increased at manufacture by an appropriate amount. This additional thickness to allow for corrosion shall not be taken into consideration in calculating the thickness of the shell walls.

(1) Shells, their attachments and their service and structural equipment shall be designed to withstand without loss of contents (other than quantities of gas escaping through any degassing vents): 211121
– static and dynamic stresses in normal carriage;
– prescribed minimum stresses as defined in marginals 211125 and 211127.

(2) In the case of vehicles in which the shell constitutes a stressed self-supporting member, the shell shall be designed to withstand the stresses thus imposed in addition to stresses from other sources.

The pressure on which the wall thickness of the shell is based shall not be less than the calculation pressure, but the stresses referred to in marginal 211121 shall also be taken into account. 211122

Unless specially prescribed otherwise in the various Classes, the following particulars shall be taken into account in the design of shells: 211123

(1) gravity-discharge shells intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not more than 1.1 kg/cm² (absolute) shall be designed to a calculation pressure of twice the static pressure of the substance to be carried, but not less than twice the static pressure of water;

Appendix B.1a

211123 (contd)

(2) pressure - filled or pressure - discharge shells intended for the carraige of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not more than 1.1 kg/cm² (absolute) shall be designed to a calculation pressure equal to 1.3 times the filling or discharge pressure;

(3) shells - whatever their filling or discharge system - intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not less than 1.1 and not more than 1.75 kg/cm² (absolute) shall be designed to a calculation pressure of at least 1.5 kg/cm² (gauge pressure), or 1.3 times the filling or discharge pressure, whichever is the higher;

(4) shells - whatever their filling or discharge system - intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of more than 1.75 kg/cm² (absolute) shall be designed to a calculation pressure equal to the higher of the following two pressures:

- 1.5 times the total pressure at 50°C, less 1 kg/cm², subject to a minimum of 4 kg/cm² (gauge);
- 1.3 times the filling or discharge pressure.

211124 Tanks intended to contain certain dangerous substances shall be provided with special protection which shall be determined for the various Classes.

211125 At the calculation pressure, the stress 6 (sigma) at the most severely stressed point of the shell shall not exceed the material - dependent limits prescribed below. Allowance shall be made for any weakening due to the welds. In addition, in choosing the material and determining wall thickness, the maximum and minimum filling and working temperatures should be taken into account.

(1) For metals and alloys exhibiting a clearly-defined yield point or characterized by a guaranteed conventional yield stress (Re) (generally 0.2 per cent of residual elongation and, in the case of austenitic steels, 1 per cent of maximum elongation):

(a) where the ratio Re/Rm is not more than 0.66:

(Re = apparent yield stress, or 0.2 per cent proof stress or 1 per cent proof stress in the case of austenitic steels;)

Appendix B.1a

211 125

Rm = guarante d minimum tensile strength:

$$\sigma \leq 0.75\ Re$$

(b) Where the ratio Re/Rm exceeds 0.66:

$$\sigma \leq 0.5\ Rm$$

(2) For Metals and alloys exhibiting no clearly – defined apparent yield stress and characterized by a guaranteed minimum tensile strength R.

$$6 \leq 0.43\ Rm$$

(3) For steel, the elongation at fracture shall be not less than

$$\frac{1{,}000}{\text{determimined tensile strength in Kg/mm}^2}$$

but in any case it shall be not less than 16 per cent for fine – grained steels and not less than 20 per cent for other steels. For aluminium alloys the elongation at fracture shall be not less than 12 per cent.[1]

Tanks intended for the carriage of liquids having a flash – point of or below 55° C and for the carriage of inflammable gases shall be connected to all parts of the vehicle by equipotential connexion and shall be capable of being electrically earthed. Any metal contact capable of causing electrochemical corrosion shall be avoided. 211 126

Shells and their fastenings shall withstand the stresses specified in paragraph (1), and the wall thicknesses of shells shall be at least as determined in accordance with paragraphs (2) to (6) below. 211 127

(1) The shelles and their fastenings shall be capable of absorbing, under the maximum permissible load, the following stresses:

- in the direction of travel: twice the total weight;
- at right angles to the direction of travel: the total weight;
- vertically upwards: the total weight.
- vertically downwards: twice the weight.

Under the stresses defined above, the stress at the most severely stressed point of the shell and its fastenings shall not exceed the value σ defined in Marginal 211 125.

(2) The thickness of the cylindrical wall of the shell shall be at least equal to that obtained by the following formula:

$$e = \frac{R \times D}{200 \times \sigma \times \lambda}\ mm,$$

where P = calculation pressure in kg/mm²;
D = internal diameter of shell in mm;
σ = permissible stress, as defined in marginal 211 125 (1), (a) and (b), and (2), in Kg/mm²; and
λ = a coefficient, not exceeding 1, allowing for any weakening due to welds.
The thickness shall in no case be less than that defined in paragrarhs (3) to (6) below.

(3) The walls and ends of shells of circular cross 6 section not more than 1.80 m in diameter, [2] other than those referred to in paragraph (6), shall not be less than 5mm thick if of mild steel[3], or of equivalent thickness if of another metal. If the diameter exceeds 1.80m, this thickness shall be increased to 6 mm if the shell is of mild stell, [3] or to an equivalent thickness if the shell is of another metal. «Equivalent thickness» means the thickness obtained by the following formula:

$$e_1 = \frac{10 \times e_o}{(Rm_1 \times A_1)^{1/5}} \cdot 4/$$

(4) Where protection of the shell against damage through lateral impact or overturning is provided, the competent authority may allow the aforesaid minimum thicknesses to be reduced in proportion to the protection provided; however, the said thicknesses shall not be less than 3 mm in the case of mild steel, [3] or than an equivalent thickness in the case of other materials, for shells not more than 1.80 m in diameter [2] For shells with a diameter exceeding 1.80 m² the aforesaid minimum thickness shall be increased to 4 mm in the case of mild steel 3 and to an equivalent thickness in the case of other metal. «Equivalent thickness» means the thickness obtained by the following formula:

[1] In the case of sheet metal the axis of the tensile testpiece shall be at right angles to the ditection of rolling. The permanent elongation at fracture (l = 5d) shall be measured on a test - piece of circular cross - section in which the gauge length l is equal to five times the diameter d; if test - pieces of rectangular section are used, the gauge length shall be calculated by the formula $l = 5.65\sqrt{F_o}$, where F_o is the initial cross - sectional area of the test piece.

[2] For shells not of circular cross - section, for example box - shaped or elliptical shells, the indicated diameters shall correspond to those calculated on the basis of a circular cross - section of the same area. For such shapes of cross - section the radius of convexity of the shell wall shall not exceed 2,000 mm at the sides or 3,000 mm at the top and bottom.

[3] «Mild steel» means a steel having a minimum breaking strength between 37 and 44 kg/mm².

$$e_1 = \frac{10 \times e_o}{(Rm_1 \times A_1)^{1/5}}$$ 4/

Note: The following measures or equavalent measures may be adopted to protect the shell against damage:
(a) The shell may be provided on both sides, at a height situated between its centreline and its lower half, with protection against lateral impact consisting of a rolled metal girder extending at least 25 mm beyond the extreme outer edge of the shell. This girder shall be of such cross – section that if it is of mild steel[3] or a stronger material it has a section modulus of at least 5 cm^3, the force being directed horizontally and at right angles to the direction of travel. If weaker materials are used, the section modulus shall be increased proportionately to the limits of elongation. Protection against overturning may take the form of strengthening rings, protective canopies, or transverse or longitudinal members so shaped that in the event of overturning no damage is caused to the fittings and accessories mounted on the upper part of the shell.

(b) There is also protection:

1. Where shells are made with double walls, the space between the latter being evacuated of air. The aggregate thickness of the outer metal wall and the shell wall shall correspond to the minimum wall thickness prescribed in paragraph (3), and the minimum thickness of the wall of the shell it self shall not be less than the minimum thickness prescribed in paragraph (4);

2. where the shells are made with double walls with an intermediate layer of solid materials at least 50 mm thick, the outer wall having a thickness of at least 0.5 mm if it is made of mild steel[3] and at least 2 mm if it is made of a plastics material reinforced with glass fibre. Solid foam (with an impact – absorption capacity like that, for examle, of polyurethane foam of about 400 Kg/m^3 density) may be used as the intermediate layer of solid material.

(5) The thickness of tank shells designed in accordance with marginal 211 123 (1) which either are of not more than 5,000 litres capacity or are divided into leak – proof compartments of not more than 5,000 litres unit capacity may be adjusted to a level which, unless prescribed otherwise in the various Classes, shall however not be less than the appropriate value shown in the following table:

Maximum radius of carvature of shell (m)	capacity of shell or shell compartment (m^3)	Minimum thickness (mm) Mild steel
≤	≤5.0	3
2 – 3	≤3.5	3
	>3.5 but≤5.0	4

Where a metal other than mild steel is used, the thickness shall be determined by the equivalence formula given in paragraph (3). The thickness of the partitions and surge – plates shall in no case be less than that of the shell.

(6) Surge – plates and partitions shall be dished, with a depth of dish of not less than 10 cm, or shall be corrugated, profiled or otherwise reinforced to give equivalent strength. The area of the surge – plate shall be at least 70 per cent of the cross – sectional area of the tank in which the surge – plate is fitted.

(7) The manifacturer's qualificasion for performing welding operations shall be one recognized by the competent authority. Welding shall be performed by skilled welders using a welding process whose effectiveness (including any heat treatments required) has been demonstrated by test. Non – destructive tests shall be carried out by radiography or by ultrasound and must confirm that the quality of thewelding is appropriate to the stresses.

In determining the thickness of the shell walls in accordance with paragraph (2), the following values of the coefficient lambda (λ) should be adopted for the welds:

0.8: where the weld beads are so far as possible inspected visually on both faces and are subjected to an non destructive spot check with particular attention to connexions;

0.9: where all longitudinal beads throughout their length, all connexions, 25 per cent of circular beads, and welds for the assembly o large – diameter items of equipment are subjected to non – destructive shecks. Beads shall be checked visually on both sides as far as possible;

1.0: where all beads are subjected to non–destructive checks and are so far as possible inspected visually on both sides. A weld test–piece shall be removed.

where the competent authority has doubts regarding the quality of weld beads, it may require additional checks.

(8) Measures shall be taken to protect shells against the risk of deformation as result of a negative internal pressure.

(9) The thermal insulation shall be so designed as not to hinder access to, or the operation of, filling and discharge devices and safety valves.

Stability

The overall Width of the ground – level bearing surface (distance between the outer points of contact with the ground of the right – hand tyre and the left – hand tyre of same axle) shall be at least equal to 90 per of the height of the centre of gravity of the laden tank–vehicle. In an articulated vehicle the weight on the axles of the load – carrying unit of the laden semi – trailer shall not exceed 60 per cent f the nominaltotal laden weight of the complete articulated vehicle.

Section 3

Items of equipment

The items or equipment, wherever situated, shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage or handling. They shall possess a degree of safety adapted to and comparable to that of the shells themselves, and shall in particular:

– be compatible with the substances carried; and
– meet the requirements of marginal 211 121.

As many operating parts as possible shall be served by the smallest possible number of apertures in the shell wall.

The leakproofness of the items of equipment shall be ensured even in the event of overturning of the vehicle.

Gaskets shall be made of material compatible with the substance carried and shall be replaced as soon as their effectiveness is impaired, for example as a result of ageing.

Gaskets ensuring the leakproofness of operating parts needing to be manipulated during normal use of the vehicle shall be so designed and arranged that manipulation of the operating part in which they are incorporated does not damage them.

Appendix B.1a

211131 Every bottom-discharge shell, and in the case of compartmented bottom-discharge shells every compartment, shall be equipped with two mutually independent shut-off devices mounted in series, the first taking the form of an

[4] This formula is derived from the general formula

$$e_1 = e_o \sqrt[1/3]{\frac{Rm_0 \times A_0}{Rm_1 \times A_1}}$$

where Rm_o = 37;
A_o = 27 for the mild steel of reference;
Rm_1 = minimum tensile strength of the metal chosen, in kg/mm^2; and
A_1 = minimum elongation of the metal chosen on fracture under tensile stress, in per cent.

internal stop-valve[5] mounted, with its seating, inside the shell and the second that of a sluice-valve or other equivalent device, at each end of the discharge pipe-socket. The internal stop-valve shall be operable from above or from below. If possible, the setting - oppen or closed - of the internal stop-valve shall be capable of being verified from the ground in both cases. The controls of the internal stop-valve shall be so designed as to prevent any inadvertend opening through impact or unconsidered action. The internal shut-off device must continue to be effective in the event of damage to the external control.

The position and/or direction of closure of the sluice-valves must be clearly apparent.

In order to avoid any loss of contents in the event of damage to the external filling and discharge fittings (pipes, lateral shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to withstand them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any inadvertent opening.

The shell or each of its compartments shall be provided with an opening large enough to permit inspection.

Shells intended for the carriage of substances all the openings for which are above the surface level of the liquid may be equipped, in the lower part of the body, with a cleaning aperture (first-hole). This aperture must be capable of being sealed by a flange so closed as to be leakproof and whose design must be approved by the competent authority or by a body designated by that authority. 211132

Shells intended for the carriage of liquids having a vapour pressure of not more than 1.1 kg/cm² (absolute) at 50° C shall have a venting system and a safety device to prevent the contents from spilling out if the shell overturns; otherwise they must conform to the requirements of marginals 211134 or 211135. 211133

Shells intended for the carriage of liquids having a vapour pressure of not less than 1.1 and not more than 1.75 kg/cm² (absolute) at 50° C shall have a safety valve set at not less than 1.5 kg/cm³ gauge pressure and which must be fully open at a pressure not exceeding the test pressure; otherwise they must conform to the requirements of marginal 211135. 211134

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Shells intended for the carriage of liquids having a vapour pressure of not less than 1.75 and not more than 3 kg/cm² (absolute) at 50° C shall have a safety valve set at not less than 3 kg/cm² gauge pressure and which must be fully open at a pressure not exceeding the test pressure; otherwise they must be hermetically closed.[6] 211135

No movable parts such as covers, closures, etc., which are liable to come into frictional or percussive contact with aluminium shells intended for the carriage of inflammable liquids having a flash-point of or below 55° C or for the carriage of inflammable gases may be made of unprotected corrodible steel. 211136

211137-
211139

Section 4

Type approval

The competent authority or a body designated by that authority shall issue in respect of each new type of tank a certificate attesting that the prototype tank, including the shell fastenings which it has surveyed, is suitable for the purpose for which it is intended and meets the construction requirements of Section 2, the equipment requirements of Section 3 and the conditions peculiar to the Classes of substances carried. 211140

The test results, the substances for the carriage of which the tank is approved, and its approval number as a prototype shall be recorded in a test report.

This approval shall be valid for tanks manufactured according to this prototype without modification.

211141-
211149

Section 5

Tests

Tanks and their equipment shall, either together or separately, undergo an initial inspection before being put into service. This inspection shall include a check that the tank conforms to the approved prototype, a check of the design characteristics, an external and internal examination, a hydraulic pressure test at the test pressure indicated on the data plate. and a check of satisfactory operation of the equipment. 211150

Appendix. B.1a

The hydraulic pressure test shall be carried out before the installation of such thermal insulation as may be necessary. If the shells and their equipment are tested separately, they shall be jointly subjected to a leakproofness test after assembly. 211150

Tanks shall undergo periodic inspections at fixed intervals. 211151

The periodic inspections shall include an external and internal examination and, as a general rule, a hydraulic pressure test.[7] Sheathing for thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the shell's characteristics.

The maximum intervals between periodic inspections shall be six years.

In addition, a leakproofness test and a check of the satisfactory operation of all the equipment shall be carried out every three years.

The tests, inspections and checks in accordance with marginals 211150 and 211151 shall be carried out by the expert approved by the competent authority. Certificates shall be issued showing the results of these operations. 211152

When the safety of the shell or of its equipment may be impaired as a result of repairs, alterations or accident, an exceptional check shall be carried out by the competent authority or by the expert approved by that authority. 211153

211154-
211159

Section 6

Marking

Every shell shall be fitted with a corrosion-resistant metal plate permanently attached to the shell in a place readily accessible for inspection. The following particulars at least shall be marked on the plate by stamping or by any other similar method. These particulars may be engraved directly on the walls of the shell itself, if the walls are so reinforced that the strength of the shell is not impaired: 211160

[5] Save as may be otherwise provided in the case of shells intended for the carriage of certain crystallizable or highly viscous substances, of deeply refrigerated liquefied gases, or of powdery or granular substances.

[6] «Hermetically closed shells» means shells whose openings are hermetically closed and which are not equipped with safety valves, frangible disc or other similar safety devices. Shells having safety valves perceded by a frangible disc shall be deemed to be hermetically closed.

[7] In special cases, and with the agreement of the expert approved by the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or a gas, where such an operation does not entail any danger.

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approval number; 211160
manufacturer's name or mark;
manufacturer's serial number;
year of manufacture;
test pressure in kg/cm² cm (gauge pressure);
capacity in litres - in the case of multiple-element shells, the capacity of each element;
design temperature (only if above +50° C) or below -20° C);
date (month and year) of initial test and most recent periodic test; and
stamp of the expert who carried out the tests.

In addition, the maximum working pressure allowed shall be inscribed on pressure-filled or pressure-discharge shells.

The following particulars shall be inscribed on the tank-vehicle itself or on a plate: 211161
name of operator;
unladen weight; and
permissible maximum weight.

In addition, tank-vehicles shall bear the prescribed danger labels.

211162-211169

Section 7

Operation

The thickness of the walls of the shell shall not, throughout its use, fall below the minimum figure prescribed in marginal 211127 (2). 211170

Shells shall not be loaded with any dangerous substances other than those for whose carriage they have been approved. Foodstuffs may not be carried in these shells unless the necessary measures have been taken to prevent any danger to public health. 211171

The following degrees of filling shall not be exceeded in shells intended for the carriage of liquids at ambient temperatures: 211172

(1) (a) where inflammable substances not presenting additional risks (e.g. toxic or corrosive properties) are loaded in shells with a venting system, with or without safety valves:

$$\text{degree of filling} = \frac{100}{1 + \alpha(50-t_F)} \text{ or } \frac{100}{1 + 35\alpha} \% \text{ of}$$

capacity;

Appendix B.1a

(b) where toxic or corrosive substances, whether or not presenting a fire risk, are loaded in shells with a venting system, with or without safety valves: 211172

$$\text{degree of filling} = \frac{98}{1 + \alpha(50-t_F)} \text{ or } \frac{98}{1 + 35\alpha} \% \text{ of}$$

capacity;

(c) where low-concentration inflammable substances and low-concentration acids and lyes are loaded in closed shells:

$$\text{degree of filling} = \frac{97}{1 + \alpha(50-t_F)} \text{ or } \frac{97}{1 + 35\alpha} \% \text{ of}$$

capacity;

(d) where high-concentration toxic substances and high-concentration acids and lyes are loaded in closed shells:

$$\text{degree of filling} = \frac{95}{1 + \alpha(50-t_F)} \text{ or } \frac{95}{1 + 35\alpha} \% \text{ of}$$

capacity.

(2) In these formulae, α represents the mean coefficient of cubic expansion of the liquid between 15° and 50° C, i.e. for a maximum variation in temperature of 35° C.

$$\text{a is calculated by the formula: } a = \frac{d_{15} - d_{50}}{35 \times d_{50}}$$

where di_{15} and d_{50} are the densities of the liquid at 15° C and 50° C respectively and t_F is the mean temperature of the liquid at the time of filling.

(3) The provisions of paragraph (1) above shall not apply to shells whose contents are, by means of a heating device, maintained at a temperature above 50° C during carriage. In such a case the degree of filling at the outset shall be such, and the temperature so regulated, that the shell is not full to more than 95 per cent of its capacity at any time during carriage, and that the filling temperature is not exceeded.

(4) Where hot substances are loaded, the temperature of the outer surface of the shell or of the thermal insulation shall not exceed 70° C during carriage.

Appendix B.1a

Where shells intended for the carriage of liquids[8] are not divided by partitions or surge-plates into sections of not more than 7.500 litres' capacity, they shall be filled to not less than 80 per cent of their capacity unless they are practically empty. 211173

Shells shall be closed in such a way that the contents cannot run out uncontrolled. The leakproofness of the shell closures, particularly in the upper part of the dip-tube, shall be verified by the sender after the shell has been filled. 211174

Where several closure systems are fitted in series, that nearest to the substance being carried shall be closed first. 211175

No dangerous residue shall adhere to the outside of shells during carriage, whether they are full or empty. 211176

To be accepted for carriage, empty shells must be closed in the same manner and leakproof in the same degree as though they were full. 211177

The connecting pipes between independent but interconnected shells of a transport unit shall be empty during carriage. 211178

Flexible filling and discharge pipes which are not permanently connected to the shell shall be empty during carriage.

211179

Section 8

Transitional measures

Transitional measures 211180

Fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles built before 1 October 1978 and not

[8] For the purposes of this provision, substances whose efflux time at 20° C from a DIN cup with a 4-mm orifice does not exceed 10 minutes (corresponding to an efflux time of less than 96 sec. at 20° C from a No. 4 Ford cup, or to less than 2,680 centistokes) shall be deemed to be liquids.

conforming to the requirements of this Appendix may, if they were built in conformity with the requirements of ADR, be used during a period of six years from 1 October1978. Fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles intended for the carriage of gases of Class 2 may however be used for 12 years from the same date if the periodic-test requirement is complied with.

On the expiry of this period the aforesaid units may be kept in service if the equipment of the shell meets the present requirements. The thickness of the shell wall, except in the case of shells intended for the carriage of gases of Class 2, 7° and 8°, shall be appropriate to a calculation pressure of not less than 4 kg/cm² (gauge pressure) in the case of mild steel and of not less than 2 kg/cm² (gauge pressure) in the case of aluminium and aluminium alloys. For other than circular cross-sections of tanks, the diameter to be used as a basis for calculation shall be that of a circle whose area is equal to that of the real cross-section of the tank. 211181

Appendix B.1a

The periodic tests for fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles kept in service under these transitional provisions shall be conducted in accordance with the provisions of Section 5 and with the pertinent special provisions for the various Classes. Unless the earlier provisions prescribed a higher test pressure, a test pressure of 2 kg/cm² (gauge pressure) shall suffice for aluminium shells and aluminium-alloy shells. 211182

Fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles which meet these transitional provisions may be used during a period of 15 years from 1 October 1978 for the carriage of the dangerous goods for which they have been approved. This transitinal period shall not apply to fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles intended for the carriage of substances of Class 2, or to fixed tanks (tank-vehicles), demountable tanks and batteries of receptacles whose wall thickness and items of equipment meet the requirements of this Appendix. 211183

211184-
211199

Appendix B.1a
Chapter II
SPECIAL REQUIREMENTS SUPPLEMENTING OR MODIFYING THE REQUIREMENTS OF CHAPTER I
Class 2
Gases: compressed, liquefied or dessolved under pressure

211200

Section 1 211219

General: scope: definitions 211220

Section 2
Construction

Shells intended for the carriage of substances of 1o to 6° and 9° shall be made of steel. By derogation from marginal 211125(3), a minimum elongation at fracture of 14 per cent may be accepted in the case of weldless shells. 211221

The requirements of Appendix B.1d, marginals 214250 to 214285, shall apply to the materials and construction of shells intended for the carriage of gases of 7o and 8o. 211222

Shells intended for the carriage of chlorine or phosgene [3°(at)] shall be designed for a pressure of at least 22 Kg/cm (gauge pressure).

211223

Section 3 211229
Items of equipment

The discharge pipes of shells shall be capable of being closed not only by the devices prescribed in marginal 211131 but in addition by means of a blank flange or some other equally reliable device. 211230

Shells intended for the carriage of liquefied gases may be provided with, in addition to the openings prescribed in marginal 211131, openings for the fitting of gauges, including pressure gauges, and thermometers and with bleed holes, as required for their operation and safety. 211231

Safety devices shall meet the following requirements: 211232

(1) Filling and discharge openings of shells intended for the carriage of liquefied inflammable and/or toxic gases shall be equipped with an instant-closing internal safety device which closes automatically in the event of an inadvertent movement of the tank. It must also be possible to close the device by remote control.

(2) All openings, other than those accommodating safety valves and than closed bleed holes, of shells intended for the carriage of liquefied inflammable and/or toxic gases shall, if their nominal diameter is more than 1.5 mm, be equipped with an internal shut-off device.

(3) By derogation from the provisions of paragraphs (1) and (2), shells intended for the carriage of deeply-refrigerated inflammable and/or toxic liquefied gases may be equipped with external devices in place of internal devices if the external devices afford protection at least equivalent to that afforded by the wall of the shell.

(4) If the shells are equipped with gauges, the latter shall not be made of a transparent material in direct contact with the substance carried. If there are thermometers, they shall not project directly into the gas or liquid through the shell wall.

(5) Shells intended for the carriage of chlorine or sulphur dioxide [3° (at)] or methyl mercaptan or hydrogen sulphide [3° (bt)] shall not have any opening below the surface level of the liquid. In addition, cleaning apertures (fist-holes) as referred to in marginal 211132 shall not be permitted.

(6) Filling and discharge openings situated in the upper part of shells shall be equipped not only with what is prescribed in paragraph (1), but in addition with a second, external, closing device. This device shall be capable of being clossed by a blank flange or some other equally reliable device.

Safety valves shall meet the following requirements: 211233

(1) Shells intended for the carriage of gases of 1° to 6° and 9° may be provided with not more than two safety valves whose aggregate clear cross-sectional area of passage at the seating or seatings shall be not less than 20 cm² per 30 m³ or part there of of the receptacle's capacity. These valves shall be capable of opening automatically at a pressure of between 0.9 and 0.1 times the test pressure of the shell to which they are fitted. They shall be of such a type as to resist dynamic stresses, including liquid surge. The use of dead-weight or counter-weight valves is prohibited.

Shells intended for the carriage of gases of 1o to 9o harmful to the respiratory organs or entailing a poison risk[9] shall not have safety valves unless the safety valves are preceded by a frangible disc. In the latter case the arrangement of the frangible disc and the safety valve shall be required to be satisfactory to the competent authority.

Where tank-vehicles are intended for carriage by sea, the provisions of this paragraph shall not prohibit the fitting of safety valves conforming to the regulations governing that mode of transport.

(2) Shells intended for the carriage of gases of 7o and 8o shall be equipped with two independent safety valves, each so designed as to allow the gases formed by evaporation during normal operation to escape from the shell in such a way that the pressure does not at any time exceed by more than 10 per cent the working pressure indicated on the shell. One of the two safety valves may be replaced by a frangible disc which shall be such as to burst at the test pressure. In the event of loss of the vacuum in a

9 Gases identified by the letter «t» in the list of substances are deemed to be gases harmful to the respiratory organs or entailing a poison risk.

double-walled shell, or of destruction of 20 per cent of the insulation of a single-walled shell, the safety valve and the frangible disc shall permit an outflow such that the pressure in the shell cannot exceed the test pressure.

(3) The safety valves of shells intended for the carriage of gases of 7° and 8° shall be capable of opening at the working pressure indicated on the shell. They shall be so designed as to function faultlessly even at their lowest working temperature. The reliability of their operation at that temperature shall be established and checked either by testing each valve or by testing a specimen valve of each design-type.

Thermal insulation 211234

(1) If shells intended for the carriage of liquefied gases of 3° and 4° are equipped with thermal insulation, such insulation shall consist of either:

- a sun shield covering not less than the upper third but not more than the upper half of the shell surface and separated from the shell by an air space at least 4 cm across; or
- a complete cladding, of adequate thickness, of insulating materials.

(2) Shells intended for the carriage of gases of 7° and 8° shall be thermally insulated. Thermal insulation shall be ensured by means of a continuous sheathing. If the space between the shell and the sheathing is exhausted of air (vacuum insulation), the protective sheathing shall be so designed as to withstand without deformation an external pressure of at least 1 kg/cm^2 (gauge pressure). By derogation from marginal 211102(2), external and internal reinforcing devices may be taken into account in the calculations. If the sheathing is so closed as to be gas-tight, a device shall be provided to prevent any dangerous pressure from developing in the insulating layer in the event of inadequate gas-tightness of the shell or of its items of equipment. The device shall prevent the infiltration of moisture into the heat-insulating sheath.

(3) Shells intended for the carriage of liquefied gases having a boiling point below -182 °C at atmospheric pressure shall not include any combustible material either in the thermal insulation or in the means of attachment to the frame.

The means of attachment of shells intended for the carriage of argon, nitrogen, helium or neon of 7°(a) or hydeogen of 7°(b) may, with the consent of the competent authority, contain plastics substances between the inner and the outer sheath.

For batteries of receptacles (see marginal 2212(1) (c))[10] the following conditions shall be complied with: 211235

(1) If one of the elements of a multiple-element shell is equipped with a safety valve and shut-off devices are provided between the elements, every element shall be so equipped.

(2) The filling and discharge devices may be affixed to a manifold.

10. The provisions of this Appendix are not applicable to frames of cylinders.

(3) Each element of a multiple-element shell intended for the carriage of compressed gases of 1° and 2° which are harmful to the respiratory organs or entail a poison risk[9] or are inflammable, shall be capable of being isolated by a valve (cock).

(4) The elements of a multiple-element shell intenden for the carriage of liquefied gases of 3o to 6o shall be so designed that they can be filled separately and can be kept isolated by a valve capable of being sealed.

(5) The following requirements shall apply to demountable tanks:

(a) they shall not be interconnected by a manifold; and

(b) if the demountable tanks can be rolled, the valves shall be provided with protective caps.

By derogation from the provisions of marginal 211131, shells intended for the carriage of deeply-refrigerated liquefied gases need not have an inspection aperture. 211236

211237
211239

Section 4
Type approval

211240

(No special requirements) 211249

Section 5
Tests

The materials of shells intended for the carriage of gases of 7o and 8o shall be tested by the method described in Appendix V.1d, marginals 214275 to 214285. 211250

The test-pressure levels shall be as follows: 211251

(1) For shells intended for the carriage of gases of 1o and 2o: the levels indicated in marginal 2219 (1) and (3).

(2) For shells intended for the carriage of gases of 3o and 4o:

(a) if the shells are not more than 1.5 m in diameter, the levels indicated in marginal 2220(2);

(b) if the shells are more than 1.5 m in diameter, the levels[11] indicated below:

11. 1. The prescribed test pressures are:

(a) if the shell is equipped with thermal insulation, at least equal to the vapour pressure, reduced by 1 kg/cm^2 of the lquid at 60 °C, and not less than 10 kg/cm^2;

(b) if the shell is not equipped with thermal insulation, at least equal to the vapour pressure, reduced by 1 kg/cm^2 of the liquid at 65 °C, and not less than 10 kg/cm^2.

(2) In view of the high toxicity of phosgene [3o (at)], the minimum test pressure for this gas is fixed at 15&g/cm2 if the shell is equipped with thermal insulation and at 17Kg/cm^2 if it is not so equipped.

(3) The maximum values in Kg/litre prescribed for the degree of filling are calculated as follows: maximum weight of contents per litre of capacity=0.95× specific gravity of the liquid phase at 50 °C.

Description of substance	Item number	Minimum test pressure for shells with thermal insulation kg/cm²	Minimum test pressure for shells without thermal insulation kg/cm²	Maximum weight of contents per litre of capacity kg
Bromochlorodifluoromethane (R 12 B1)	3° (a)	10	10	1.61
Chlorodifluoromethane (R 22)	3° (a)	24	26	1.03
Chloropentafluoroethane (R 115)	3° (a)	20	23	1.08
1-Chloro-2,2,2-trifluoroethane (R 133 a)	3° (a)	10	10	1.18
Dichlorodifluoromethane (R 12)	3° (a)	15	16	1.15
Dichlorofluoromethane (R 21)	3° (a)	10	10	1.23
1,2-Dichloro-1,2,2-tetrafluoroethane (R 114)	3° (a)	10	10	1.30
Octofluorocyclobutane (RC 318)	3° (a)	10	10	1.34
Ammonia	3° (a t)	26	29	0.53
Methyl bromide	3° (a t)	10	10	1.51
Chlorine	3° (a t)	17	19	1.25
Hexafluoropropylene (R 216)	3° (a t)	17	19	1.11
Hydrogen bromide	3° (a t)	50	55	1.20
Nitrogen dioxide NO_2	3° (a t)	10	10	1.30
Phosgene	3° (a t)	15	17	1.23
Sulphur dioxide	3° (a t)	10	12	1.23
Butane	3° (b)	10	10	0.51
1-Butene	3° (b)	10	10	0.53
1-Chloro-1.1-difluoroethane (R 142b)	3° (b)	10	10	0.99
Cis-2-butene	3° (b)	10	10	0.55
Cyclopropane	3° (b)	16	18	0.53
1,1-Difluoroethane (R 152a)	3° (b)	14	16	0.79
Isobutane	3° (b)	10	10	0.49
Isobutene	3° (b)	10	10	0.52
Propane	3° 3b)	21	23	0.42
Propylene	3° (b)	25	27	0.43
Trans-2-butene	3° (b)	10	10	0.54
1,1,1-Trifluoroethane	3° (b)	28	32	0.79
Dime thylamine	3° (b t)	10	10	0.59
Dimethyl ether	3° (b t)	14	16	0.58
Ethylamine	3° (b t)	10	10	0.61
Ethyl Chloride	3° (b t)	10	10	0.80
Hydrogen sulphide	3° (b t)	45	50	0.67
Methylamine	3° (b t)	10	11	0.53
Methyl chloride	3° (b t)	13	15	0.81
Methyl mercaptan	3° (b t)	10	10	0.78
Trimethylamine	3° (b t)	10	10	0.56
1,3-Butadiene	3° (c)	10	10	0.55
Vinyl chloride	3° (c)	10	11	0.81
Methyl vinyl ether	3° (c t)	10	10	0.67
Trifluorochlorethylene (R 1113)	3° (c t)	15	17	1.13
Vinyl bromide	3° (c t)	10	10	1.37
Mixture F 1	4° (a)	10	11	1.23
Mixture F 2	4° (a)	15	16	1.15
Mixture F 3	4° (a)	24	27	1.03
Mixture of gases R 500	4° (a)	18	20	1.01
Mixture of gases R 502	4° (a)	25	28	1.05
Mixtures of 19 to 21 per cent by weight dichlorodifluoromethane (R 12) and 79 to 81 per cent by weight bromochlorodifluoromethane (R 12 B1)	4° (a)	10	11	1.50
Mixtures of methyl bromide and chloropicrin	4° (a t)	10	10	1.51
Mixture A (trade name: butane)	4° (b)	10	10	0.50
Mixture A 0 (trade name: butane)	4° (b)	12	14	0.47
Mixture A 1	4° (b)	16	18	0.46
Mixture B	4° (b)	20	23	0.43
Mixture C (trade name: propane)	4° (b)	25	27	0.42
Mixtures of hydrocarbons containing methane	4° (b)	–	225	0.187
		–	300	0.244
Mixtures of methyl chloride and methylene chloride	4° (b t)	13	15	0.81
Mixtures of methyl chloride and chloropicrin	40 (b t)	13	15	0.81
Mixtures of methyl bromide and ethylene bromide	4° (b t)	10	10	1.51
Methylacetylene/propadiene and hydrocarbon mixtures				
Mixture P_1	4° (c)	25	28	0.49
Mixture P_2	4° (c)	22	23	0.47
Ethylene oxide containing not more than 10 per cent carbon dioxide by weight	4° (c t)	24	26	0.73
Ethylene oxide with nitrogen up to a total pressure of 10 kg/cm² at 50° C	4° (c t)	15	15	0.78
Dichlorodifluoromethane containing 12 per cent ethylene oxide by weight	4° (c t)	15	16	1.09

Appendix B.1a

211251 (contd)

(3) For shells intended for the carriage of gases of 5° and 6°:

(a) if the shells are not sheathed in thermal insulation: the levels indicated in marginal 2220 (3) and (4);

(b) if the shells are sheathed in thermal insulation: the levels indicated below:

Description of substance	item number	Minimum test pressure Kg/cm²	Maximum weight of contents per litre of capacity Kg
Bromotrifluoromethane (R 13 B 1)	5° (a)	120	1.50
Carbon dioxide	5° (a)	190	0.73
		225	0.78
Chlorotrifluoromethane (R 13)	5° (a)	120	0.96
		225	1.12
Hexafluorethane (R 116)	5° (a)	160	1.28
		200	1.34
Nitrous oxide N_2O	5° (a)	225	0.78
Sulphur hexafluoride	5° (a)	120	1.34
Trifluoromethane (R 23)	5° (a)	190	0.92
		250	0.99
Xenon	5° (a)	120	1.30
Hydrogen chloride	5° (a t)	120	0.69
Ethane	5° (b)	120	0.32
Ethylene	5° (b)	120	0.25
		225	0.36
1,1-Difluoroethylene	5° (c)	120	0.66
		225	0.78
Vinyl fluoride	5° (c)	120	0.58
		225	0.65
Mixture of gases R 503	6° (a)	31	0.11
		42	0.21
		100	0.76
Carbon dioxide containing not more than 35 per cent ethylene oxide by weight	6 (c)	190	0.73
		225	0.78
Ethylene oxide containing more than 10 per cent but not more than 50 per cent carbon dioxide by weight	6° (c t)	190	0.66
		250	0.75

Appendix B.1a

211251 Where shells sheathed in termal insulation are used which have been subjected to a test pressure lower than that shown in the table, the maximum weight of the contents per litre of capacity shall be such that the pressure reached in the shell by the substance in question at 55°C does not exceed the test pressure stamped on the shell. In such a case the maximum load allowed shall be prescribed by the expert approved by the competent authority.

(4) For shells intended for the carriage of ammonia dissolved under pressure [9o (at)]:

Description of substance	Item number	Minimum test pressure kg/cm²	Maximum weight of contents per litre of capacity kg
Ammonia dissolved under pressure in water with more than 35 per cent but not more than 40 per cent ammonia by weight	9o (a t)	10	0.80
with more than 40 per cent but not more than 50 per cent ammonai by weight	9o (a t)	10	0.77

(5) For shells intended for the carriage of gases of 7o and 8o: not less than 1.3 times the maximum permitted working pressure, as indicated on the shell, but not less than 3 kg/cm² (gauge pressure); for shells with vacuum insulation the test pressure shall be not less than 1.3 times the maximum permitted working pressure increased by 1 kg/cm².

211252 The first hydraulic pressure test shall be carried out before the thermal imsulation is placed in position.

211253 the capacity of each shell intended for the carriage of gases of 3o to 6o and 9o shall be determined, under the supervision of an expert approved by the competent authority, by weighing of volumetric measurement of the quantity of water which fills the shell; any error in the measurement of shell capacity shall be of less than one per cent. Determination by a calculation based on the dimensions of the shell is not permitted. The maximum filling weights allowed in accordance with marginals 2220 (4) and 211251 (3) shall be prescribed by an approved expert.

211254 Checking of the welds shall be carried out in accordance with the lambda-coefficient 1.0 requirements of marginal 211127 (7).

211255 By derogation from the requiremnts of marginal 211151, the periodic tests shall take place:

(1) every three years

in the case of shells intended for the carriage of boron trifluoride [1o (a t)], town gas [2o (b t)], hydrogen bromide, chlorine, nitrogen dioxide, sulphur dioxide or phosgene [3o (a t)], hydrogen sulphide [3o (b t)], or hydrogen chloride [5o (at)];

(2) every six years
in the case of shells intended for the carriage of other compressed and liquefied gases or of ammonia dissolved under pressure [9o (a t)]; and

(3) after six years' service and thereafter every twelve years
in the case of shells intended for the carriage of gases of 7o or 8o. A leakproofness check shall be performed by an approved expert six years after each periodic test.

Leakproofness tests of shells intended for the carriage of gases of 1o to 6o and 9o shall be performed at a pressure of not less than 4 kg/cm^2 (gauge pressure).

In the case of shells heat-insulated by vacuum, the hydraulic-pressure test and the check of the internal condition may, with the consent of the approved expert, be replaced by a leakproofness test and measurement of the vacuum. 211256

If apertures have been made, on the occasion of periodic inspections, in shells intended for the carriage of gases of 7o or 8o, the method by which they are hermetically closed before the shells are replaced in service shall be approved by the approved expert and shall ensure the integrity of the shell. 211257

211258
–211259

Section 6

Marking

The following additional particulars shall be marked by stamping or by any other similar method on the plate prescribed in marginal 211160, or directly on the walls of the shell itself if the walls are so reinforced that the strenght of the shell is not impaired: 211260

(1) on shells intended for the carriage of only one substance:
the name of the gas in full.
This indication shall be supplemented in the case of shells intended for the carriage of compressed gases of 1o and 2o by an indication of the maximum filling pressure at 15°C allowed for the shell, and in the case of shells intended for the carriage of liquefied gases of 3o to 8o or of ammonia dissolved under pressure of 9o (a t) by an indication of the permissible maximum loan in kg and of the filling temperature if below –20°C;

(2) on multi-purpose shells:
the names, in full, of the gases for whose carriage the shell is approved.
These particulars shall be supplemented by an indication of the permissible maximum load in kg for each gas;

(3) on shells intended for the carriage of gases of 7o or 8o: the working pressure; and

(4) on shells equipped with thermal insulation:
the inscription «thermally insulated» or «thermally insulated by vacuum».

The frame of a multiple-element shell shall bear near the filling point a plate specifying: 211261
the test pressure of the elements;
the maximum filling pressure at 15°C allowed for elements intended for compressed gases;
the number of elements;
the aggregate capacity of the elements in litres
the name of the gas in full;
and, in the case of liquefied gases:
the permissible maximum load per element, in kg.

In addition to the particulars prescribed in marginal 211161, the following shall be inscribed either on the tank-vehicle itself or on a plate: 211262

(a) either: «minimum filling temperature allowed: –20°C» or «minimum filling temperature allowed:....»;

(b) where the shell is intended for the carriage of one substance
the name of the gas in full;
for liquefied gase of 3o to 8o and for ammonia dissolved under pressure in water [9o (a t)], the permissible maximum load in kg

(c) where the shell is a multi-purpose shell:
the name in full of all the gases to whose carriage the shell is assigned, with an indication of the permissible maximum load in kg, for each gas;

(d) where the shell is equipped with thermal insulation: 211262
the inscription «thermally insulated» or «thermally insulated by vacuum», in an official language of the forwarding country and also in English, French or German, unless international road transport tariffs, if any, or agreements concluded between the countries concerned in the transport operation, provide otherwise.

211263

The plates on vehicles carrying demountable tanks as referred to in marginal 211235 (5) shall not bear the particulars prescribed in marginals 211161 and 211262.

211264
–211269

Section 7

Operation

A shell assigned at different times to the carriage of different liquefied gases of 3o to 8o (multi-purpose shell) may not carry substances other than those listed in one, and one only, of the following groups: 211270

Group 1: halogenated hydrocarbons of 3o (a) and 4o (a);

Group 2: hydrocarbons of 3o and 4o (b);

Groupe 3: ammonia [3o (a t)]; dimethyl ether, dimethylamine, ethylamine, methylamine and trimethylamine [3 (b t)]»; and vinyl chloride [3o (c)];

Groupe 4: methyl bromide [3o (a t); ethyl chloride and methyl chloride [3o (b t)];

Groupe 5: mixtures of ethylene oxide with carbon dioxide and of ethylene oxide with nitrogen [4o (c t)];

Groupe 6: nitrogen, carbon dioxide, rare gases, nitrous oxide N_2O, and oxygen [7o (a)]; air, mixtures of nitrogen with rare gases, and mixtures of oxygen with nitrogen, alsowhen they contain rare gases [8o (a)];

Groupe 7: ethane, ethylene, and methane [7o (b)]; and mixtures of methane with ethane, also when they contain propane or butane [8o (b)].

Shells which have been filled with a substance of group 1 or group 2 shall be emptied of liquefied gas before being loaded with another substance belonging to the same group. Shells which have been filled with a substance of groups 3 to 7 shall be completely emptied of liquefied gas and then blown down before being loaded with another substance belonging to the same group. 211271

The multiple use of shells for the carriage of liquefied gases of the same group shall be allowed if all the requirements prescribed for the gases to be carried in one and the same shell are observed. Such multiple use shall be subject to approval by an approved expert. 211272

The multiple use of shells for the carriage of gases of different groups shall be allowed if permitted by the approved expert. 211273

When shells are reassigned to gases of adifferent group, the shells shall be completely emptied of liquefied gases, then blown down and, lastly, degassed. The degassing of shells shall be verified and certified by the approved expert.

When loaded tanks or empty but uncleaned tanks are handed over for carriage, only the particulars specified in marginal 211262 applicable to the gas loaded of juct 211274

discharged shall be visible; all particulars concerning other gases shall be covered up.

All the element of a multiple -element shell shall contain only one and the same gas. In the case of a multiple-element shell intended for the carriage of liquefied gases, the elements shall be filled separately and be kept isolated by a sealed valve. 211275

The maximum filling pressure for compressed gases of 1o and 2o other than boron fluoride shall not exceed the values prescribed in marginal 2219 (2). 211276

For boron fluoride [1o (a t)]the maximum filling weight per litre of capacity shall not exceed 0.86 kg.

The maximum filling weight per litre of capacity according to marginals 2220, (2), (3) and (4), and 211251, (2), (3) and (4), shall be abided by.

The degree of filling of shells intended for the carriage of gases of 7o (b) and 8o (b) shall remain below the level at which, if the contents were raised to the temperature at which the vapour pressure equalled the valve-opening pressure, the volume of the liquid would reach 95 per cent of the shell's capacity at that temperature. Shells intended for the carriage of gases of 7o (a) and 8o (a) may be filled to 98 per cent at the loading temperature and the loading pressure. 211277

On shells intended for the carriage of nitrous oxide and oxygen [7o (a)], air, or mixtures containing oxygen [8o (a)], substances containing grease or oil shall not not be used to ensure leakproofness of the joints or for the maintenance of the closures. 211278

The requirement in marginal 211175 shall not apply to gases of 7o and 8o. 211279

211280
–211299

Appendix B.1a
Class 3
Inflammable liquids
Section 1
General! scope; definitions

211300-
211319

Section 2
Construction

Shells intended for the carriage of carbon disulphide [1°(a)] shall designed for a pressure of 10 kg/cm² (gauge pressure). 211320

211321-
211329

Section 3
Items of equipment

Shells which are fitted with a venting device not capable of being closed and which are intended for the carriage of inflammable liquids having a flash-point not exceeding 55 °C shall have a flame-trap in the venting device. 211330

All openings of shells intended for the carriage of acrylaldehyde (acrolein), chloroprene (chlorobutadiene) and carbon disulphide [1°(a)] shall be above the surface level of the liquid. No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. The openings, other than those equipped with valves, shall be capable of being closed by leakproof closures, and the latter shall be capable of being protected by a locable cap. If the shells are equipped with safety valves, the latter shall be preceded by a frangible disc. In such a case the arrangement of the frangible disc and the safety valve shall be required to be satisfactory to the competent authority. 211331

211332-
211339

Section 4
Type approval
(No special requirements)

211340-
211349

Appendix B.1a
Section 5
Tests

The minimum test pressure to which shells intended for the carriage of carbon disulphide [1°(a)] shall be subjected shall be 4 kg/cm² (gauge pressure). The minimum test pressure to which shells intended for the carriage of the other substances of the Class shall be subjected shall be equal to that, as defined in marginal 211123, used for their design. 211350

211351-
211359

Section 6
Marking

(No special requirements) 211360-
211369

Section 7
Operation

The following degrees of filling shall not be exceeded when shells filled with liquids having a vapour pressure of more than 1.75 kg/cm² (absolute) at 50 °C are hermetically-closed shells: 211370

in the case of methyl formate [1°(a)] and other liquids having a coefficient of cubical expansion of more than 150 × 10·5 but not more thant 180 × 10·5: 211373
211399

.....91 per cent of capacity;

in the case of acetaldehyde [5°] and other liquids having a coefficient of cubical expansion of more than 180 × 10·5 but not more thant 230 × 10·5: .....90 per cent of capacity;

An aluminium-alloy shell shall not be used for the carriage of acetaldehyde [5°] unless the shell is assigned solely to such carriage and the acetaldehyde is free from acid. 211371

In the cold season (October to March), light distillates for cracking and other liquid hydrocarbons having a vapour pressure not exceeding 1.5 kg/cm² (absolute) at 50 °C may be carried in shells of the type prescribed in marginal 211133. 211372

Appendix B.1a
Class 4.1
Inflammable solids
Class 4.2
Substances liable to spontaneous combustion
Class 4.3
Substances which give off inflammable gases on contact with water
Section 1
General; scope; definitions

211400-
211419

Section 2
Construction

Shells intended for the carriage of white or yellow phosphorus of marginal 2431 1°, or trichlorosilane (silicochloroform) of marginal 2471, 4°, shall be designed for a pressure of at least 10 kg/cm² (gauge pressure). 211420

211421-
211429

Section 3
Items of equipment

Shells intended for the carriage of sulphur [2°(b)] or naphthalene [11°(c)] of marginal 2401 shall be equipped with thermal insulation made of materials which are not readily inflammable. They may be equipped with valves opening automatically inwards or outwards under the effect of a difference of pressure of 0.2 to 0.3 kg/cm². The discharge devices shall be capable of being protected by a lockable metal cap. 211430

Shells intended for the carriage of white or yellow phosphorus of marginal 2431, 1°, shall meet the following requirements: 211431

(1) The heating device shall not penetrate into, but shall be exterior to, the body of the shell. However, a pipe used for extracting the phosphorus may be equipped with a heating jacket. The device heating the jacket shall be so regulated as to prevent the temperature of the phosphorus from exceeding the filling temperature of the shell. Other piping shall enter the shell in its upper part; openings shall be situated above the highest permissible level of the phosphorus and be capable of being completely enclosed under lockable caps. In addition, the cleaning apertures (first-holes) referred to in marginal 211132 shall not be permitted.

Appendix B.1a

(2) The shell shall be equipped with a gauging system for verifying the level of the phosphorus and, if water is used as the protective agent, with a fixed gauge mark showing the highest permissible level of the water. 211431

The openings and orifices (valves, sleeves, manholes, etc.) of shells intended for the carriage of substances of marginal 2471, 1° (a), shall be protected by leakproof locable caps, and such shells shall be equipped with thermal insulation made of materials which are not readily inflammable. 211432

211433-
211439

Section 4
Type approval

(No special requirements) 211440-
211449

Section 5
Tests

Shells intended for the carriage of sulphur [2° (b)] or naphthalene [11° (c)] of marginal 2401 or white or yellow phosphorus of marginal 2431, 1°, and those intended for the carriage of trichlorosilane (silicochloroform) of marginal 2471, 4°, shall be tested at a pressure of 4 kg/cm² (gauge pressure). 211450

211451-
211459

Section 6
Marking

(No special requirements) 211460-
211469

Section 7
Operation

Shells intended for the carriage of sulphur [2°(b) or naphthalene [11° (c)] of marginal 2401 shall be filled to not more than 98 per cent of their capacity. 211470

White or yellow phosphorus of marginal 2431, 1°, shall, if water is used as the protective agent, be covered with a depth of not less than 12 cm of water at the time of filling; the degree of filling at a temperature of 60°C shall not exceed 98 per cent. If nitrogen is used as the protective agent, the degree of filling at a temperature of 60° C shall not exceed 96 per cent. 211471

Appendix B.1a

The remaining space shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below atmospheric pressure. The shell shall be hermetically closed so that no leakage of gas occurs.

For the carriage of substances of marginal 2471, 1° (a), caps shall be locked in conformity with marginal 211432. 211472

In the case of trichlorosilane (silicochloroform) of marginal 2471, 4°, the degree of filling shall not exceed 1.14 kg per litre of capacity if filling is by weight or 85 per cent if filling is by volume. 211473

Shells which have contained phosphorus of marginal 2431, 1°, shall when handed over for carriage either: 211474

– be filled with nitrogen; the sender shall certify in the transport document that the shell, after closure, is gas-tight; or

– be filled with water to not less than 96 per cent and not more than 98 per cent of their capacity; between 1 October and 31 March this water shall contain one or more anti-freeze agents free from corrosive action, not liable to react with phosphorus, and in such concentration as to make it impossible for the water to freeze during carriage.

211475-
211499

Class 5.1
Oxidizing substances
Class 5.2
Organic peroxides
Section 1
General; scope; definitions

211500-
211519

Section 2
Construction

Shells intended for the carriage in the liquid state of substances referred to in marginal 51121 (1) shall be designed for a pressure of at least 4 kg/cm² (gauge pressure).

Shells, and their items of equipment, intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide of marginal 2501, 1°, or of liquid organic peroxides of marginal 2551, 1°, 10°, 14°, 15° and 18°, shall be made of aluminium not less than 99.5 per cent pure or of suitable steel not liable to cause the hydrogen peroxide or the organic peroxides to decompose. 211521

Appendix B.1a

Shells intended for the carriage of concentrated and hot aqueous solutions of ammonium nitrate du marginal 2501, 6° (a), shall be made of austenitic steel. 211522

211523
211529

Section 3
Items of equipment

Shells intended for the carriage of hydrogen peroxide and of aqueous solutions of hydrogen peroxide containing more than 70 per cent hydrogen peroxide, of marginal 2501, 1°, shall have their openings above the surface level of the liquid. In addition, cleaning apertures (fist holes) as referred to in marginal 211132 shall not be permitted. In the case of solutions containing more than 60 per cent but not more than 70 per cent hydrogen peroxide, openings below the surface level of the liquid shall be permissible. In this case the shell - discharge system shall be equipped with two mutually independent shut - off devices mounted in series, the first taking the form of a quick - closing internal stop - valve of an approved type and the second that of a sluice - valve, at each end of the discharge pipe - socket. A blank flange, or another device providing the same measure of security, shall also be fitted at the outlet of each external sluice - valve. The internal stop - valve shall be such that if the pipe is wrenched off the stop - valve will remain integral with the shell and in the closed position. 211530

The connexions to the external pipe - sockets of shells shall be made of materials not liable to cause decomposition of hydrogen peroxide. 211531

Shells intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide of 1°, or of concentrated and hot aqueous solutions of ammonium nitrate of 6° (a), of marginal 2501 shall be fitted in their upper part with a shut - off device preventing any build - up of excess pressure inside the receptacle, any leakage of liquid, and any entry of foreign matter into the receptacle. The shut - off devices of shells intended for the carriage of concentrated and hot aqueous solutions of ammonium nitrate shall be so designed as to preclude obstruction of the devices by solidified ammonium nitrate during carriage. 211532

Where shells intended for the carriage of concentrated and hot solutions of ammonium nitrate of marginal 2501, 6° (a), are sheathed in thermally - insulating material, the material shall be of an inorganic nature and entirely free from combustible matter. 211533

Shells intended for the carriage of liquid organic peroxides of marginal 2551, 1°, 10°, 14°, 15° and 18°, shall be equipped with a venting device fitted with a flame - trap and followed in series by a safety valve opening at a gauge pressure of 1.8 to 2.2 kg/cm². 211534

Appendix B.1a

Shells intended for the carriage of liquid oranic peroxides of marginal 2551, 1°, 10°, 14°, 15° and 18°, shall be equipped with thermal insulation complying with the requirements of marginal 211234 (1). The covering and any uncovered part of the shell, or the outer sheathing of a complete lagging, shall be painted white and the paint shall be cleaned before each transport journey and renewed in case of yellowing or deterioration. The thermal insulation shall be free from combustible matter.

211536
211539

Section 4
Type approval

211549

Section 5
(No special requirements) 211540

211550

Tests

Shells intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide of 1°, or of concentrated and hot solutions of ammonium nitrate of 6° (a), of marginal 2501, or of liquid organic peroxides of marginal 2551, 1°, 10°, 14°, 15° and 18°, shall be tested at a pressure of 4 kg/cm² (gauge pressure).

211551
211559

Section 6
Marking

211560

(No special requirements) 211569

Section 7
Operation

The inside of the shell, and all parts liable to come into contact with substances referred to in marginal 51121, shall be kept clean. No lubricant capable of combining dangerously with the substance carried shall be used for pumps, valves or other devices. 211570

Shells intended for the carriage of liquids of marginal 2501, 1° to 3°, shall be filled to not more than 95 per cent of their capacity at a reference temperature of 15°C. 211571

Shells intended for the carriage of hot aqueous solutions of ammonium nitrate of marginal 2501, 6° (a), shall be filled to not more than 97 per cent of their capacity, and the maximum temperature after filling shall not exceed 140°C.

Appendix B.1a

Tanks used for the carriage of hot aqueous solutions of ammonium nitrate of marginal 2501, 6° (a), shall not be used for the carriage of other substances without being first carefully cleansed of any residues. 211572

211573
211599

Class 6.1
Toxic substances
Section 1
General: scope: definitions

211600
211619

Section 2
Construction

Shells intended for the carriage of hydrocyanic acid solutions of 1° (b), or queous solutions of ethyleneimine and propyleneimine of 3°, or nickel carbonyl of 5° (a), shall be designed for a pressure of at least 15 kg/cm² (gauge pressure). 211620

Shells intended for the carriage of other substances referred to in marginal 61121 (1), (a) and (b), shall be designed for a pressure of at least 10 kg/cm² (gauge pressure). 211621

Shells intended for the carriage of substances referred to in marginal 61121 (1), (c), shall be designed for a pressure of at least 4 kg/cm² (gange pressure). 211622

Shells intended for the carriage of powdery or granular substances shall be designed in accordance with the requirements of the general section of this Appendix. 211623

211624
211629

Section 3
Items of equipment

All openings of shells intended for the carriage of substances referred to in marginal 61121 (1), (a) and (b), shall be above the surface level of the liquid. No pipirg or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. The openings shall be capable of being hermetically closed, and the closure shall be capable of being protected by a lockable cap. In addition, cleaning apertures (fist - holes) as referred to in marginal 211132 shall not be permitted for shells intended for the carriage of aqueous solutions of hydrocyanic acid [1° (b)]. 211630

Appendix B.1a

(1) Shells intended for the carriage of substances referred to in marginal 61121 (1), (c) and (d), may be of the bottom - discharge type. 211631

(2) The bottom - discharge fittings of shells intended for the carriage of the substances referred to in marginal 61121 (1), (c), shall conform to the requirements of mar-

ginal 211131, and in addition the discharge pipes of the shells shall be capable of being closed by a blank flange, a plug, or some other equally effective device.

(3) All openings of the shells referred to in paragraph (1) shall be capable of being hermetically closed.

211632

If the shells are fitted with safety valves, the latter shall be preceded by a frangible disc. The arrangements of the frangible disc and the safety valve shall be required to be satisfactory to the competent authority.

Tanks fitted with safety valves and frangible discs and intended for carriage by sea shall conform to the regulations governing that mode of transport.

Protection of equipment 211633

(1) Fittings and accessories mounted in the upper part of the shell

Such fittings and accessories shall be either

inserted in a recessed housing; or

equipped with an internal safety valve; or

shielded by a cap, or by transverse and/or longitudinal members, or by other equally effective devices, so profiled that in the event of overturning the fittings and accessories will not be damaged.

(2) Fittings and accessories mounted in the lower part of the shell

Pipe - sockets, lateral shut - off devices, and all discharge devices shall either be recessed by at least 200 mm from the extreme outer edge of the shell or be protected by a rail having a coefficient of inertia of not less than 20 cm^3 transversally to the direction of travel; their ground clearance shall be not less than 300 mm with the shell full.

(3) Fittings and accessories mounted on the rear face of the shell

All fittings and accessories mounted on the rear face shall be protected by the bumper prescribed in marginal 10216. Their height above the ground shall be such that they are adequately protected by the bumper.

211634
211639

Appendix B.1a

Section 4

Type approval

Tanks approved for the carriage of toxic substances shall not be approved for the carriage of foodstuffs, articles of consumption or animal feeding stuffs. 211640

211641
211649

Section 5

Tests

Shells intended for the carriage of the substances referred to in marginal 61121 (1), (a) to (c), shall be tested initially and periodically at a pressure of 4 kg/cm^2 (gauge pressure). 211650

The periodic tests shall be carried out at intervals of not more than three years in the case of shells intended for the carriage of substances of 14°.

211651
211659

Section 6

Marking

211660

(No special requirements) 211669

Section 7

Operation

The degree of filling of shells intended for the carriage of substances referred to in marginal 61121 (1), (a) to (d), shall conform to marginal 211172 (1) (d). 211670

Shells intended for the carriage of substances of 5° (a) and 5° (b) shall be filled only to the extent of 1 kg of liquid per litre of capacity. 211671

The openings of the shells shall be hermetically closed during carriage. 211672

Tanks used for the carriage of toxic substances shall not be used for the carriage of foodstuffs, articles of consumption or animal feeding stuffs. 211673

211674
211699

Class 7

Radioactive substances

Section 1

General; scope; definitions

211700

Section 2 211719

Construction

Shells intended for the carriage of the substances referred to in marginal 2703, Schedule 5, paragraph 11, shall be designed for a pressure of at least 4 kg/cm^2 (gauge presssure). 211720

Where the radioactive substances are in solution or suspension in substances of other Classes and the calculation pressures prescribed for the shells of tanks intended for the carriage of the latter substances are greater, the latter pressures shall be applied. 211721

211722

Section 3 211729

Items of equipment

Shells intended for the carriage of liquid radioactive substances[8] shall have their openings above the surface level of the liquid. No piping or pipe connexion shall pass through the walls of the shell below the surface level of the liquid. 211730

211731

Section 4 211739

Type approval

Tanks approved for the carriage of radioactive substances shall not be approved for the carriage of foodstuffs, articles of consumption, animal feeding stuffs, cosmetics or medicaments, or of substances used in the manufactire of these products. 211740

211741

Section 5 211749

Tests

Shells intended for the carriage of the substances referred to in marginal 2703, Schedule 5, paragraph 11, shall be tested initially and periodically at a pressure of 4 kg/cm^2 (gauge pressure). 211750

By derogation from the requirements of marginal 211151, the periodic internal inspection may be replaced by a check of the wall thickness by ultrasound, performed every three years. 211751

211752

Section 6 211759

Marking

211760

(No special requirements) 211769

Section 7

Operation

The degree of filling at the reference temperature of 15°C shall not exceed 93 per cent of the total capacity of the shell. 211770

Tanks which have been used for the carriage of radioactive substances shall not be used for the carriage of foodstuffs, articles of consumption, animal feeding stuffs, cosmetics or medicaments, or of substances used in the manufactire of these products. 211771

211772

Class8 211799

Corrosive substances

Section 1

General; scope; definitions

211800

Section 2 211819

Construction

211820

Shells intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6°(a)], of aqueous solutions of hydrofluoric acid [6° (b)], or of bromine (14°) shall be designed for a pressure of at least 21 kg/cm^2 (gauge pressure). Shells intended for the carriage of bromine shall be equipped with a lead lining not less than 5 mm thick, or with an equivalent lining. (8.2.1)

Shells intended for the carriage of substances of 1° (a), 2° (a), 6° (c), 7° to 9°, 21° (a) and 23o shall be designed for a pressure of at least 10 kg/cm² (guage pressure). 211821

Where the use of aluminium is necessary for shells intended for the carriage of substances of 2° (a), such shells shall be made of aluminium not less than 99.5 per cent pure, in which case, by derogation from the subparagraph above, the wall thickness need not exceed 15 mm.

Shells intended for the carriage of monochloroacetic acid [21° (a)] shall be equipped with an enamel or equivalent lining if the material of the shell is attacked by that acid.

Shells intended for the carriage of the substances referred to in marginal 81121 other than those listed in marginals 211820 and 211821 shall be designed for a pressure of not less than 4 kg/cm² (guage pressure). 211822

Shells intended for the carriage of aqueous solutions of hydrogen peroxide (41o) shall meet the requirements of marginal 211520. 211823

211824

Section 3 211829

Items of equipment

All openings in shells intended for the carriage of substances of 6° and of bromine (14°) shall be above the surface level of the liquid; no piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. In addition, cleaning apertures (fist-holes) as referred to in marginal 211132 shall not be permitted. The closures shall be capable of being effectively protected by a metal cap. 211830

The following requirements shall apply to demountable tanks intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)] and of aqueous solutions of hydrofluoric acid [6° (b)]: 211831

1. they shall not be interconnected by a manifold; and

2. if the demountable tanks can be rolled, the valves shall be fitted with protective caps.

Shells intended for the carriage of stabilized sulphur trioxide (9o) shall be thermally insulated and be fitted with a heating device on the outside. Shells may be of the bottom-discharge type. In this case the shell-discharge system shall be equipped with two mutually independent shut-off devices mounted in series, the first taking the form of a quick-closing internal stop-valve of an approved type and the second that of a sluice-valve fitted at the end of the discharge pipe-socket. A blank flange or some other equally reliable device shall also be fitted to the outlet of each external sluice-valve. 211832

Shells and their service equipment intended for the carriage of hypochlorite solutions (37°) and of aqueous solutions of hydrogen peroxice (41°) shall be so designed as to prevent the entry of foreign matter, the leakage of liquid, and any build-up of dangerous excess pressure inside the shell. 211833

Section 4

Type approval

211840

(No special requirements) 211849

Section 5

Tests

Shells intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)] and of aqueous solutions of hydrofluoric acid [6° (b)] shall undergo the initial pressure test and the periodic tests at a pressure of 10 kg/cm² (gauge pressure), and those intended for the carriage of the other substances referred to in marginal 81121, if those substances are carried in the liquid phase, at a pressure of 4 kg/cm² (gauge pressure). 211850

The pressure test of shells intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6°(a)] and of aqueous solutions of hydrofluoric acid [6° (b)] shall be repeated every six years and shall be accompanied by an internal inspection of the shells and a check of their items of equipment. In addition, every two years the resistance of the shells to corrosion shall be checked by means of suitable instruments (e.g. by ultrasound) and the condition of the equipment verified. 211851

The pressure test of shells intended for the carriage of stabilized sulphur trioxide (9°) shall be repeated every three years. 211852

The condition of the lining of shells intended for the carriage of bromine (14°) shall be checked every year by an approved expert, who shall inspect the inside of the shell. 211853

211854

Section 6 211859

Marking

Shells intended for the carraige of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)], of aqueous solutions of hydrofluoric acid [6° (b)], or of bromine (14°), shall bear, in addition to the particulars already prescribed in marginals 211160 and 211161, an indication of the permissible maximum net load in kilogrammes and the date (month, year) of the most recent internal inspection of the shell. 211860

211861

Section 7 211869

Operation

Shells intended for the carriage of sulphuric acid [1o (c)] shall be filled to not more than 95 per cent of their capacity, those intended for the carraige of stabilized sulphur trioxide (9°) to not more than 88 per cent, and those intended for the carriage of bromine (14°) to not less than 88 per cent and not more than 92 per cent or to the extent of 2.86 kg per litre of capacity. Shells intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)] or of aqueous solutions of hydrofluoric acid [6o (b)] shall not be filled to the extent of more than 0.84 kg per litre of capacity. 211870

211871

212099

Appendix B.1b
PROVISIONS CONCERNING TANK - CONTAINERS (DESIGN AND TESTING)

NOTE:

Chapter I sets out the requirements applicable to tank-containers intended for the carriage of substances of all Classes.

Chapter II contains particular requirements supplementing or modifying the requirements of Chapter I.

Chapter I
REQUIREMENTS APPLICABLE TO ALL CLASSES

Section 1
General; scope; definitions

These requirements shall apply to tank-containers of a capacity of more than 0.45 cubic metre which are used for the carriage of liquid, gaseous, powdery or granular substances, and to their fittings and accessories. 212100

A tank-container shall comprise a shell and items of equipment, including equipment to facilitate movement without change of attitude. 212101

In the following requirements: 212102

(1) (a) «Shell» means the tank proper (including the openings and their closures);

(b) «Service equipment» of the shell means filling and emptying, venting, safety, heating and heat-insulating devices, and measuring instruments; and

(c) «Structural equipment» means the reinforcing, fastening, protective or stabilizing members external to the shell.

(2) (a) «Calculated pressure» means a theoretical pressure at least equal to the test pressure which according to the degree of danger exhibited by the substance being

carried may exceed the working pressure more or less substantially. It is used solely to determine the thickness of the walls of the shell, to the exclusion of any external or internal reinforcing device;

(b) «Maximum working pressure» means the highest of the following three pressures:

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1. The highest effective pressure allowed in the shell during filling («maximum filling pressure allowed»); 212102

2. The highest effective pressure allowed in the shell during discharge («maximum discharge pressure allowed»); and

3. The effective pressure to which the shell is subjected by its contents (including such extraneous gases as it may contain) when the temperature reaches 50°C («total pressure»);

(c) «Test pressure» means the highest effective pressure which arises in the shell during the pressure test;

(d) «Filling pressure» means the maximum pressure actually built up in the shell when it is being filled by pressure.

(e) «Discharge pressure» means the maximum pressure actually built up in the shell when it is being filled by pressure.

(3) «Leakage test» means the test which consists of subjecting the shell to an effective internal pressure equal to the maximum working pressure, but not less than 0.2 kg/cm² (gauge pressure), by a procedure approved by the competent authority.

212103
212119

Section 2
Construction

Shells shall be made of ductile metallic materials. For welded shells only a material whose weldability has been fully demonstrated shall be used. Welds shall be skilfully made and afford complete safety. The materials of shells and of their protective linings which are in contact with the contents carried shall not contain substances liable to react dangerously with the latter to form dangerous compounds, or substantially to weaken the material. 212120

Shells, their attachments and their service and structural equipment shall be designed to withstand at least the static and dynamic stresses in normal carriage without loss of contents.[1] 212121

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The pressure on which the dimensioning of the tank-container shell is based shall be not less than the calculated pressure, but the stresses referred to in marginal 212121 shall also be taken into account. 212122

Except where special conditions laid down for the various classes provide otherwise, the following minimum requirements shall be taken into account in the design of shells: 212123

(1) The shell of a gravity-discharge tank-container intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) or not more than 1.1. kg/cm² (absolute) shall be designed for a test pressure of twice the static pressure of the liquid to be carried, but not less than twice the statice pressure of water;

(2) The shell of a pressure-filled or pressure-dicharge tank-container intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not more than 1.1. kg/cm² (absolute) shall be designed for a test pressure equal to 1.3 times the filling or discharge pressure;

(3) The shell of a tank-container - whatever its filling or discharge system - intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of not less than 1.1. and not more than 1.75 kg/cm² (absolute) shall be designed for a test pressure of at least 1.5 kg/cm² (gauge pressure), or of 1.3 times the filling or discharge pressure if the filling or discharge pressure is higher;

(4) The shell of a tank-container - whatever its filling or discharge system - intended for the carriage of substances having at 50°C a total pressure (i.e. vapour pressure plus partial pressure of inert gases, if any) of more than 1.75 kg/cm² (absolute) shall be designed for a test pressure equal to the higher of the following two pressures; 1.5 times the total pressure at 50oC, less 1 kh/cm², subject to a minimum of 4 kg/cm² (gauge pressure); and 1.3 times the filling or discharge pressure.

Tank-containers intended to contain certain dangerous substances shall be provided with additional protection, which may take the form of additional thickness of the shell (such additional thickness being determined in the light of the dangers inherent in the substances concerned; see the relevant classes) or of a protective device. 212124

At the calculated pressure or the test pressure whichever is the higher, the stress σ (sigma) at the most severely stressed point of the shell shall conform to the material-dependent limits prescribed below. In addition, in choosing the material and determining wall thickness the maximum and minimum filling and working temperatures should be taken into account, with particular reference to the risk of brittle fracture. 212125

(1) For metals and alloys exhibiting a clearly-defined yield point or characterized by a guaranteed conventional yield stress Re (generally 0.2 per cent of residual elongation):

(a) Where the ratio Re/Rm is not more than 0.66 (Re = apparent yield stress or 0.2 per cent proof stress; Rm = guaranteed minimum tensile strenght)

$$\sigma \leqslant 0.75\ Re$$

(b) Where the ration Re/Rm exceeds 0.66

$$\sigma \leqslant 0.5\ Rm$$

(2) For metals and alloys exhibiting no apparent yield stress and characterized by a guaranteed minimum tensile strength Rm:

$$\sigma \leqslant 0.43\ Rm$$

(3) The elongation at fracture,[2] in per cent, shall be not less than 1,000/Rm, but shall be not less than 20 per cent in the case of steel and not less than 12 per cent in the case of aluminium alloys.

Tank-containers intended for the carriage of inflammable liquids having a flashpoint of not more than 55°C and for the carriage of inflammable gases shall be capable of being electrically earthed. 212126

Tank-containers shall be capable of absorbing the forces specified in paragraph (1) and the wall thickness of the shells shall be as prescribed in paragraphs (2) - (4) below. 212127

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(1) Tank-containers and their fastenings shall under 212127

1. If there are degassing vents, this shall not apply to quantities of gas escaping through them.

2. The specimens used to dermine the elongation at fracture shall be taken transversely to the direction of rolling and be so secured that:

Lo = 5d

where Lo = length of the specimen before the test; and d = diameter.

the maximum permissible load be capable of absorbing the following forces;

– in the direction of travel: twice the total weight;

– horizontally at right angles to the direction of travel: the total weight; (where the direction of travel is not clearly determined, the maximum permissible load shall be twice the total weight);

– verically upwards: the total weight! and

– vertically downwards: twice the total weight.

Under each of these forces the safety factors to be observed shall be the following:

– for metals having a clearly-defined yield point: a safety factor of 1.5 in relation to the apparent yield stress! or for metals with no clearly - defined yield point: a safety factor of 1.5 in relation to the guaranteed 0.2 per cent proof stress.

(2) The minimum wall thickness of the shell barrel shall be calculated by the following formula:

$$e = \frac{P \times D}{200\ \sigma \text{mm}}$$

where P = calculated pressure or test pressure, whichever is the higher in kg/cm^2;

D = internal diameter of shell in mm; and

σ = permissible stress as defined in marginal 212205, paragraphs 1(a), 1(b) and 2, in kg/mm2.

The thickness shall in no case be less than that prescribed in paragraphs (3) and (4) below.

(3) The barrels and ends of shells not more than 1.80 m in diameter shall be not less than 5 mm thick if of mild steel [3] (as specified in marginal 212125) or of equivalent thickness if of another metal. Where the diameter exceeds 1.80 m this thickness shall

are increased to 6 mm if the tank is of mild steel 3/ (as specified in marginal 212 205) or to an equivalent thickness if the tank is of another metal. Whatever the metal used, the thickness of the shell wall shall in no case be less than 3 mm.

(4) Where additional protection of the shell against damage is provided, the competent authority may allow the aforesaid minimum thicknesses to be reduced in proportion to the protection provided; however, the said thicknesses shall be not less than 3 mm in the case of mild steel 3/, or than an equivalent thickness in the case of other materials, for shells not more than 1.80 m in diameter. For shells with a diameter exceeding 1.80 m the aforesaid minimum thickness shall be increased to 4 mm in the case of mild steel 3/ and to an equivalent thickness in the case of another metal.

Tank-containers shall be carried only on vehicles whose fastenings are capable, under the maximum permissible load on the tank-containers, of absorbing the forces specified in marginal 212 127 (1) above. 212 128

212 129

Section 3

Items of equipment

The items of equipment shall be so arranged as to be protected against the risk of being wrenched off or damaged during carriage and handling. If the connexion between the frame and the shell allows relative movement as between these sub-assemblies, the items of equipment shall be so fastened as to permit such movement without risk of damage to working parts. 212 130

The items of equipment shall exhibit a suitable degree of safety comparable to that of the shell.

In addition, particular conditions applicable to bottom-discharge tank-containers are prescribed, in marginal 212 131 below.

3. «Mild steel» means a steel having a breaking strenght between 37 and 44 kg/mm^2.

Every bottom-discharge tank-container, and in the case of compartmented bottom-discharge tank-containers every compartment, shall be equipped with two mutually independent shut-off devices, the first being an internal stop-valve [4] fixed directly to the shell and the second being a sluice-valve or other equivalent device [5], mounted in series, one at each end of the discharge pipe. The internal stop-valve shall be operable from above or from below. If possible, the setting –open or closed– of the internal stop-valve shall be capable of being verified from the ground in both cases. Internal-stop-valve control devices shall be so designed as to prevent any unintended opening through impact or an inadvertent act. 212 131

The internal shut-off device shall continue to be effective in the event of damage to the external control device. In order to avoid any loss of contents in the event of damage to the external discharge fittings (pipes, lateral shut-off devices), the internal stop-valve and its seating shall be protected against the danger of being wrenched off by external stresses or shall be so designed as to resist them. The filling and discharge devices (including flanges or threaded plugs) and protective caps (if any) shall be capable of being secured against any unintended opening.

A tank-container or each of its compartments shall, save where it is intended for the carriage of deeply refrigerated gases, be provided with an opening large enough to enable the tank-container or compartment to be inspected. 212 132

A tank-container intended for the carriage of liquids having a vapour pressure of not more than 1.1 kg/cm^2 (absolute) at 50°C shall have a venting system and a safety device to prevent the contents from spilling out of the shell if the tank-container overturns, or shall conform to the requirements of marginal 212 134 or 212 135 below. 212 133

A tank-container intended for the carriage of liquids having a vapour pressure of not less than 1.1 and not more than 1.75 kg/cm^2 (absolute) at 50°C shall have a safety valve set at not less than 1.5 kg/cm^2 (gauge pressure) and such that it is fully open at a pressure not exceeding the test pressure; or shall conform to the requirements of marginal 212 135. 212 134

A tank-container intended for the carriage of liquids having a vapour pressure of not less than 1.75 and not more than 3 kg/cm^2 (absolute) at 50°C shall be equipped with a safety valve set at a gauge pressure of not less than 3 kg/cm^2 and such that it is fully open at a pressure not exceeding the test pressure; or shall be hermetically sealed. 212 135

Moving parts such as covers, closures, etc., which are liable to come into frictional or percussive contact with aluminium tank-containers intended for the carriage of inflammable liquids having a flashpoint of not more than 55°C or for the carriage of inflammable gases shall not be made of unprotected corrodable steel.

212 137
-212 139

Section 4

Type approval

The competent authority or a body designated by that authority shall issue in respect of each new type of tank-container a certificate attesting that the prototype tank-container, including fastenings, which it has surveyed is suitable for the purpose for which it is intended and meets the construction requirements of section 2 and the equipment requirements of section 3. If the tank-containers are serially manufactured without modification, this approval shall be valid for the entire series. The test results, the substances for the carriage of which the tank-container is 212 140

4, Save as may be otherwise provided in the case of shells intended for the carriage of certain crystallizable or highly viscous substances.

5. In the case of tank-containers of less than 1 m^3 capacity, the sluice-valve or other equivalent device may be replaced by a blank flange.

approved, and an approval number shall be specified in a test report. The approval number shall consist of the distinguishing sign 6 of the State in whose territory the approval was granted, and a registration number.

212 141
-212 149

Section 5
Tests

Shells and their items of equipment shall either together or separately undergo an initial inspection before being put into service and shall thereafter undergo periodic inspections. The initial inspection shall include a check of the design characteristics, an internal and external examination and a hydraulic pressure test. If the shells and their items of equipment are tested separately they shall after assembly be jointly subjected to a leakage test. The periodic inspections shall include an external and internal examination and, as a general rule, a hydraulic pressure test. Sheathing for thermal insulation and the like shall be removed only to the extent required for reliable appraisal of the tank-container's characteristics. The initial and periodic pressure tests shall be carried out, by an expert approved by the competent authority, at the test pressure indicated on the data plate of the tank-containrer, except in cases where lower test pressures are authorized for the periodic tests. In special cases, and with the agreement of the competent authority, the hydraulic pressure test may be replaced by a pressure test using another liquid or a gas. 212 150

Tank-containers shall, before being put into service and thereafter at intervals not exceeding five years, be tested in conformity with the provisions of marginal 212 150 above. Before tank-containers are put into service, and thereafter at intervals not exceeding two and one - half years, all the equipment shall be checked for leakproofness and satisfactory operation. 212 151

Certificates showing the results of these tests shall be issued by the expert approved by the competent authority. 212 152

212 153
-212 159

Section 6
Marking

Each tank-container shall be fitted with a corrotion-resistant metal plate permanently attached to the shell in a place readily accessible for inspection. The following particulars at least shall be marked on the plate by stamping or by any other similar method. The particulars may be engraved directly on the walls of the shell itself if the walls are so reinforced that the strength of the shell is not impaired. 212 160

- Approval number;
- Manufacturer's name or mark;
- Manufacturer's serial number;
- Year of manufacture;
- Test pressure in kg/cm^2 (gauge pressure);
- Capacity in litres; in the case of multiple-element tank-containers: the capacity of each element;
- Design temperature (only if above 50°C or below -20°C);
- Month and year of initial test and of most recent periodic test;
- Stamp of the expert who carried out the tests.

On pressure-filled or pressure-discharge tank-containers the maximum working pressure allowed shall be inscribed in addition.

The following particulars shall be inscribed either on the tank-container itself or on a board:

- The names of the owner and of the operator;
- The capacity of the shell;
- The unladen (tare) weight;
- The maximum permissible laden weight; and
- The name of the substance being carried. 7

In addition, tank-containers shall bear the prescribed danger labels.

212 162
-212 169

Section 7
Operation

During carriage, tank-containers shall be fixed on the carrying vehicle in such a way as to be adequately protected by the fittings of the carrying vehicle or of the tank-container itself against lateral and longitudinal impact and against overturning. 8 If the shells and the service equipment are so constructed as to withstand impact or overturning they need not be protected in this way. 212 170

Tank-containers shall not be loaded with any dangerous substances other than those for whose carriage they have been approved. 212 171

The following degrees of filling shall not be exceeded in tank-containers intended for the carriage of liquids at ambient temperatures: 212 172

Appendix B.1b

212172 (contd)

(1) - (a) Inflammable substances not exhibiting additional risks (e.g. not toxic or corrosive) in tank - containers with a venting system and with or without safety valves:

$$\text{degree of filling } \frac{100}{1+a(50-t_F)} \text{ or } \frac{100}{1+35a} \text{ \%of capacity;}$$

(b) Toxic or corrosive substances, whether or not exhibiting an inflammability risk, in tank - containers with a venting system and with or without safety valves:

$$\text{degree of filling } \frac{98}{1+a(50-t_F)} \text{ or } \frac{98}{1+35a} \text{ \%of capacity;}$$

(c) Low - concentration inflammable substances and low - concentrations acids and lyes in closed tank - containers:

$$\text{degree of filling } \frac{97}{1+a(50-t_F)} \text{ or } \frac{97}{1+35a} \text{ \%of capacity;}$$

(d) High - concentration toxic substances and high - concentration acis and lyes in closed tank - containers:

$$\text{degree of filling } \frac{95}{1+a(50-t_F)} \text{ or } \frac{95}{1+35a} \text{ \%of capacity;}$$

(2) In these formulae a is the mean coefficient of cubical expansion of the liquid between 15° and 50° C, i.e. for a maximum variation in temperature of 35° C.

6. Distinguishing sign for use in international traffic prescribed by the Convention on Road Traffic (Vienna, 1968).

7. A collective description or an index number may be given instead of the name.

8. Examples of protection of shells:

1. Protection against lateral impact may for example consist of longitudinal bars protecting the shell on both sides at the level of the median line.

2. Protection against overturing may for example consist of reinforcing rings or bars fixed transversally in relation to the frame.

3. Protection against rear impact may for example consist of a bumper or frame.

a is calculated by the formula: $\frac{d_{15}-d_{50}}{35\times d_{50}}$

in which d_{15} and d_{50} are the density of the liquid at 15°C and 50°C respectively. t_F is the mean temperature of the liquid during filling.

(3) The provisions of marginal 212172 (1) above shall not apply to tank - containers whose contents are maintained by means of a heating device at a temperature above 50°C during carriage. In such a case the degree of filling at the outset shall be such and the temperature shall be so regulated that the tank - container is not full to more than 95 per cent of its capacity at any time during carriage.

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If the shells of tank - containers intented for the carriage of liquids 9* are not divided by partitions or surge plates into sections of not more than 5,000 litres capacity, the said shells shall be filled to not less than 80 per cent of their capacity unless they are practically empty. 212173

Tank-containers shall be closed so that the contents cannot run out uncontrolled. 212174

Where several closure systems are fitted in a series, that nearest to the substance being carried shall be closed first. 212175

No residue of the dangerous substance being carried shall adhere to the outside of a tank - container during carriage. 212176

To be accepted for carriage, empty tank - containers shall be closed in the same manner and leakproof in the same degree as though they were full. 212177

212178

Section 8 212179

Transitional measures

(1) Tank - containers of a capacity below 1,000 litres built before the entry into force of these requirements and not conforming to them may, if they were built in conformity with the requirements of ADR and RID concerning receptacles, be used during a period of three years immediately following the entry into force of these requirements for the carriage of liquid, gaseous, powdery or granular substances. 212180

(2) Tank - containers of a capacity of not less than 1,000 litres may with the approval of the competent authority of the countries in which they are to be carried, be used during a period of five years immediately following the entry into force of these requirements for the carriage of liquid, gaseous, powdery or granular substances.

212181

Appendix B.1b 212199

Chapter II

PARTICULAR REQUIREMENTS SUPPLEMENTING OR MODIFYING THE REQUIREMENTS OF CHAPTER I

CLASS 2

Gases: compressed, liquefied or dissolved under pressure

Section 1

General; scope; definitions

212200

212219

Section 2

Construction

The shells of tank - containers intended for the carriage of substances of 1° to 6° and 9° shall not be made of aluminium or aluminium alloy. 212220

The requirements of Appendix B.1d, marginals 214250 to 214285 shall apply to the materials and construction of the shells of tank - containers intended for the carriage of gases of 7° and 8°. 212221

212222

212229

9* Substances whose efflux time at 20°C from a DIN cup with a 4 mm orifice is less than 10 minutes (corresponding to an efflux time of less than 96 sec. at 20°C from a No. 4 Ford cup, or less than 2,680 centistokes) shall be deemed to be liquids for the purposes of this provision.

Section 3

Items of equipment

In addition to being equipped with the devices prescribed in marginal 213131, the discharge pipes of tank - container shells shall be capable of being closed by blank flanges or some other equally reliable device. 212230

The shells of tank - containers intended for the carriage of liquefied gases may be quipped, in addition to the filling, discharge and gas - pressure - equalizing orifices, with openings in which gauges, thermometers and manometers can be fitted. 212231

Appendix B.1b

Safety valves shall meet the conditions prescribed in paragraphs (1), (2) and (3) below. 212232

(1) The shells of tank—containers intended for the carriage of gases of 1° to 6° and 9° may be fitted with not more than two safety valves.

The safety valves shall be capable of opening automatically under a pressure of from 0.9 to 1.0 times the test pressure of the shell to which they are fitted. They shall in addition be constructed in such a way that in the event of total fire engulfment the pressure inside the shell does not exceed the test pressure. They shall be of such a type as to resist dynamic stresses, including liquid surge. The use of deadweight or counterweight valves is prohibited.

The shells of tank—containers intended for the carriage of gases of 1° to 9° harmful to the respiratory organs or entailing a poison risk (Gases identified by the letter "t" in the list of substances are deemed to be gases harmful to the respiratory organs or entailing a poison risk) shall not have safety valves unless the safety valves are preceded by a bursting disc. In the latter case the arrangement of the bursting disc and the safety valve shall be to the satisfaction of the competent authority.

(2) The shells of tank—containers intended for the carriage of gases of 7° (a) and 8° (a) which are not in constant communication with the outside air, and of those intended for the carriage of gases of 7° (b) and 8° (b) shall be fitted with two independent safety valves each so designed as to permit evacuation of the gases from the the shell in such a way that the pressure does not at any time esceed the working pressure indicated on the tank — container by more than 10 per cent.

In addition, the shells of such tank — containers may be fitted with bursting discs in series with and preceding the safety valves. In such a case the arrangement of the bursting disc and the safety valve shall be to the satisfaction of the competent authority.

(3) The safety valves of the shells of tank—containers intended for the carriage of gases of 7° and 8° shall be capable of opening at the working pressure indicated on the tank — container. They shall be so designed as to function faultlessly even at the lowest working temperature. The reliability of their operation at that temperature shall be established and checked either by testing each valve or by testing a specimen valve of each type.

212233

An internal flow restricting valve or equivalent device shall be fitted to every orifice more than 1.5 mm in diameter provided in the shell for the passage of gases or liquids, other than orifices carrying safety valves.

Appendix B.1b

Thermal insulation. 212234

(1) If the shells of tank - containers intended for the carriage of liquefied gases of 3° to 4° are equipped with thermal insulation, such insulation shall be subject to the special provisions under (2) below either:

Consist of a sun shield covering not less than the upper third but not more than the upper half of the tank - containers's surface and separated from the shell by an air space about 4 cm across; or

Consist of a complete cladding, of adequate thickness, of insulating materials.

The thermal insulation shall be so designed as not to

hinder access to the filling and discharge devices.

(2) The shells of tank - containers intended for the carriage of 1,3 - butadiene [3° (c)], or of methyl vinyl ether, trifluorochloroethylene or vinyl bromide [3° (ct)], shall be protected by a sun - shield as defined above.

(3) The shells of tank - containers intended for the carriage of gases of 7° and 8° shall be thermally insulated. The thermal insulation shall be protected against impact by means of continuous metal sheathing. If the space between the shell and the metal sheathing is under vacuum (vacuum insulation), the protective sheathing shall be so designed as to withstand without deformation an external pressure of at least 1 kg/cm² (gauge pressure). If the sheathning is so closed as to be gas - tight, a device shall be provided to prevent any dangerous pressure from developing sin the insulating layer in the event of inadequate gas - tightness of the shell or of its items of equipment. The device shall prevent the infiltration of moisture into the heat - insulating sheath.

(4) The shells of tank - containers intended for the carriage of oxygen [7° (a)], or of air or mixtures of oxygen with nitrogen [8° (a)], shall not include any combustible material either in the thermal insulation or in the means of attachment to the frame.

212235 In the case of multiple - element tank - containers, the following conditions shall be met.

(1) If one of the elements of a multiple - element tank - container is fitted with a safety valve and shut - off devices are provided between the elements, every element shall be so fitted.

(2) The filling and discharge devices may be fitted to a manifold.

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212235 (contd)

(3) Each element of a multiple - element tank - container intended for the carriage of compressed gases of 1° and 2° harmful to the respiratory organs or entailing a poison risk 10* shall be capable of being isolated by a valve.

(4) The elements of a multiple - element tank - container intended for the carriage of liquefied gases of 3° to 5° harmful to the respiratory organs or entailing a poison risk 10* shall be so designed that they can be filled separately and be kept isolated by a valve capable of being sealed.

212236
212239

Section 4
Type approval

212240

(No special requirements) 212249

Section 5
Tests

212250 The materials of the shells of tank - containers intended for the carriage of gases of 7° and 8° shall be tested by the method described in Appendix B.1d, marginals 214250 to 214285.

212251 The test pressure shall be as follows:

(1) Tank - containers intended for the carriage of gases of 1° to 2°, in conformity with marginal 2219 (1);

(2) Tank-containers intended for the carriage of gases 212251
of 3o and 4o, in conformity with marginal 2220 (2) if the shells are not more than 1,5mm diameter, and in conformity with marginal 211251 (2) (b) if the shells are more than 1.5 m in diameter;

(3) Tank-containers intended for the carriage of gases of 5° and 6°, in conformity with marginal 2220 (3) and (4), and in conformity with marginal 211 251 (3) (b) in the case of multiple-element tank-containers whose elements are interconnected and form a battery, are not isolated from one another, and are encased in a thermal insulation;

(4) Tank-containers intended for the carriage of ammonia dissolved under pressure [9o (at)], in conformity with marginal 211251 (4);

(5) (a) Tank-containers fitted with safety valves and intended for the carraige of gases of 7° and 8°: 1.5 times the working pressure indicated on the shells, but not less than 3 kg/cm² (gauge pressure); for tank-containers with vacuum insulation the test pressure shall be 1.5 times the working pressure increased by 1 kg/cm².

(b) In the case of tank-containers without safety valves and intended for the carriage of gases of 7° (a) and 8°(a), the first test shall be performed at 2 kg/cm² (gauge pressure) and the periodic tests at 1 kg/cm² (gauge pressure).

212252 The first hydraulic pressure test shall be carried out before thermal insulation is applied.

212253 The capacity of the shell of each tank-container intended for the carriage of gases of 3°, 4° and 9° shall be determined, under the supervision of an expert approved by the competent authority, by weighing or volumetric measurement of the quantity of water required in order to fill the shell. The measurement of shell capacity shall be accurate to within 1 per cent. Determination by a calculation based on the dimensions of the shell is not permitted. The maximum permissible wei ghts of filling according to marginals 2220 (4) and 211251(3) shall be prescribed by an approved expert.

212254 All welds in the shell shall be non-destructively tested radiographically or ultrasonically.

212255 Notwithstanding the requirements of marginals 212150 and 212151, the periodic tests shall take place:

(1) Every two and one-half years in the case of tank-containers intended for the carriage of boron trifluoride [1o(at)], town gas [2o (bt)] chlorine, hydrogen bromide, nitrogen dioxide, phosgene or sulphur dioxide [3o (at)], hydrogen sulphide [3o (bt)] or hydrogen chloride [5o (at)];.

(2) After six years' service in the case of tank-containers, without safety valves, intended for carriage of gases of 7° (a) and 8° (a);

(3) After eight years' service and thereafter every 12 years in the case of tank-containers fitted with safety valves and intended for the carriage of gases of 7° (a) and 7° (b) and of tank-containers intended for the carriage of gases of 7o (b) and 8o (b). A leakproofness check may be performed, at the request of the competent authority, between any two successive tests.

212256 At the periodic tests for tank-containers equipped with vacuum insulation and intended for the carriage of gases of 7° and 8°, the hydraulic test may be replaced by a leakage test performed either with the gases which the tank-containers are intended to contain or with an inert gas.

212257 If, at the time of periodic inspections, manholes are made in the shells of tank-containers intended for the carriage of gases 11° to 13°, the method by which they are hermetically closed before the tank-containers are returned to servise shall be one approved by the approved expert and shall ensure the integrity of the shell.

212258

Section 6 212259
Marking

212260 In addition, the following particulars shall be marked by stamping or by any other equivalent method on the plate described in marginal 212160 or directly on the

10* The following are deemed to be liquefied gases harmful to the respiratory organs or entailing a poison risk: hydrogen bromide (anhydrous hydrobromic acid), hydrogen fluoride (anhydrous hydrofluoric acid), hydrogen sulphide (sulphuretted hydrogen), ammonia, chlorine, sulphur dioxide (anhydrous sulphurous acid), nitrogen dioxide (nitrogen peroxide; nitrogen tetroxide), T gas, methyl vinyl ether, chloromethane (methyl chloride), bromomethane (methyl bromide), phosgene (carbonyl chloride), vinyl bromide, methylamine (monomethylamine), dimethylamine, trimethylamine, ethylamine (monoethylamine), ethylene oxide, methanethiol (methyl mercaptan), mixtures of carbon dioxide with ethylene oxide and liquefied hydrogen chloride (anhydrous hydrochloric acid).

walls of the shell itself if the walls are so reinforced that the strength of the shell is not impaired.

(1) On tank -containers intended for the carriage of only one substance:

The name of the gas in full.

This shall be accompanied, in the case of tank-containers intended for the carriage of compressed gases of 1° and 2° by the tank-container's maximum permitted loading pressure and, in the case of tank-containers intended for the carriage of liquefied gases of 3° to 8° and of ammonia dissolved under pressure of 9° (at), by the permissible maximum load in kg.

(2) On multi-purpose tank containers:

The names, in full, of the gases for whose carriage the tank-container is approved followed by particulars of the permissible maximum load, in kg, for each of them.

(3) On tank-containers equipped with safety valves and intended for the carriage of gases of 7° (a), and 8 (a) and on tank-containers intended for the carriage of gases of 7° (b) and 8° (b):

The working pressure.

(4) On tank-containers equipped with thermal insulation the expression «thermally insulated» shall be inscribed in one of the official languages of ADR.

The frame of a multiple-element tank-container shall 212261
be fitted near the filling point with a plate specifying:

The test pressure of the elements;

The working pressure of elements intended for compressed gases;

The number of elements;

The aggregate capacity of the elements, in litres;

The name of the gas in full;

and, in the case of liquefied gases.

The permissible maximum load per element in kg.

212262

Section 7 212269

Operation

A tank-container assigned at different times to the car- 212270
riage of different liquefied gases of 3° to 8° (multi-purpose tank-containers) may not carry substances other than listed in one, and one only, of the following groups:

Group 1: halogenated hydrocarbons of 3° (a) and 4° (a);

Group 2: hydrocarbons of 3° (b) and 4° (b);

Group 3: ammonia [3° (at)]; dimethyl ether, dimethylamine, ethylamine, methylamine and trimethylamine [3° (bt)]; and vinyl chloride [3° (c)];

Group 4: methyl bromide [3° (at)]; ethyl chloride and methyl chloride [3° (bt)];

Groupe 5: mixtures of ethylene oxide with carbon dioxide and of ethylene oxide with nitrogen [4° (ct)];

Groupe 6: gases of 7° (a) and mixtures of gases of 8° (a);

Group 7: ethane, ethylene and methane [7° (b)]; and mixtures of ethane with methane, also when they contain propane or butane [8° (b)].

Tank-containers which have been filled with a substance 212271
of group 1 or group 2 shall be emptied of liquefied gas before being loaded with another substance belonging to the same group. Tank-containers which have been filled with a substance of one of the groups 3 to 5 shall be completely emptied of liquefied gas and blown down before being loaded with another substance belonging to the same group.

The multiple use of tank-containers for the carriage of 212272
liquefied gases of the same group shall be allowed if all the requirements prescribed for the gases to be carried in one and the same tank-container are observed. Such multiple use shall be subject to approval by an approved expert.

The multiple use of tank-containers for the carriage of 212273
gases of different groups shall be allowed if permitted by the approved experts.

When loaded tank-containers or empty but uncleaned 212274
tank-containers are handed over for carraige, only the particulats applicable under marginal 211161 to the gas loaded or just discharged shall be visible; all particulars concerning other gases shall be covered up.

All the elements of a multiple- element tank-container 212275
shall contain only one and the same gas. In the case of a multiple-element tank-container intended for the carriage of liquefied gases harmful to the respiratory organs or entailing a poison risk[10], the elements shall be filled separately and be kept isolated by a sealed valve.

The maximum permissible degrees of filling in kg/litre 212276
prescribed in marginals 2219 (2), 2220, (3) and (4) 211251 (2), (3) and (4) shall
be adhered to.

The degree of filling of the shells of tank-containers 212277
fitted with safety valves and intended for the carriage of gases of 11o to 13o shall be such that at the «alert» temperature, at which the vapour pressure is equal to the valve-opening pressure, the volume of the liquid does not exceed the permissible degree of filling of the shell at that temperature, i.e. 95 per cent in the case of inflammable gases and 98 per cent in the case of other gases.

On the shells of tank-containers intended for the car- 212278
riage of oxygen [7o (a)], or of air or mixtures of oxygen with nitrogen [8o (a)], substances containing grease or oil shall not be used to ensure leakproofness of the joints or for the maintenance of the closures.

Section 8 212279

Transitional measures

212280

CLASS 3 212299

Inflammabel liquids

Section 1

General; scope; definitions

212300

Section 2 212319

Construction

The shells of tank-containers intended for the carriage 212320
of carbon disulphide [1o (a)] shall be designed for a calculated pressure of 10 kg/cm^2 (gauge pressure).

212321
212329

Appendix B.1b

Section 3

Items of equipment

Tank containers which are fitted with a venting system 212330
with no shut-off device, and which are intended for the carriage of inflammable liquids having a flashpoint not exceeding 55° C, and tank-containers fitted with a safety valve shall have a flame-trap in the venting system.

All openings in the shells of tank-containers intended 212331
for the carriage of acrylaldehyde (acrolein), chloroprene (chlorobutadiene) and carbon disulphide (1° (a)) shall be above the surface level of the liquid. No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. The openings shall be capable of being hermetically closed and the closure shall be capable of being protected by a lockable cap.

212332

Section 4 212339

Type approval

(No special requirements)

212340

Section 5 212349

Tests

(No special requirements)

212350

Section 6 212359

Marking

(No special requirements)

212360

Section 7 212369

Operation

In the case of liquids having a vapour pressure of more 212370
than 1.75 kg/cm^2 (absolute) at 50° C, the following degrees of filling of hermetically closed shells shall not be exceeded: for methyl formate (1° (a)) and other liquids having a coefficient of cubical expansion of more than 150×10^{-5} but not more than 180×10^{-5} 91

per cent of capacity; for acetaldehyde (5°) and other liquids having a coefficient of cubical expansion of more than 180×10^{-5} but not more than 230×10^{-5} ..... 90 per cent of capacity.

Appendix B.1b

An aluminium shell shall not be used for the carriage of acetaldehyde (5°) unless the shell is reserved solely for such carriage and the acetaldehyde is free from acid. 212371

In the cold season (October to March), light distillates for cracking and other liquid hydrocarbons having a vapour pressure not exceeding 1.5 kg/cm² (absolute) at 50° C may be carried in shells of the type prescribed in marginal 212133. 212372

Carbon disulphide (1° (a)) shall not be carried otherwise than in hermetically closed shells or in shells equipped with valves set at not less than 3 kg/cm² (gauge pressure). 212373

212374

Section 8 212379

Transitional measures

212380

CLASS 4.1 212399

Inflammable solids

CLASS 4.2

Substances liable to spontaneous combustion

CLASS 4.3

Substances which give off inflammable gases on contact with water

Section 1

General; scope; definitions

212400

Section 2 212419

Construction

The shells of tank-containers intended for the carriage of white or yellow phosphorus of marginal 2431, 1°, and of trichlorosilane (silicochloroform) of marginal 2471, 4°, shall be designed for a calculated pressure of 10 kg/cm² (gauge pressure). 212420

The shells of tank-containers intended for the carriage of aluminium alkyls, and of halides and hydrides of aluminium alkyls, of marginal 2431, 3°, shall be designed for a pressure of not less than 21 kg/cm² (gauge pressure). 212421

212422

Appendix B.1b 212429

Section 3

Iteme of equipment

The shells of tank-containers intended for the carriage of sulphur of marginal 2401, 2° (b), and of naphthalene of marginal 2401, 11° (c), shall be equipped with thermal insulation so made of materials which are not readily inflammable that the temperature on the outer surface cannot rise above 50° C during carriage. They may be equipped with valves opening automatically inwards or outwards under the effect of a difference of pressure of 0.2 to 0.3 kg/cm². The discharge devices shall be capable of being protected by a lockable metal cap. 212430

The shells of tank-containers intended for the carriage of white or yellow phosphorus of marginal 2431, 1°, shall meet the following requirements: 212431

(1) The heating device shall not penetrate into the body of the shell but be fitted outsid it. Other piping shall enter the shell in its upper part; openings shall be above the hig hest permissible level of the phosphorus and be capable of being completely enclosed under lockable caps.

(2) The shell shall be equipped with a gauging system for verifying the level of the phosphorus and, if water is used as the protective agent, with a fixed gauge mark showing the highest permissible level of water.

The openings and orifices (valves, ducts, manholes, etc.) in the shells of tank-containers intended for the carriage of substances of marginal 2471, 1° (a), shall be equipped with leakproof lockable caps, and such shells shall be equipped with thermal insulation so made of materials which are not readily inflammable that the temperature on the outer surface cannot rise above 50° C during carriage. 212432

The shells of tank-containers intended for the carriage of aluminium alkyls, and of halides and hydrides of aluminium alkyls, of marginal 2431, 3°, shall not have openings or connexions, even if closable, below the surface level of the liquid. Openings, including their fittings and accessories, in the upper part of the shell shall be capable of being protected by a protective cap. 212433

212434

Section 4 212439

Type approval

212440

(No special requirements) 212449

Appendix B.1b

Section 5

Tests

The shells of tank-containers intended for the carriage of sulphur of marginal 2401, 2° (the filling temperature must additionally be taken into account in the case of shells made of aluminium), naphthalene of marginal 2401, 11°, white or yellow phosphorus of marginal 2431, 1°, and trichlorosilane (silicochloroform) of marginal 2471, 4°, shall be tested at a pressure of 4 kg/cm² (gauge pressure). 212450

The shells of tank-containers intended for the carriage of aluminium alkyls, and of halides and hydrides of aluminium alkyls, of marginal 2431, 3°, shall undergo an initial pressure test, and periodic tests every five years, performed at a pressure of 10 kg/cm² (gauge pressure) with a liquid which does not react with the substance to be carried. 212451

212452

Section 6 212459

Marking

212460

(No special requirements) 212469

Section 7

Operation

The shells of tank-containers intended for the carriage of sulphur of marginal 2401, 2°, shall be filled to not more than 98 per cent of their capacity. 212470

White or yellow phosphorus of marginal 2431, 1°, shall if water is used as the protective agent be covered with a depth of not less than 12 cm of water at the time of filling; the degree of filling at a temperature of 60° C shall not exceed 98 per cent. If nitrogen is used as the protective agent, the degree of filling at a temperature of 60° C shall not exceed 96 per cent. The remaining space shall be filled with nitrogen in such a way that, even after cooling, the pressure at no time falls below the atmospheric pressure. The shell shall be hermetically closed so that no leakage of gas occurs. 212471

For the carriage of substances of marginal 2471, 1° (a), caps shall be locked in conformity with marginal 212432 and the temperature of the outside surface of the shell shall not exceed 50° C. 212472

In the case of trichlorosilane (silicochloroform) of marginal 2471, 4°, the degree of filling shall not exceed 1.14 kg per litre of capacity if filling is by weight, or 85 per cent if filling is by volume. 212473

The shells of tank-containers which have contained phosphorus of marginal 2431, 1°, shall when handed over for carriage either: 212474

– be filled with nitrogeni the sender must certify in the transport document that the tank, after closure, is gastight; or

– be filled with water to not less than 96 per cent and not more than 98 per cent of their capacity; between 1 October and 31 March this water shall contain one or more anti-freeze agents free from corrosive action, not liable to react with phosphorus, and sufficiently concentrated to prevent the water freezing during carriage.

212475

212479

Section 8
Transitional measures

212480

CLASS 5.1 212499
Oxidizing substances

CLASS 5.2
Organic peroxides
Section 1
General; scope; definitions

212500
212519

Section 2
Construction

The shells of tank-containers, and their items of equipment, intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide of marginal 2501, 1°, or for the carriage of liquid organic peroxides of marginal 2551, 10°, 14° and 15° shall be made of aluminium not less than 99.5 per cent pure or of suitable alloy steel not liable to cause the hydrogen peroxide or the organic peroxides to decompose. 212520

212521
212529

Appendix B.1b
Section 3
Items of equipment

The shells of tank-containers intended for the carriage of aqueous solutions of hydrogen peroxide containing more than 70 per cent hydrogen peroxide and of hydrogen peroxide of marginal 2501, 1°, shall have their openings above the surface level of the liquid. In the case of solution containing more than 60 per cent but not more than 70 per cent hydrogen peroxide, openings below the surface level of the liquid shall be permissible. In this case the shell-discharge system shall include two mutualy independent shut-off devices, the first being a quick-closing internal stop-valve of an approved type and the second a sluice-valve, mounted in series, one at each end of the discharge pipe. A blank flange or some other equally reliable device shall also be fitted to the outlet of each external sluice-valve. The internal stop-valve shall be such that it remains rigidly locked to the shell and in the closed position if the pipe is wrenched off. 212530

The connexion to the external pipe-outlets of tank-containers shall be coated with a suitable plastics material. 212531

The shells of tank-containers intended for the carriage of liquid organic peroxides of marginal 2551, 10°, 14° and 15°, shall be equipped with a venting device fitted with a flame-trap and followed in series by a safety valve opening automatically at a pressure of 1.8 to 2.2 kg/cm² (gauge pressure). The materials of which closures liable to come into contact with the liquid or its vapour are made shall not have a catalytic effect (spring-loaded safety valve made of aluminium-silicon alloy (silumin) or of V2A stainless steel or of a material of equivalent quality). 212532

The shells of tank-containers intended for the carriage of liquid organic peroxides of marginal 2551, 10°, 14° and 15°, shall be equipped with thermal insulation in accordance with the requirements of marginal 212234 (1). The covering and the uncovered part of the shell shall be painted white. 212533

212534
212539

Section 4
Type approval

212540

(No special requirements) 212549

Appendix B.1b
Section 5
Tests

The shells of tank-containers intended for the carriage of hydrogen peroxide or of aqueous solutions of hydrogen peroxide, of marginal 2501, 1° or of liquid organic peroxide of marginal 2551, 10°, 14° and 15°, shall be tested at a perssure of 4 kg/cm² (gauge pressure). 212550

212551-
212559

Section 6
Marking
(No special requirements)

212560
212569

Section 7
Operation

The inside of the shell of the tank container, and all metal parts liable to come into contact with hydrogen peroxide of marginal 2501, 1°, shall be kept clean. No lubricant capable of combining dangerously with the substance carried shall be used for pumps, valves or other devices. 212570

The shells of tank-containers intended for the carriage of liquids of marginal 2501, 1° to 3°, shall be filled to not more than 95 per cent of their capacity at a reference temperature of 15°C. The shells of tank-containers intended for the carriage of liquid organic peroxides of marginal 2551,10°, 14° and 15°, shall be filled to not more than 80 per cent of their capacity. Shells shall be free from impurities at the time of filling. 212571

212572-
212579

Section 8
Transitional measures

212580-
212599

CLASS 6.1
Toxic substances
Section 1
General; scope; definitions

212600-
212619

Appendix B.1b
Section 2
Construction

The shells of tank-containers intended for the carriage of substances of marginal 2601, 2°(a), 3°, 4°(a), 11°(a), 13°(b), 14°, 23°, 61°(a), 61°(e), 61°(f), 81° and 82°, shall if these substances are liquid at +40°C (except carbon tetrachloride, chloroform and methylene chloride) be designed for a calculated pressure of 10 kg/cm² (gauge pressure). 212620

212621

The shells of tank-containers intended for the carriage of substances referred to in marginal 61121 (3) other than those enumerated in marginal 212620 above shall be so constructed that they can be discharged at a pressure of not less than 3 kg/cm² (gauge pressure).

212622
212629

Section 3
Items of equipment

(1) All openings in the shells of tank-containers intended for the carriage of substances referred to in marginal 61121 (3) shall be above the surface level of the liquid. 212630

(2) No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid.

The openings shall be capable of being hermetically closed and the closure shall be capable of being protected by a lockable cap. In addition the shells of such tank-containers may be fitted with bursting discs mounted in series preceding the safety valves. In such a case the arrangement of the bursting disc and the safety valve shall be to the satisfaction of the competent authority.

212631-
212639

Section 4
Type approval
(No special requirements)

212640-
212649

Section 5
Tests

Tank-containers intended for the carriage of substances of marginal 2601 2° (a), 3°, 4° (a), 11° (a), 13° (b), 14°, 23°,
61° (a), 61° (e), 61° (f), 81° and 82° shall if these substances are liquid at +40°C be tested initially and periodically at a pressure of 4 kg/cm² (gauge pressure). 212650

Appendix B.1b

212651-
212659

Section 6
Marking
(No special requirements)

212660
212669

Section 7
Operation

The shells of tank-containers intended for the carriage of substances of marginal 2601, 2° (a), 2° (b), 4° (a), 11° (a), 12° (a), 13° (a),
13° (b) and 81° to 83°, shall be filled to not more than 93 per of their capacity. 212670

The shells of tank-containers intended for the carriage of aqueous solutions of ethyleneimine (3°) and of substances of marginal 2601, 14°, shall be filled to not more than 95 per cent of their capacity. 212671

212672-
212679

Section 8
Transitional measures

212680-
212699

CLASS 7
Radioactive substances
Section 1
General; scope; definitions

212700-
212719

Section 2
Construction

Tank-containers intended for the transport of the substances referred to in Schedule 5, with the exception of uranium hexafluoride, shall be designed for a calculation pressure of at least 4 kg/cm². In the case of tank-containers intended for the transport of uranium hexafluoride, the calculation pressure shall be fixed at 10 kg/cm². When the radioactive substance is in solution or suspension in hazardous substances of other Classes and when the calculation pressures required for the tank-containers intended for the transport of the latter substances are greater, these pressures shall be applied. 212720

212721-
219729

Appendix B.1b
Section 3
Equipment

The openings of tank-containers intended for the transport of liquid radioactive substances 9) shall be above the level of the liquid and no piping or pipe connexion shall pass through the walls of the shell below the surface level of the liquid. 212730

212731-
212739

Section 4
Type approval

Tank-containers approved for the transport of radioactive substances shall not be approved for the transport of any other substance. 212740

212741-
212749

Section 5
Tests

The tank-containers shall undergo, at least once every five years, a hydraulic pressure test at a pressure of 4 kg/cm². Notwithstanding marginal 212150, the periodic internal inspection may be replaced by an ultrasonic test of the wall thickness conducted every two-and-a-half years. 212750

212751-
212759

Section 6
Marking
(No special requirements)

212760-
212769

Section 7
Operation

The degree of filling at the reference temperature of 15°C shall not exceed 93 per cent of the total shell capacity. Tank-containers which have been used for the transport of radioactive substances shall not be used for the transport of other substances. 212770

212771-
212779

Appendix B.1b
Section 8
Transitional provisions

212780-
212799

CLASS 8
Corrosive substances
Section 1
General; scope; definitions

212800-
212819

Section 2
Construction

The shells of tank-containers intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6°(a)], of aqueous solutions of hydrofluoric acid [6°(b)], or of bromine (14°), shall be designed for a pressure of not less than 21 kg/cm² (gauge pressure). 212820

Appendix B.1b

The shells of tank-containers intended for the carriage of substances of 1°, (a) and (b); 2°, (a) and (b); 6° (c); 7° to 9°; 21° (a); and 23°, shall be designed for a pressure of not less than 10 kg/cm² (gauge pressure). 212821

The shells of tank-containers intended for the carriage of substances referred to in marginal 81121 (2), other than those listed in marginals 218200 and 218201, shall be designed for a calculated pressure of 4 kg/cm² (gauge pressure) and shall be so constructed that they can be discharged at a pressure of not less than 3 kg/cm² (gauge pressure). 212822

The shells of tank-containers intended for the carriage of aqueous solutions of hydrogen peroxide (41°) shall meet the requirements of marginal 216200. 212823

212824-
212829

Section 3
Items of equipment

All openings in the shells of tank-containers intended for the carriage of substances of 6° or of bromine (14°) shall be above the surface level of the liquid. No piping or pipe connexions shall pass through the walls of the shell below the surface level of the liquid. The closures shall be capable of being effectively protected by a metal cap. 212830

The shells of tank-containers intended for the carriage of stabilized sulphur trioxide (9°) shall be thermally insulated and be fitted with a heating device on the outside. Shells may be of the bottom-discharge type. In this case the shell-discharge system shall include two mutually independent shut-off devices, the first being a quick-closing internal, stop-valve of an approved type and the second a sluice-valve, mounted in series, one at each end of the discharge pipe. A blank flange or some other equally reliable device shall also be fitted to the outlet of each external sluice-valve. 212831

The shells of tank-containers intended for the carriage of hypochlorite solutions (37°) and of aqueous solutions of hydrogen peroxide (41°) shall be so designed as to prevent the entry of foreign matter, the leakage of liquid, and the development of any dangerous excess pressure in the shell. 212832

212833-
212839

Section 4
Type approval
(No special requirements)

212840-
212849

Section 5
Test

The shells of tank – containers intended for the carriage of hydrogen fluoride (anhydous hydroflouric acid) [6° (a)], or of aqueous solutions of hydrofluoric acid of 6° (b), shall undergo the initial pressure test and the periodic tests at a pressure of 10 kg/cm² (gauge pressure), and those intended for the carriage of the other substances referred to in marginal 81 121 (2), at a pressure of 4 kg/cm² (gauge pressure). 212 850

The pressure test of tank - containers intended for the carriage of stabilized sulphur trioxide (9°) shall be repeated every two and one - half years. 212 851

The condition of the lead lining of the shells of tank - containers intended for the carriage of bromine (14°) shall de checked every year dy an approved expert, who shall inspect the inside of the shell. 212 852

In addition to the tests prescribed in Section 5, the corrosion resistance of tank 6 containers intended for the carriage of hydrogen fluoride (anhydrons hydrofluoric acid) [6° (a)], or of aqueous solutions of hydrofluoric acid of 6° (b), shall be checked by means of suitable instruments (e.g. by ultrasound methods); and the condition of the items of equipment verified, every two and one – lalf years. 212853

212 854
212 859

Section 6
Marking

In addition to the particulars prescribed in marginals 212 160 and 212 161, the following particulars shall be marked on tank – containers intended for the carriage of hydrogern fluoride (anhydrous hydrofluoric acid) [6° (a)], of aqueous solutions of hydrofluoric acid of 6° (b), or bromine (14°): the permissible maximum net load in kg, and the date (month and year) of the most recent internal inspection of the shell. 212860

212861
212869

Section 7
Operation

The shells of tank – containers intended for the carriage of sulphuric acid [1° (c)] shall be filled to not more than 95 per cent of their capacity, those intended for the carriage of stabilized sulphur trioxide (9°) to not more than 88 per cent, and those intended for the carriage of bromine (14°) to not less than 88 per cent and not more than 92 per cent or to the extent of 2.86 kg per litre of capacity. Shells intended for the carriage of hydrogen fluoride (anhydrous hydrofluoric acid) [6° (a)] and of aqueous solutions of hydrofluoric acid [6° (b)] shall not be filled to the extent of more than 0.84 kg per litre of capacity. 212 870

212871
212879

Section 8

Transitional measures 212 880
213 099

Appendix B. 1c

PROVISIONS CONCERNING FIXED TANKS AND DEMOUNTABLE TANKS IN REINFORCED PLASTICS

Notes

–This Appendix applies to fixed tanks and demountable tanks; it does not apply to batteries of receptacles, to tank – containers, or to receptacles.

–For receptacles, see the requirements concerning them in Annex A (pagkages).

–It is recalled that marginal 10 121 (1) prohibits the carriage of dangerous substances in tanks except where such carriage is expressly authorized. This Appendix is there fore confined to provisions applicable to fixed tanks and demountable tanks in reinforced plastics used for transport operations which are expressly authorized.

Section 1
General provisions concerning the construction of fixed tanks and demountable tanks

The tanks must satisfy the following requirements of Appendix B. la: 213 100

(1) General provisions applicable to tanks used for carriage of substances of all Classes:

Marginals 211 120, (4), (5) and (6); 211 121, (1) and (2); 211 122; 211 124; 211 126; 211 127, (5); 211 128; 211 130; 211 132; 211 137; 211 140; 211 150 to 211 153; 211 160 and 211 161; 211 171; 211 172, (1) and (2); and 211 173 to 211 178.

(2) Provisions applicable to tanks for carriage of substances of Class 3: marginal 211 330.

The leakprofness test and the internal inspection shall be performed every three years.

(3) Special provisions applicable to tanks used for carriage of substances of Class 8: Marginal 211 833.

The walls of the tank must present no material defect causing a reduction in safery. 213 101

The walls of the tank must have a lasting resistance to the mechanical, thermal and chemical stresses to which they are subjected. 213 102

Tank openings 213 103

(1) Where the tank has one or more discharge openings below the level of the liquid, any pipe or valve fitted to such opening or openings shall be protected either by being recessed into the tank shell or by any other means approved by the competent autority and providing equivalent protection.

(2) The use of screwed plugs is strictly prohibited. Valves shall be of a model approved by the competent authority.

(3) Filling apertures shall be closed by a hermetic device. If the device projects outwards from the tank shell it shall be protected by a cap capable of withstanding wrenching stresses occurring through accidental overturning of the tank.

213 104
213 119

Section 2

Materials used for the walls of the tank

The walls of tanks may be made of the following materials: 213 120

(1) Sythetic resin

- non – saturated polyester resins;
- epoxide resins;
- other resins with similar characteristics, provided that the safery of the wall is demonstrated.

(2) Fibre reinforcements

Glass fibres (glass of types E and C) 1/ with an appropriate coating, for example with a silane base or similar products. The glass fibres may be used in the form of cut or uncut rovings including prestressed continuous rovings or filaments, mats, surface mats or woven fabric.

(3) Additives

(a) Additives necessary for the treatment of resins, for example, catalysts, accceleratos, monomers, hardeners, thixotropic substances, in accordance with instrucions by the manufacturer of the resin.

(b) Extenders, pigments, colorants and other products enabling the required properties to be obtained, for example, the increase of fire – restistant properties, provided that they cause no reduction in the safety of use of the walls of the tank. 213 121
213 129

Section 3

Structure of the walls of the tank

The external surface layer of the walls of the tank must be resistant to atmospheric effects and also to brief contact with the substance to be carried. 213 130

The walls of the tank and the sealed joints must satisfy the mechanical resistance requirements listed in section 4. 213 131

The internal surface layer of the walls must be resistant to the lasting effects of the substance to be carried. This layer must be made of reinforced resin having a minimum thickness of 1 mm. The fibres used must not reduce the chemical resistance of the layer. The inner part of the layer must be rich in resins and must have a minimum thickness of 0.2 mm. 213 132

1/ Glass of types E and C is defined in Table 1.

The requirements detailed in marginals 213 140 (6) and 213 142 (2) of section 4 must be satisfied.

The finished walls must satisfy the requirements detailed in marginal 213 140 (3) of section 4. 213 133

The minimum thickness of the wall shall be 213 134

- 3.5. mm if the capacity of tank does not exceed 3,000 litres
- 5.0 mm if the capacity of the tank is more than 3,000 litres.

213 135–
213 139

Section 4

Test methods and qualities required

Tests and qualities required for materials for prototype tank 213 140

(1) Taking of specimens

The spesimens required for the test must wherever possible be taken from the walls of the tank. For this purpose cut – out parts resulting from the making of apertures etc. may be used.

(2) Percentage of glass fibre

The test must be conducted in accordance with the methods prescribed in ISO Recommendation R1172 1970.

The glass content of the specimen must be higher than 25 per cent and lower than 75 per cent by weight.

(3) Degree of polymerization

(a) Wall in polyester resins

The residual styrene content may not be higher than 2 per cent, calculated on the total quantity of resins. The test shall be conducted in accordance with a suitable method.2/

(b) Wall in epoxide resins

The acetone extract may not be higher than 2 per cent calculated on the total quantity of resins. The test shall be conducted in accordance with a suitable method 3/

(4) Bending and tensile strength

The mechanical properties must be determined:

–for the shell, in the axial and circumferential directions;

–for the ends and walls of compartments, in any direction.

If the principal directions of the reinforcement do not coincide with the axial and circumferential directions (for example in the case of biaxial winding), the strength must be determined in the principal directions of the reinforcement and calculated for the axial and circumferential directions by applying the following formulae:

Tensile

$\sigma T,c = 2\sigma T,H \sin^2 \alpha$

$\sigma T,a = 2\sigma T,H \cos^2 \alpha$

Bending

$\sigma F,c = 2\sigma F,H \sin^2 \alpha$

$\sigma F,a = 2\sigma F,H \cos^2 \alpha$

T = tensile
c = circumferential
a = axial
H = helicoidal
F = bending
α = preferential winding angle

The tensile strength must be tested in accordance with the methods prescribed in document ISO/ TC61/ WG2/ TG «Tests of glass reinforced plastics» No 4 of February 1971.

The bending strength must be tested in accordance with the methods prescribed in Recommendation ISO/TC61 No 1540 of April 1970.

Requirements

New tanks must meet the following safety factors against rupture:

Safery factor for static loading: 7.5

Safery factor for dynamic loading: 5.5.

The acceleration values to be applied in computing the dynamic load are as follows:

2/ The method prescribed in standard DIN 16945 of June 1969, paragrafh 6.4.3 is regarded as suitable.

3/ The method prescribed in standard DIN 16945 of June 1969, paragraph 6.4.2 is regarded as suitable.

2 g in direction of travel;
1 g at right angles to direction of travel;
1 g vertically upwards; and
2 g vertically downwards.

As the characteristics of a reinforced plastics laminate may vary according to its structure, minimum values are not prescribed for bending and tensile strength but for loads:

$A = e\sigma_t$ where σ_t is the tensile strength at break;

$B = e^2 \sigma_F$ where σ_F is the dending strength at break; where is the thickness of the wall.

The minimum values for forces A and B are:

For bending

Capacity of tank ≤3,000 litres
- circumferential direction B = 600daN
- axial direction B= 300 daN

Capasity of tank >3,000 litres
- circumferential direction B = 600 daN
- axial direction B = 600 daN

For tensile:
- circumferential direction A = 100daN/mm
- axial direction A = 70 daN/mm

Module E on bending is measured at − 40°C and at +60°C. The two values may not differ by more than 30 per cent from the value obtained at 20°C. Behaviour of wall material during a tensile test lasting more than 1,000 hours.

The test tension is $\frac{\sigma T}{7.5}$

During the test the factor $K = \frac{\varepsilon 1000}{\varepsilon_0}$ may, not be higher than 1.6.

ε = elongation of loaded speciment at beginning of test

$\varepsilon 1000$ = elongation of loaded specimen at end of test

(5) Impact behaviour

(a) Nature of test

Impact behaviour is determined on a sample of laminate corresponding to the structural material used for the construction of the tank. The test is carried out by dropping a 5 kg steel weight onto the surface of the laminate corresponding to the external surface of the tank;

(b) Apparatus

The apparatus consists of a 5 kg steel weight, a guidance device for this weight and a specimen-bearing chassis. A general diagram of the apparatus is given in diagram 1. The weight is in the form of a steel cylinder provided with two guide channels, the lower extremity being spherically shaped, 90 mm diameter.

The guidance device is fitted vertically to a wall.

The specimen-bearer is composed of two angle-bars of 100×100×25 mm and 300 mm long, welded to a 400×400 mm metal support. The gap between the two bars is 175 mm. The specimen-bearer, fixed to the ground, is provided with a 50 mm deep cavity to allow flexion of the specimen.

(c) Preparation of specimens.

From the sample, three specimens are taken, each measuring 200×200 mm×thickness of the sample.

(d) Operating method

The speciment is placed symmetrically on the specimen-bearer; if possible it rests on the support following two basic straight lines of the surface, in such a way that the weight strikes the centre of the face of the specimen corresponding to the external surface of the tank.

The weight is allowed to fall from a determined height, care being taken to ensure that it does not rebound and strike the specimen a second time.

The test must be conducted at ambient temperature.

the height to which the weight is raised in the guidance device is noted.

The other two specimens are tested in the same way.

(e) Requirement

The drop height for a 5 kg weight shall be 1 metre; the speciment must not allow leakage of more than 1 litre per 24 hours when subjected to a column of water of 1 m.

(6) Resistance to chemical agents.

Flat reinforced plastics test plates, prepared in the laboratory, are subjected to attack by the dangerous substance at a temperaure of 50°C for 30 days in accordance with the following procedure:

(a) Description of the test apparatus (and shown in diagram 2).

The test apparatus comprises a glass cylinder, diameter 140×150 mm, 150 mm high with two nozzles positioned at 135o one fitted with an NS 29 joint to take an intermediate pipe for a reflux condenser (1), the other nozzle fitted with an NS 14.5 joint to take a thermometer (2), an intermediate pipe for a reflux condenser and a reflux condenser not shown in the diagram. The glass part of the apparatus shall be in glass resistant to changes of temperature.

The specimens taken from the test plates form the base and the top of the glass cilinder. They are sealed to the sides of the cylinder by a PTEE collar. The cylinder with the two specimens is clamped between two pressure plates in corrosion-resistant steel with six threaded bolts tightened by means of wing nuts. An asbestos washer must be placed between the pressure plates and the specimens. These washers are not shown in diagram 2. Heating is effected from outside by means of an automatically controlled sleeve heater. The temperature is measured in the chamber containing the liquid.

(b) Operation of the test apparatus.

The test apparatus allows only flat plates of uniform thickness to be tested. The test plates should, if possible, be 4 mm thick. Should these plates be covered with a gel coating, they must be tested in condition as for practical use. Six hexagonal specimens, each side measuring 100 mm are cut from the test plate.

For each test, three specimens are prepared per apparatus. One of these samples is used as a reference and the other two are used for checking in the liquid zone, and vapour zone of the device respectively.

(c) Test procedure

The specimens to be tested are placed on the apparatus with the surface which may be gel-coated facing inwards. 1,200 ml of test liquid is poured into the glass cylinder. The apparatus is then heated tothe test temperature. A constant temperature is maintained during the test. After the test the apparatus is cooled to the ambient temperature and the test liquid removed. The specimens tested are immediately washed with distilled water. Liquids which are not soluble in water are removed with a solvent which does not attack the specimens. Mechanical cleaning of the plates cannot be performed because of the danger of damaging the surface of the specimens.

(d) Evaluation

A visual examination is made:
- if the visual examination reveals excessive attack (cracks, bubbles, pores, peeling off, swelling, or roughness), the test is conclusive negatively;
- if the visual examination reveals no abnormality, bending tests are made by the methods specified in marginal 213140 (4) on the two specimens subjectd to chemical attack and on the reference specimen. In this case the bending strength shall not be more than 20 per cent lower than the value ascertained for the test plate not subjected to any stress.

Test and quality required for the prototype unit 213141

The prototype tank shall be subjected to a hydraulic pressure test conducted by an expert approved by the competent authorities of a Contracting Party.

If the prototype tank is divided into compartments either by bulkheads of by baffle plates, the test shall be conducted on a unit made for this purpose with the same external ends as the entire tank and which represents the part of the tank subjected, under normal conditions of use, to the greatest stresses.

This test should not be conducted if there has already been a successful test on another prototype unit of the same section or a section with larger dimensions, geometrically similar to that of the prototype unit in question, even if

that unit has a different internal surface layer.

This test mus demonstrate that the prototype unit has, under normal conditions of use, a factor of not less than 7.5 so far as rupture is concerned.

It must be proved, e.g. by calculation, that safety factors against fracture given in marginal 213140 (4) are complied with for each section of the tank.

Rupture occurs when the test liquid escapes from the tank in the form of jets. Consequently, before this rupture, the presence of delaminations and losses of liquid through these delaminations in the form of droplets is permitted. The prototype unit shall be submitted to a hydraulic pressure.

$$H=7.5\times d\times h$$

where H is the height of the column of water

h is the height of the tank

d is the density of the substance to be carried.

If a rupture ocours with a water-column heght H_1 less than H, there must still be

$$H_1 \geqslant 7.5\times d\times(h-h_1)$$

where h_1 is the height of the highest point where the first jet of liquid appears.

Should the flow of liquid at point h_1 be too great, it is essential to make a temporary repair and temporaty local strengthening to enable the test to continue to height H.

Conformity check on tanks produced in series 213142

(1) The inspection of conformity on tanks produced in series shall be carried out by conducting one or more of the tests listed in marginal 213140.

However, the measurement of the degree of polymerization is replaced by Barcol hardness measurement.

(2) Barcol hardness

The test must be conducted in accordance with suitable procedures[4]. Barcol hardness measured on the internal surface of the finished tank shall not be less than 75 per cent of the value obtained in the laboratory on pure hardenedresin.

(3) The percentage of glass fibre must be within the limits prescribed in marginal 213140 (2) and, in addition, must not deviate by more than 10 per cent of the figure for the prototype tank.

Tests and qualities required for all tanks before being put into service 213143

Leakproofness test

The leakproofness test shall be conducted in accordance with the provisions of marginals 211150 and 211151 of ADR and the expert's stamp shall be applied to the tank.

213144
–213149

Section 5

Special provisions for tanks used for the carriage of substances with a flash point of 55°C or lower

The tank must be constructed so as to ensure the elimination of static electricity from the various component parts so as to avoid the accumulation of dangerous electric charges. 213150

All metal parts of the tank and the transport unit and also wall layers conducting electricity must be interconnected. 213151

The resistance between each conducting part and the chassis must not be higher than 10^6 ohms. 213152

Elimination of hazards due to charges generated by friction

The surface resistance and the discharge resistance to earth of the entire surface of the tank shall conform with the requirements of marginal 213154. 213153

4. The procedures prescribed in standard ASTM-D 2583-67 are regarded as suitable.

The surface resistance and discharge resistance to earth measured in accordance with marginal 213155 must satisfy the following requirements. 213154

(1) Walls not equipped with electrically conducting elements:

(a) Surfaces upon which one can walk:

The discharge resistance to earth shall not be higher than 10^8 ohms.

(b) Other surfaces:

The surface resistance shall not be higher than 10^9 ohms.

(2) Walls equipped with electrically conducting elements:

(a) Surfaces on which one can walk:

The discharge resistance to earth shall not be higher than 10^8 ohms.

(b) Other surfaces: 213 154

Conductance shall be considered as sufficient if the maximum thickness of non-conducting layers on conducting elements, for example conducting sheets, metal netting or other appropriate material, connected to the earthing connexion, does not exceed 2 mm, and that in the case of a metal netting, the surface area of the mesh does not exceed 64 cm2.

(3) Any measurement of surface resistance or discharge resistance to earth required to be carried out on the tank itself shall be replaced at intervals of not more than one year to ensure that the specified resistances are not exceeded.

Test Methods 213 155

1. Surface Resistance (R_{100}) – (insulating resistance) in ohms, electrodes of conducting paint in accordance with figure 3 of Recommendation IEC 167 of 1964, measured in the standard 23/50 atmosphere according to Recommendation ISO R291, paragraph 3.1, of 1963.

2. The discharge resistance to earth in ohms is the ratio between the direct voltage measured between an electrode described below in contact with the surface of the tank of the vehicle and the earthed chassis of the vehicle, and the total current.

The conditioning of the specimens is the same as in paragraph 1. The electrode is a disc with a surface area of 20 cm^2 and a diameter of 50 mm. Its close contact with the surface of the tank must be ensured, for example by using damp paper or a damp sponge or any other suitable substance. The earthed chassis of the vehicle is used as the other electrode. A direct voltage in the range of 100 volts - 500 volts shall be applied. The measurement shall be carried out after the test voltage has been applied for one minute. The electrode may be placed on any point of the internal or external surface of the tank.

If measuring is impossible on the tank, it may also be carried out, under the same conditions, in the laboratory, on a specimen of the material.

Elimination of hazards due to charges generated during filling

Metallic components bonded to earth shall be provided and so disposed that at any stage of the filling or emptying process there is an area of not less than 0.04 sq. metres of earthed metal in contact with the product per cubic meter of product contained in the tank at that instant, and that no part of the product shall be more than 2.0 metres from the nearest earthed metal component. Such metallic components may take the form of: 213 156

(a) A metal foot valve, pipe outlet, or plate provided the total area of metal in contact with the liquid is not less than that specified, or

(b) A metallic grill with wire thickness not less than 1 mm diameter and hole area not greater than 4 sq. centimetres, provided that the total area of the grill in contact with the liquid is not less than that specified.

Marginal 213 156 shall not apply to reinforced-plastics tanks equipped with any other system for eliminating the hazard from charges generated during filling, provided it has been demonstrated by a practical comparative test in accordance with marginal 213 158 that the relaxation time 213 157

of the charge generated within the tank during filling is equivalent to that obtained for a metal tank of comparable dimensions.

Comparative test 213 158

(1) A comparative test of the electrostatic charge relaxation time in accordance with the conditions of test discribed in paragraph (2) shall be carried out on a prototype reinforced-plastics tank and steel tank in the following manner (see diagram 3).

(a) The reinforced-plastics tank shall be mounted in the same manner as it would be in use, for example, on a steel support simulating a vehicle's chassis, and shall be filled to not less than 75 per cent capacity with automotive dissel fuel, a proportion of which is passed through a suitable microfilter in such a manner that the charge density of the total flow is approximately 100^{μ} c/m^3.

(b) The field strength in the tank vapour space shall be measured by a suitable continuous reading field meter mounted with its axis vertical and placed at least 20 cm from the vertical fill pipe.

(c) A similar test shall be carried out on a steel tank whose width, length, breadth, and volume are within 15 per cent of those of the reinforced-plastics tank, or on a reinforced-plastics tank of similar dimensions, coated internally with metal foil connected to earth.

(2) The following conditions of test shall be met:

(a) The test shall be carried out in a covered area in conditions of relative humidity less than 80 per cent.

(b) The automotive diesel fuel used in the test shall have a rest conductivity at the temperature of measurement between 3 and 5 p^S/m. This shall be measured in a cell in which VT/d^2 is less than or equal to 2.5×10^6

where V = applied voltage

d = spacing between electrodes in metres

T = duration of measurement in seconds

The rest conductivity measured on samples of the product taken from the test tank after filling shall not differ in successive tests on plastics and metal tanks by more than 0.5 p^S/m.

(c) Filling shall be at a constant rate within the range 1 to 2 m^3/min and shall be the same for the reinforced-plastics tank and for the steel tank. At the end of filling, the flow should be stopped in a time which is short compared with the relaxation time for the charge in the steel tank.

(d) The charge density shall be measured by a suitable continuous reading meter (for example, a field mill type) immersed in the product and placed as close as possible to the filling pipe.

(e) The supply pipes and the vertical filling pipe shall be of 10 cm internal diameter and shall terminate in a "T" type filling pipe outlet.

(f) A suitable microfilter,* with an adjustable by-pass enabling the proportion of flow passing through it to be regulated, shall be fitted not more than 5 m from the filling pipe outlet.

(g) The liquid level shall not reach the bottom of the filling pipe or the field meter.

Comparison of relaxation times

(3) The initial value of the field strength shall be that recorded at the earliest point of time after the cessation of flow of the fuel when a smooth decay curve has been established. The relaxation time in both tests shall be expressed as the time taken for the field strength to decay from the initial value to 0.37 of the initial value.

(4) The relaxation time of the reinforced-plastics tank shall not exceed that of the steel tank.

213 159
-213 999

Table 1.
COMPOSITION OF GLASS

Glass E:		
Composition by weight:		
Silica	(SiO_2)	52 to 55 per cent
Alumina	(Al_2O_3)	14 to 15.5 per cent
Lime	(CaO)	16.5 to 18 per cent
Magnesia	(MgO)	4 to 5.5 per cent
Boric Oxide	(B_2O_3)	6.5 to 21 per cent
Fluorine	(F)	0.2 to 0.6 per cent
Ferric Oxice	(Fe_2O_3)	< 1 per cent
Titanium Oxide	(TiO_2)	< 1 per cent
Alkaline Oxides	(Na_2O+K_2O)	
Glass C:		
Composition by weight:		
Silica	(SiO_2)	63.5 to 65 per cent
Alumina	(Al_2O_3)	4 to 4.5 per cent
Lime	(CaO)	14 to 14.5 per cent
Magnesia	(MgO)	2.5 to 3 per cent
Boric Oxide	(B_2O_3)	5 to 6.5 per cent
Iron	(Fe_2O_3)	0.3 per cent
Sodium Oxice	(Na_2O)	7 to 9 per cent
Potassium Oxide	(K_2O)	7 to 9 per cent

* A Rellumit 5 has been found to be suitable.

Diagram 1.
Device for measuring impact resistance
by means of a spherically-ended falling weight

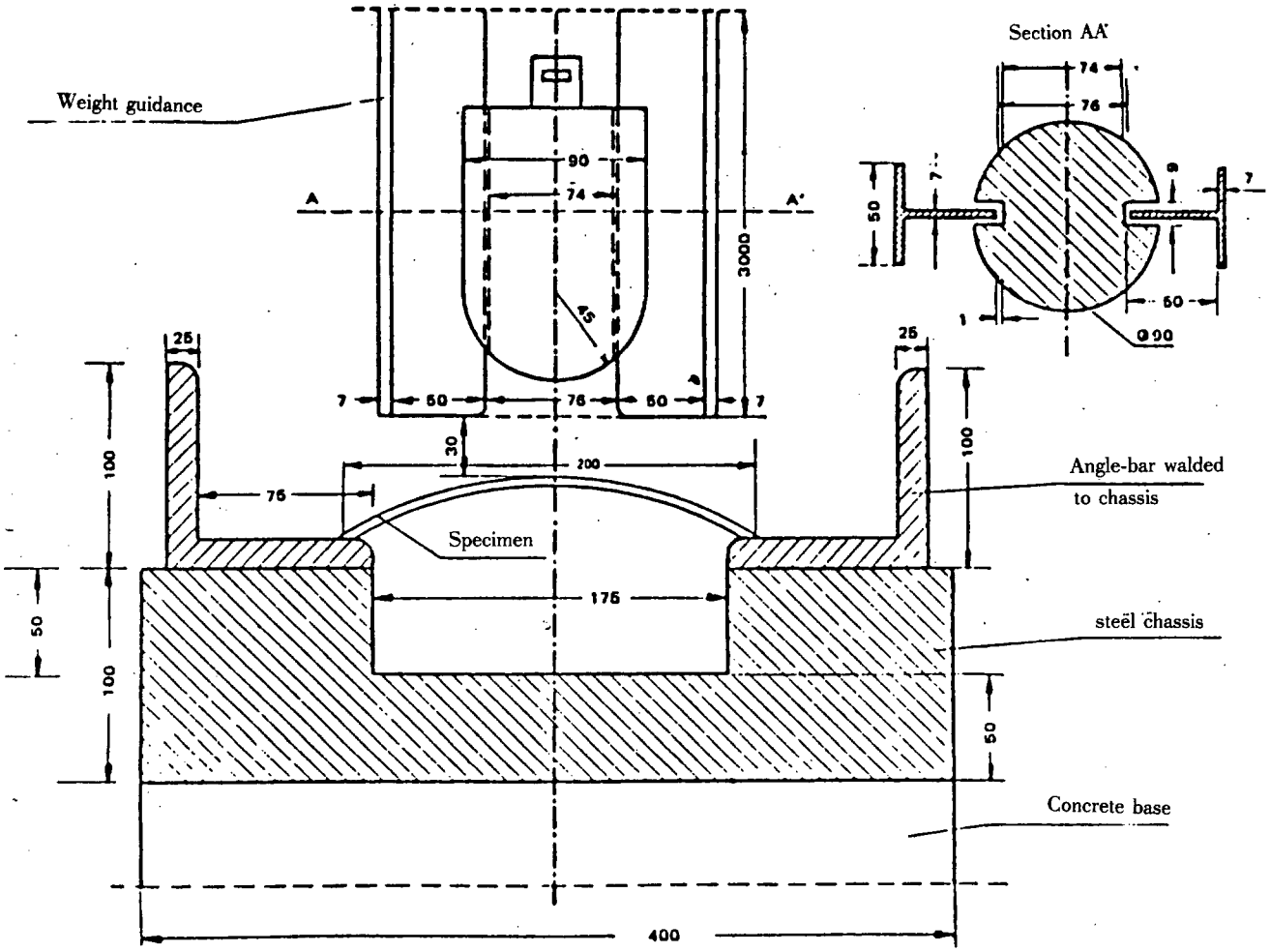


Diagram 2.
Device to test resistance to chemical agents.

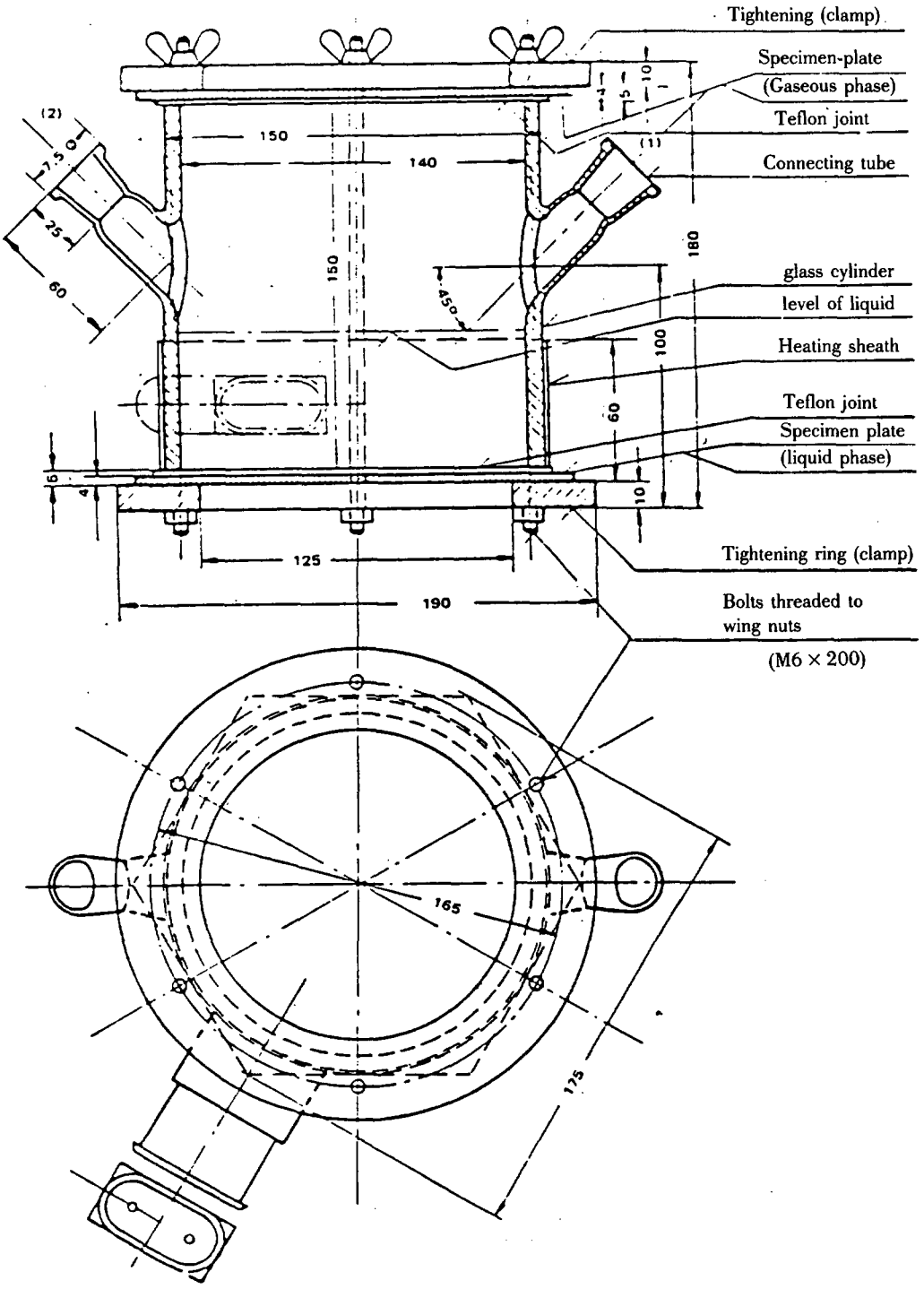
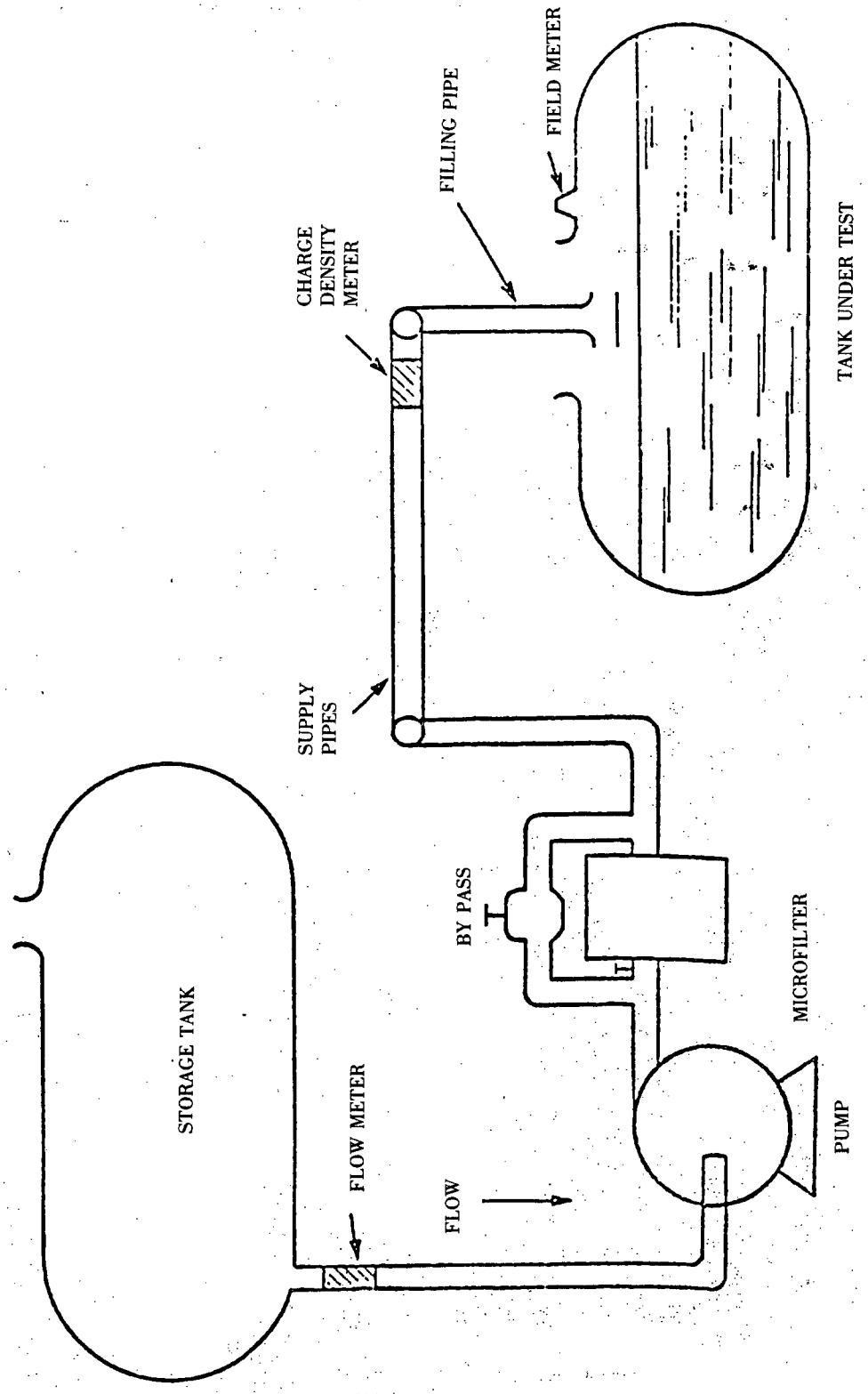


Diagram 3.
Schematic layout of rig for comparative test.



Appendix B.1d

REQUIREMENTS CONCERNING THE MATERIALS AND CONSTRUCTION OF FIXED TANKS, OF DEMOUNTABLE TANKS, AND OF SHELLS OF TANK-CONTAINERS, INTENDED FOR THE CARRIAGE OF DEEPLY-REFRIGERATED LIQUEFIED GASES OF CLASS 2

214000
214249
214250

(1) Receptacles, tanks and shells shall be made of steel, aluminium, aluminium alloy, copper or copper alloy, e.g. brass. However, receptacles, tanks and shells made of copper or copper alloy shall be allowed only for gases containing no acetylene; ethylene may however contain not more than 0.005 per cent acetylene.

(2) Only materials appropriate to the lowest working temperature of the receptacles, tanks and shells and of their fittings and accessories may be used.

214251

The following materials shall be allowed for the manufacture of receptacles, tanks and shells:

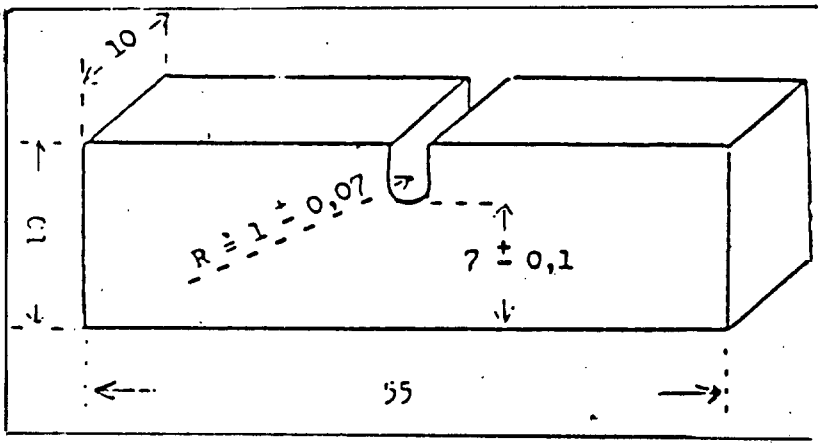
(a) steels not subject to brittle fracture at the lowest working temperature (see marginal 214265).

The following may be used:

1. fine-grained unalloyed steels, down to a temprerature of -60°C;
2. nickel steels (with a nickel content of 0.5 to 9 per cent), down to a temperature of -196°C, depending on the nickel content;
3. austenitic chrome-nickel steels, down to a temperature of -270°C;

(b) aluminium not less than 99.5 per cent pure, or aluminium alloys (see marginal 214266);

(c) deoxidized copper not less than 99.9 per cent pure, or copper alloys having a copper content of over 56 per cent (see marginal 214267).



214252

(1) Receptacles, tanks and shells shall be either seamless or welded.

(2) Receptacles under marginal 2207 made of austenitic steel, of copper or of copper alloy may alternatively be hard-soldered.

214253

The fittings and accessories may either be screwed to the receptacles, tanks and shells or be secured there to as follows:

(a) receptacles, tanks and shells made of steel, aluminium or aluminium alloy: by welding;

(b) receptacles, tanks and shells made of austenitic steel, of copper or of copper alloy: by welding or hard-soldering.

214254

The construction of receptacles, tanks and shells and their attachment to the vehicle, to the underframe or in the container frame shall be such as to preclude with certainty any such reduction in the temperature of the load-bearing components as would be likely to render them brittle. The means of attachment of receptacles, tanks and shells shall themselves be so designed that even when the receptacle, tank or shell is at its lowest working temperature they still possess the necessary mechanical properties.

214255
214264

1. Materials, receptacles, tanks and shells

(a) Steel receptacles, tanks and shells

214265

The materials used for the manufacture of receptacles, tanks and shells, and the weld beads, shall at their lowest working temperature meet at least the following requirements as to impct strength.

The tests may be conducted with test-pieces having either a U-shaped or a V-shaped notch.

Material	Impact strength[1],[2] of sheet metal and weld beads at lowest working temperature kgm/cm², [3] kgm/cm², [4]	
Unalloyed killed steel	3.5.	2.8
Ferritic alloy steel Ni < 5%	3.5.	2.2
Ferritic alloy steel 5% ≤ Ni ≤ 9%	4.5.	3.5
Austenitic Cr-Ni steel	4.0	3.2

[1] Impact strengths determined with different test-pieces are not mutually comparable.

[2] See marginals 214275 to 214277.

[3] The values relate to test-pieces with a U-shaped notch as illustrated below.

[4] The values relate to test-pieces with a V-shaped notch conforming to ISO R 148.

In the case of austenitic steels, only the weld bead need be subjected to an impact-strength test.

For working temperatures below -196°C the impact-strength test is not performed at the lowest working temperature, but at -196°C.

(b) Receptacles, tanks and shells made of aluminium or aluminium alloy

214266

The seams of receptacles, tanks and shells shall at ambient temperature meet the following requirements as to bending coefficient:

Thickness of sheete in mm	Bending coefficient k[1] for the seam	
	Root in compression zone	Root in tension zone
≤ 12	≥ 15	≥ 12
> 12 to 20	≥ 12	≥ 10
> 20	≥ 9	≥ 8

[1] See marginal 214 285.

(c) Receptacles, tanks and shells made of copper or copper alloy

214267

It is not necessary to carry out tests to determine whether the impact strength is adequate.

214268-
214274

2. Tests

(a) Impact-strength tests

The impact strengths indicated in marginal 214265 relate to test-pieces measuring 10×10 mm and having a U-shaped or a V-shaped notch. 214275

Notes:

1. With regard to the shape of the test-piece, see marginal 214265 (table), footnotes[3] and[4].

2. For sheets less than 10 mm but not less than 5 mm thick, test-pieces with a cross-section of 10 × e mm, where «e» represents the thickness of the sheet, shall be used. Such impact-strength tests generally yield higher values than do such tests on standard test-pieces.

3. No impact-strength test shall be carried out on sheets less than 5 mm thick, or on their seams.

(1) For testing sheets the impact strength shall be determined on three test-pieces. Test-pieces with a U-shaped notch shall be taken at right angles to the direction of rolling and test-pieces with a V-shaped notch in the direction of rolling. 214276

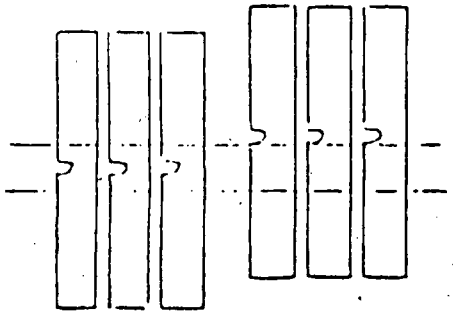
Appendix B.1d

(2) For testing seams the test -pieces shall be taken as follows:

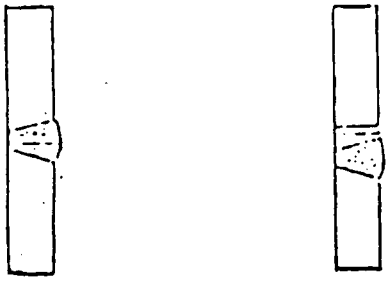
$e \leqslant 10$

three test-pieces from the centre of the weld;

three test-pieces from the zone of deformation created by the weld (the notch shall be completely outside the melted area but as near to it as possible);



i.e. six test-pieces in all.



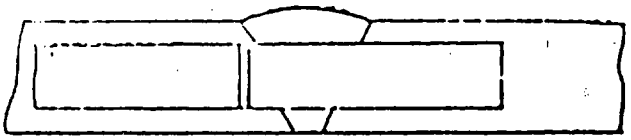
Centre of weld Zone of deformation

The test-pieces shall be so machined as to have the maximum possible thickness.

$10 < e \leqslant 20$

three test-pieces from the centre of the weld;

three test-pieces from the zone of deformation;

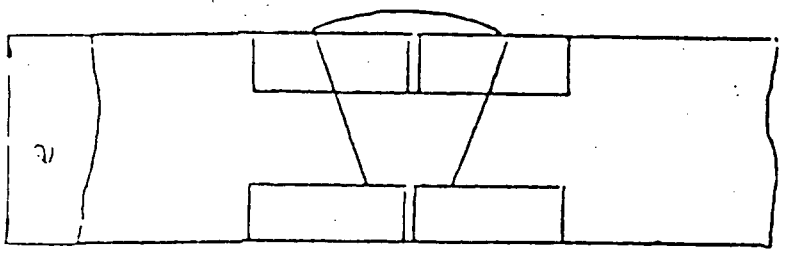


Zone of deformation

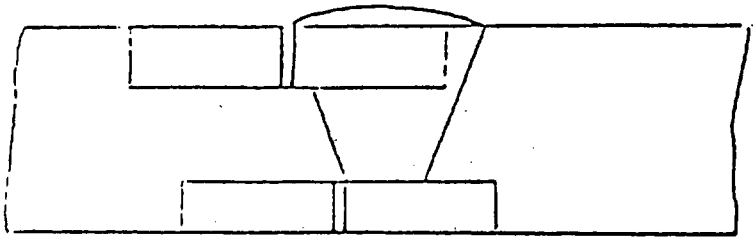
i.e. six test-pieces in all.

$e > 20$

Two sets of three test-pieces (one set on the upper face, one set on the lower face) at each of the points indicated below:



Centre of weld



Zone of deformation

i.e. twelve test-pieces in all.

(1) For sheets, the average of the three tests shall meet the minimum values indicated in marginal 214265; none of the values may be more than 30 per cent below the minimum shown. 214277

(2) For welds, the average values obtained from the test-pieces taken at the different points, centre of weld and zone of deformation, shall correspond to the minimum values indicated. None of the values may be more than 30 per cent below the minimum indicated.

214278

(b) Determination of bending coefficient 214284

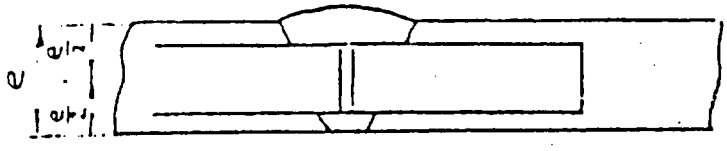
(1) The bending coefficient k referred to in marginal 214266 is defined asfollows: 214285

$$k = 50 \frac{e}{r},$$

where e= thickness of the sheet in mm; and
r=mean radius of curvature in mm of the test-piece when the first crack appears in the tension zone.

(2) The bending coefficient k shall be determined for the jeam. The width of the test piece shall be equal to 3 e.

(3) Four tests shall be performed on the seam, two with the root in the compression zone (fig. 1) and two with the root in the tension zone (fig. 2) all individual values obtained shall meet the minimum -value requirements of marginal 214266.



Centre of weld

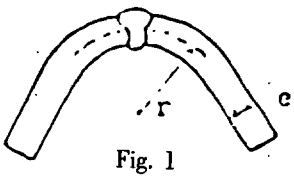


Fig. 1

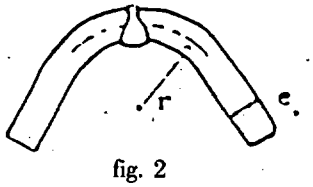


fig. 2

214286
219999

Appendix B.2
ELECTRICAL EQUIPMENT

220000

(1) The lighting of vehicles shall be electrical

(2) The electrical equipment of vehicles shall meet the following requirements:

Requirements applicable to the electrical equipment as a whole

(a) Wiring: Conductors shall be generously dimensioned to prevent overheating. They shall be appropriately insulated. Circuits shall be protected against excess current by fuses or automatic cut - outs. The wiring shall be firmly attached and so placed that the conductors are protected against impacts, projected stones and heat emitted by the exhaust system

(b) Storage batteries: A switch for breaking all the electric circuits shall be placed as close to the battery as possible. A direct or remote control system shall be installed in the driving cab and outside the vehicle. It shall be easily accessible and distinctively marked. The switch shall be openable while the engine is running without causing a dangerous surge. The electrical supply to the tachograph may, however, be provided by a circuit connected direct to the battery. This apparatus and its installation shall be intrinsically safe in a mixture consisting of 20 per cent hydrogen and 80 per cent air. If the batteries are situated elsewhere than under the engine bonnet, they shall be secured in a vented case of metal or another material of equivalent strength, with insulating inner walls.

Requirements applicable to the part of the electrical equipment situated behind the driver's cab

(c) The whole of this equipment shall be so designed, installed and protected as not to be able to cause ignition or short circuiting in normal conditions of use of the vehicles and as to reduce to a minimum the risk of either occurrence in the event of impact or distortion.

In particular:

1. Wiring

Conductors [see 2 (a)] shall consist of cables protected by seamless and rust - proof casings.

2. Lighting

Screw - cap bulbs shall not be used. If the lamps in the body of the vehicle are not fixed in parts of the walls or ceiling so strengthened as to protect them against any mechanical damage, they should be protected by a strong cage or grid.

220001

Appendix B.2

220002 The inflammable gases and articles of Class 2 whose carriage is not exempted by the provisions of marginal 21251 from the application of the requirements of marginal 220000 are the following

(a) Compressed gases
Hydrogen [1° (b)]
Methane [1° (b)]
Carbon monoxide [1° (bt)]
Mixtures of gases of 2° (b)
Synthetic gases [2° (bt)]
Town gas [2° (bt)]
Water gas [2° (bt)]
(b) Liquefied gases
Butane [3° (b)]
Butylene [3° (b)]
Cyclopropane [3° (b)]
Isobutane [3° (b)]
Isobutylene [3° (b)]
Propane [3° (b)]
Propylene [3° (b)]
Ethyl chloride [3° (bt)]
Methyl chloride [3° (bt)]
Dimethyl ether [3° (bt)]
Ethylamine [3° (bt)]
Hydrogen sulphide [3° (bt)]
Methylamine [3° (bt)]
Methyl mercaptan [3° (bt)]
Trimethylamine [3° (bt)]
Butadiene [3° (c)]
Vinyl chloride [3° (c)]

Appendix B.2

20002 (contd)

Vinyl bromide [3° (ct)]
Cyanogen chloride [3° (ct)]
Ethylene oxide [3° (ct)]
Gaseous mixtures A, AO, A1, B or C [4° (b)]
Ethane [5° (b)]
Ethylene [5° (b)]
(c) Deeply - refrigerated liquefied gases
The gases of 7° (b) and 8° (b)
(d) Gases dissolved under pressure
Acetylene [9° (c)]
(e) Articles containing gas
Aerosol dispensers of 10°, (b) and (bt)

220003
229999

Appendix B.3
(see marginal 10182)

230000
239999

CERTIFICATE OF APPROVAL FOR VEHICLES CARRYING
CERTAIN DANGEROUS GOODS

1. CERTIFICATE NO.

2. testifying that the vehicle specified below fulfils the conditions prescribed by the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) for its acceptance for the international carriage of dangerous goods by road.

3. Valid until .....

4. This certificate must be returned to the issuing service when the vehicle is taken out of service; if the vehicle is transferred to another owner; on expiry of the validity of the certificate; and if there is a material change in one or more essential characteristics of the vehicle.

5. Type of vehicle: closed vehicle, open vehicle, tank - vehicle with / without closed / open trailer / semi - trailer (strike out words which do not apply) .....
.....

6. Name and business address of carrier (owner) ...
.....

7. Registration number (if none: chassis number) ...

8. The vehicle described above has undergone at ..... the inspection prescribed by ADR, Annex B, marginal 10182 and fulfils the conditions required for its acceptance for the international carriage by road of dangerous goods of Classes .....
item numbers .....

9. Remarks .....
.....

10. .....19.....

11. Signature and stamp of issuing service at .....

Appendix B.3

12. The validity of this certificate is extended until ..

13. Signature and stamp of issuing service at .

14. The validity of this certificate is extended until ..

15. Signature and stamp of issuing service at .

16. The validity of this certificate is extended until ..

17. Signature and stamp of issuing service at .

Notes:

1. The dimensions of the certificate shall be 210 × 297 mm (format A 4). Both front and back shall be used. The colour shall be white, with a pink diagonal stripe.

2. Every trailer shall be the subject of a separate certificate unless it is covered by the certificate of the vehicle to which it is coupled.

3. Where a certificate is issued pursuant to article 4, paragraph 2, of the Agreement to a vehicle whose construction does not entirely conform to the requirements laid down in Annex B, the certificate's validity shall not extend beyond the duration of the derogation granted by the said article 4, subject where appropriate to the provisions of marginals 11605, 21605, 31605 and 61605; and the text of paragraph 8 of the certificate of approval shall be replaced by the following «The vehicle described above does not entirely* to the benefit of the provisions of article 4, paragraph 2, of the Agreement».

Appendix B.4

Tables concerning the carriage of dangerous substances of CLASS 7; Label to be placed on vehicles carrying these substances.

The minimum distances indicated in the table below between radioactive substances and areas on vehicles reserved for the driving and accompanying personnel are compatible with the provisions of marginal 3659(8) 240000

Total sum of the packages of the category		Total sum of the transport index	Journey or storage duration, in hours							
YELLOW III	YELLOW II		1	2	4	10	24	28	120	240
			Minimum distances in metres							
		0.2	0.5	0.5	0.5	0.5	1	1	2	3
		0.5	0.5	0.5	0.5	1	1	2	3	5
	1	1	0.5	0.5	1	1	2	3	5	7
	2	2	0.5	1	1	1	1.5	3	4	9
	4	4	1	1	1.5	3	4	6	9	13
	8	8	1	1.5	2	4	6	8	13	18
1	10	10	1	2	3	4	7	9	14	20
2	20	20	1.5	3	4	6	9	13	20	30
3	30	30	2	3	5	7	11	16	25	35
4	40	40	3	4	5	8	13	18	30	40
5	50	50	3	4	6	9	14	20	32	45

240002-240009

Appendix B.4

Total sum of transport index	Minimum distances in metres, no sheilding material intervening, from living accommodations or regularly occupied working space
	Applicable data in the case of exposure time not exceeding 250 hours per annum
Less than 2	1.0
2 to 4	1.5
4 to 8	2.5
8 to 12	3.0
12 to 20	4.0
20 to 30	5.0
30 to 40	5.5
40 to 50	6.5

240001

the minimum safetey distances referred to in marginal 3657 for the loading and storage of packages which bear a label «FOTO» together with packages of Category II - YELLOW or Category III - YELLOW are given in the following table.

Separation distances for the loading and the storage of packages which bear a label with the word FOTO together with packages of Categories II - YELLOW or III - YELLOW

Appendix B.4

The label to be affixed to te walls of vehicles pursuant to the provisions of marginal 3659(6) shall conform to the model reproduced below: 240010



(Minimum lenght of side: 15 cm)
Symbol and inscription black on white ground

*Conform to the requirements laid down in Annex B, but is entitled.

240011-249999

Appendix B.5
LIST OF SUBSTANCES MENTIONED UNDER MARGINAL 10500 (2)

NOTE
– The first figure in the hazard - identification number indicates the primary hazard as follows:
2. Gas
3. Inflammable liquid
4. Inflammable solid
5. Oxidizing substance or organic peroxide
6. Toxic substances
8. Corrosive

The second and third figures indicated secodary hazards:
0. no meaning
1. explosion risk
2. gas may be given off
3. inflammable risk
5. oxidizing risk
6. toxic risk
8. corrosive risk
9. risk of violent reaction from spontaneous decomposition or self-polymerization

– Where the first and second figures are the same, an intensification of the primary hazard is indicated, viz. 33 means a highly inflammable liquid (falsh - point below 21°C); 66 indicates a very dangerous toxic substance; 88 means a very dangerous corrosive substance. Where the first two figures are 22, a refrigerated gas is indicated. The combination 42 indicates a solid which may give off a gas on contact with water.
– Where the hazard - identification number is preceded by the letter «X», this indicates an absolute prohibition of the application of water to the product.

The substances mentioned under marginal 10500 (2) are listed below: 250000

Appendix B.5

Name of Substance (a)	Class and item number (b)	Hazard Identification No (upper part) (c)	Substance Identification No (lower part) (d)
A			
Acetal (1, 1-diethoxyethane)	3, 1°(a)	33	1088
Acetaldehyde	3, 5°	33	1089
Acetic acid, glacial (and its acqueous solutions containing more than 80% pure acid)	8, 21°(c)	83	1842
Acetic anhydride	8, 21°(e)	83	1715
Acetic ester (see ethyl acetate)			
Acetone	3, 5°	33	1090
Acctone cyanohydrin (see 2-cyanopropan-2-01)			
Acetonitrile	6.1, 2°(b)	633	1648
Acetyl Chloride	8, 22°	83	1717
Acrylaldehyde	3, 1°(a)	336	1092
Acrylonitrile	6.1, 2°(a)	633	1093
Air	2, 8°(a)	22	1003
Alcohol (see ethanol)			
Allyl alcohol	6.1, 13°(a)	63	1098
Allyl chloride	6.1, 4°(a)	633	1100
Ammonia	2, 3°(at)	268	1005
Ammonia, dissolved in water, with mor than 35% but not more than 40% ammonia by weight	2,	268	2073
Ammonia, dissolved in water, wit more than 40% but not more than 50% ammonia by weight	2, 9°(at)	268	2073
Amyl acetate (see pentyl acetate)			
Amyl alcohols (other than tertiary)	3, 3°	30	1105
Amyl alcohol, tertiary	3, 1°(a)	33	1105

Appendix B.5

(a)	(b)	(c)	(d)
Aniline	6.1, 11°(b)	60	1547
Antimony pentachloride	8, 11°(a)	80	1730
Argon (refrigerated)	2, 7°(a)	22	1951
B			
Benzaldehyde	3, 4°	30	1990
Benzene	3, 1°(a)	33	1114
Benzoyl chloride	8, 22°	83	1736
Bromine	8, 14°	886	1744
1,3 Butadiene	2, 3°(c)	239	1010
Butane	2, 3°(b)	23	1011
Butan-1-01-(butyl alcohol, normal)	3, 3°	30	1120
Butan-2-01 (sec-butyl alcohol)	3, 3°	30	1121
Butanol, tertiary	3, 5°	33	1122
n-Butyl acetate	3, 3°	30	1123
sec-Butyl acetate	3, 1°(a)	33	1124
n-Butyl alcohol (see butan-1-01)			
sec-Butyl alcohol (see butan-2-01)			
Butylamine	3, 5°	338	1125
n-Butyl chloride (see 1-chlorobutane)			
1-Butylene	2, 3°(b)	23	1012
Butyraldehyde	3, 1°(a)	33	1129
C			
Calcium chlorate solution	5.1, 4°(a)	50	2429
Carbon dioxide	2, 5°(a)	20	1013
Carbon dioxide, liquid (refrigerated)	2, 7°(a)	22	2187
Carbon disulphide	3, 1°(a)	336	1131
Carbonyl chloride (see phosgene)			
Chlorine	2, 3°(at)	266	1017
Chlorobenzene	3, 3°	30	1134

Appendix B.5

(a)	(b)	(c)	(d)
1-Chlorobutane (butyl chloride)	3, 1°(a)	33	1127
Chlorodifluoromethane (R22)	2, 3°(a)	20	1018
1-Chloro-2, 3-epoxypropane (epichlorohydrin)	6.1, 12°(a)	663	2023
2-Chloroethanol (see glycol chlorohydrin)			
Chloroprene	3, 1°(a)	336	1991
Chlorosulphonic acid	8, 11°(a)	88	1754
Chlorotrifluoromethane (R13)	2, 5°(a)	20	1022
Cresols	6.1, 22°(a)	60	2076
Cumene	3, 3°	30	1918
Cyanides, inorganic, solutions of	6.1, 31°(b)	66	1935
2-Cyanopropan-2-01 (acetone cyanohydrin)	6.1, 11°(a)	66	1541
Cyclohexane	3, 1°(a)	33	1145
Cyclohexanole	3, 3°	30	1915
Cyclohexane	3, 1°(a)	33	2256
Cyclopentane	3, 1°(a)	33	1146
Cyclopropane	2, 3°(b)	23	1027
D			
Decahydronaphthalene	3, 3°	30	1147
Diacetone alcohol, technical	3, 5°	33	1148
1,2-Diaminoethane (ethylene diamine)	8, 35°	83	1604
1,6-Diaminohexane (hexamethylene diamine)	8, 35°	80	1783
Dichlorodifluoremethane (R12)	2, 3°(a)	20	1028
1,2-Dichloroethane	3, 1°(a)	336	1184
Dichlorofluoromethane (R21),	2, 3°(a)	20	1029
Dichloromonofluoromethane (see dichlorofluoromethane)			

Appendix B.5

(a)	(b)	(c)	(d)
Dichloropropene	3, 3°	36	2047
1,2-Dichloro-1, 1,2 2-tetrafluoroethane (R.114)	2, 3°(a)	20	1958
1,1-Diethoxyethane (see acetal)			
Diethylamine	3, 5°	338	1154
diethyl benzene	3, 4°	30	2049
Diethyl ether (sulphuric ether)	3, 1°(a)	33	1155
Di-isopropyl ether	3, 1°(a)	33	1159
2,2-Dimethyl benzyl hydroperoxide	5.2, 10°	539	2116
Dimethyl carbonate	3, 1°(a)	33	1161
Dimethyl ether	2, 3°(bt)	23	1033
Dimethyl sulphate	6.1, 13°(b)	663	1595
Dioxane	3, 5°	336	1165
Disulphur dichloride	8, 11°(a)	886	1828
E			
Epichlorohydrin (see 1-chloro-2,3-epoxypropane)			
Ethanethiol (ethyl mercaptan)	3, 1°(a)	336	2363
Ethanol (ethyl alcohol, alcohol)	3, 5°	33	1170
Ethoxyethyl acetate	3, 3°	30	1172
Ethyl acetate (acetic ester)	3, 1°(a)	33	1173
Ethyl acrylate	3, 1°(a)	339	1917
Ethyl alcohol (see ethanol)			
Ethyl benzene	3, 1°(a)	33	1175
Ethyl chloride	2, 3°(bt)	23	1037
Ethylene	2, 5°(b)	23	1962
Ethylene, (refrigerated)	2, 7°(b)	223	1038
Ethylene diamine (see 1,2-diaminoethane)			
Ethyl formate	3, 1°(a)	33	1190
Ethyl silicate (see tetraethyl silicate)			
Ethyl mercaptan (see ethanethiol)			

Appendix B.5

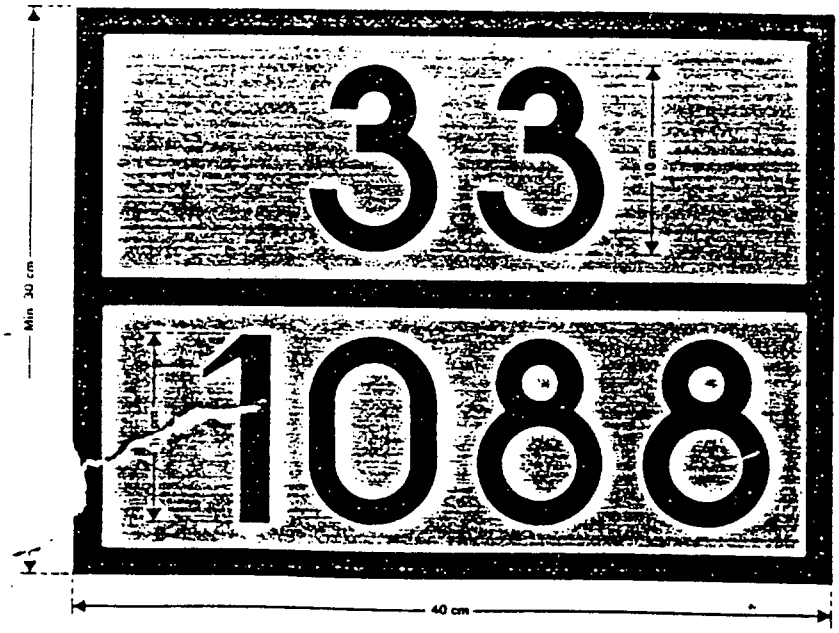
(a)	(b)	(c)	(d)
F			
Fluoboric acid (aqueous solutions containing not more than 78% pure acid)	8, 7°	88	1775
Formic acid (containing not less than 70% pure acid)	8, 21°(b)	80	1779
Furfural	3, 4°	36	1199
G			
Glycol chlorohydrin (2-chloroethanol)	6.1, 12°(b)	66	1135
H			
Hexamethylene diamine (see 1,6-diaminohexane)			
Hydrazine in aqueous solutions contraining not more than 72% hydrazine:			
-solutions containing more than 64%	8, 34°	86	2029
-solutions containing not more than 64%	8, 34°	86	2030
Hydrobromic acid, anhydrous (see hydrogen bromide)			
Hydrobromic acid, solutions of	8, 5°	88	1788
Hydrocarbons, liquid, pure or in mixtures, not otherwise specified in this Appendix:			
-with a flash point below 21° C	3, 1°(a)	33	1203
-with a flash point between 21° C and 55° C	3, 3°	30	1223
with a flash point above 55° C	3, 4°	30	1202
Hydrocarbon gas mixtures, A, AO, A1, B and C (liquefied)	2, 4°(b)	23	1965
Hydrochloric acid, anhydrous (see Hydrogen chloride, liquefied)			
Hydrochloric acid, solutions of	8, 5°	88	1789
Hydrocyanic acid solutions (containing not more than 20% hydrocyanic acid)	6.1, 1°(b)	66	1613
Hydrofluoric acid, aqueous solutions containing more than 85 per cent pure acid	8, 6°(b)		
Hydrofluoric acid, aqueous solutions containing more than 60 per cent but not more than 85 per cent pure acid	8, 6°(c)	886	1790
Hydrofluoric acid, aqueous solutions containing not more than 60 per cent pure acid	8, 6°(d)		
Hydrofluoric acid, anhydrous (see hydrogen fluoride)			
Hydrogen bromide	2, 3°(at)	286	1048
Hydrogen chloride	2, 5°(at)	286	1050
Hydrogen fluoride (anhydrous hydrofluoric acid)	8, 6°(a)	886	1052
Hydrogen peroxide solutions			
– containing more than 40% but not more than 60% hydrogen peroxide	8, 41°(a)	85	2014
– containing more than 6% but not more than 40% hydrogen peroxide	8,41°(b)	85	2014
Hydrogen peroxide and solutions of hydrogen peroxide containing more than 60% hydrogen peroxide	5.1, 1°	559	2015
Hypochlorite solutions			
– containing more than 50 gm available chlorine per litre	8,37°(a)	85	1791
– containing not more than 50 gm available chlorine per litre	8, 37°(b)	85	1791
I			
Isobutane	2, 3°(b)	23	1969
Isobutyl acetate	3, 1°(a)	33	1213
Isobutylene	2, 3°(b)	23	1055
isoprene cmethyl butadienes	3,1°(a)	339	1218
Isopropanol (see propan-2-ol)			
Isopropyl acetate	3, 1°(a)	33	1220
Isopropyl alcohol (see propan-2-ol)			
Isopropylamine	3, 5°	338	1221
L			
Laughing gas (see nitrous oxide)			
Lead alkyls, mixtures with halogenated organic componuds e.g. ethyl fluid	6.1, 14°	663	1649
M			
p-Menthanyl hydroperoxide (with peroxide content not exceeding 95%)	5.2, 14°	539	2125

Methane (refrigerated)	2, 7°(b)	223	1972
Methanol (methyl alcohol, wood spirit)	3, 5°	336	1230
Methoxymethane (see dimethyl ether)			
Methyl acetate	3, 1°(a)	33	1231
Methyl arcylate	3, 1°(a)	339	1919
Methylal	3, 1°(a)	33	1234
Methyl alcohol (see methanol)			
Methylamine	2, 3°(bt)	263	1061
Methylamyl alcohol	3, 3°	30	2053
Methyl bromide (bromotethane)	2, 3°(at)	263	1062
Methyl butadiene (see isoprene)			
Methyl chloride (chloromethane)	2, 3°(bt)	236	1063
Methyl ethyl ketone	3, 1°(a)	33	1193
Methyl formate	3, 1°(a)	33	1243
Methyl isobutyl ketone	3, 1°(a)	33	1245
Methyl methacrylate	3, 1°(a)	339	1247
Methyl propionate	3, 1°(a)	33	1248
Methyl vinyl ether	2, 3°(ct)	239	1087
Methyl vinyl ketone	3, 1°(a)	33	1251
Mixed nitrating acids (sulphuric and nitric acids)			
– containing more than 30% pure nitric acid	8, 3°(a)	856	1796
– containing not more than 30% pure nitric acid	8, 3°(b)	886	1796
Mixtures A, A0, A1, B and C (see hydrocarbon gas mixtures, liquefied)			
Monochlorodifluoromethane (see chlorodifluoromethane			
Monomethylamine (see methylamine)			
Monomethylamine, aqueous solutions	3, 5°	336	1235
N			
Naphthalene in the melted state	4.1, 11°(c)	44	2304
Natural gas (refrigerated)	2, 8°(b)	223	2043
Nitric acid			
– containing more than 70% pure acid	8, 2°(a)	856	2032
– containing more than 55% but not more than 70% pure acid	8, 2°(b)	886	2031
Nitrobenzene	3, 4°	36	1662
Nitrogen (refrigerated)	2, 7°(a)	22	1977
Nitrogen dioxide No_2 (nitrogen peroxide, nitrogen tetroxide N_2O_4	2, 3°(at)	265	1067
Nitrogen peroxide (see nitrogen dioxide)			
Nitrogen tetroxide (see nitrogen dioxide)			
Nitrous oxide N^2O	2, 5°(a)	25	1070
O			
Oleum	2,7°(a)	225	1073
Oxygen (refrigerated)			
P	3,1°(a)	33	1264
Paraldehyde	8, 1°(a)	886	1831
Pentyl acetate (amyl acetate)	3, 3°	30	1104
Perchloric acid, in aqueous solutions:			
– containing more than 50% but not more than 72.5% perchloric acid	5.1, 3°	588	1873
– containing not more than 50% pure acid	8, 4°	85	1802
Phenol	6.1, 13°(c)	68	1671
Phosgene	2, 3°(at)	266	1076
Phosphorus oxychloride (see) phosphoryl chloride)			
Phosphorus trichloride	8, 11°(a)	88	1809
Phosphorus, white or yellow	4.2, 1°	436	1381
Phosphoryl chloride (phosphorus oxychloride)	8, 11°(a)	88	1810
Potash lye	8, 32°	88	1814
Potassium	4.3, 1°(a)	X423	2257
Potassium chlorate solution	5.1, 4°(a)	50	2427
Propane	2, 3°b)	23	1978
n-Propanol (propyl alcohol)	3, 5°	33	1274
Propan-2-ol (isopropyl alcohol)	3, 5°	33	1219
Propionaldehyde	3, 1°(a)	33	1275
Propyl acetate	3, 1°(a)	33	1276
Propyl alcohol (see n-propanol)			
Propylene	2, 3°(b)	23	1077
Propylene diamine	8, 35°	83	2258
Propylene oxide	3, 1°(a)	336	1280
Pyridine	3, 5°	36	1282

R			
R12 (see dichlorodifluoromethane)			
R13 (see chlorotrifluoromethane)			
R21 (see dichlorofluoro-methane)			
R22 (see chlorodifluoro-methane)			
R114 (see dichlorotetrafluoroethane)			
S			
Silicon tetrachloride	8, 11°(a)	88	1818
Soda lye	8, 32°	88	1824
Sodium	4.3, 1°(a)	X423	1428
Sodium chlorate solution	5.1, 4°(a)	50	2428
Sodium chlorite solution	5.1, 4°(c)	50	1908
Styrene	3, 3°	30	2055
Sulphur dioxide	2, 3°(at)	26	1079
Sulphuric acid			
– containing more than 85% pure acid	8, 1°(a)	88	1830
– containing more than 75% but not more than 85% pure acid	8, 1°(b)	88	1830
– containing not more than 75% pure acid	8, 1°(c)	88	1830
– waste, completely denitrated	8, 1°(d)	88	1832
Sulphuric and nitric acids (see mixed nitrating acids)			
Sulphuric ether (see diethyl ether)			
Sulphur in the melted state	4.1, 2°(b)	44	2448
Sulphurous acid, anhydrous (see sulphur dioxide)			
Sulphur trioxide	8, 9°	885	1829
Sulphuryl chloride	8, 11°(a)	88	1834
T			
Tetraethyl lead	6.1, 14°	663	1649
Tetraethyl silicate (ethyl silicate)	3, 3°	30	1292
Tetrahydrofuran	3, 5°	33	2056
Tetramethyl lead	6.1, 14°	663	1649
Thionyl chloride	8, 11°(a)	88	1836
Titanium tetrachloride	8, 11°(a)	88	1838
Toluene	3, 1°(a)	33	1294
Triethylamine	3, 5°	336	1296
Triethylene tetramine	8, 35°	80	2259
Trimethylamine	2, 3°(bt)	236	1083
Trimethylamine, solutions of	3, 5°	336	1297
266-trimethyl norpinanyl hydroperoxide with a peroxide content not exceeding 95%	5.2, 15°	539	2162
Tripropylamine	8, 35°	83	2260
Turpentine	3, 3°	30	1299
V			
Vinyl acetate	3, 1°(a)	33	1301
Vinyl chloride	2, 3°(c)	239	1086
W			
Wood spirit (see methanol)			
X			
Xylenes	3, 3°	30	1307
Xylenols	6.1, 22°(b)	60	2261

Appendix B.5

Identification numbers shall be shown on the plate as indicated below: 250001



Identification number of danger (2 or 3 figures).

Identification number of substance (4 figures).

Background orange.
Border, horizontal line and figures black, 15 mm thickness.

250002
250999

ΟΙΚΟΝΟΜΙΚΗ ΕΠΙΤΡΟΠΗ ΓΙΑ ΤΗΝ ΕΥΡΩΠΗ

ΕΠΙΤΡΟΠΗ ΜΕΤΑΦΟΡΩΝ ΕΣΩΤΕΡΙΚΟΥ

Ευρωπαϊκή Συμφωνία Για τη Διεθνή Οδική Μεταφορά Επικίνδυνων Εμπορευμάτων (ADR) και Πρωτόκολλο Υπογραφής

Υπογράφηκε στη Γενεύη την 30 Σεπτεμβρίου 1957

ΤΟΜΟΣ Ι

(Συμφωνία, Πρωτόκολλο Υπογραφής και Παράρτημα Α)

ΗΝΩΜΕΝΑ ΕΘΝΗ

1978

Π Ρ Ο Λ Ο Γ Ο Σ

Το παρακάτω κείμενο περιλαμβάνει, επιπροσθέτως της Συμφωνίας και του Πρωτοκόλλου Υπογραφής, τα Παραρτήματα με τη μορφή με την οποία τέθηκαν σε ισχύ την 29ην Ιουλίου 1968 καθώς και τις τροποποιήσεις τους μέχρι της 1ης Οκτωβρίου 1978.

ΕΥΡΩΠΑΪΚΗ ΣΥΜΦΩΝΙΑ ΓΙΑ ΤΗ ΔΙΕΘΝΗ ΟΔΙΚΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΕΜΠΟΡΕΥΜΑΤΩΝ (ADR)

ΤΑ ΣΥΜΒΑΛΛΟΜΕΝΑ ΜΕΡΗ,

ΕΠΙΘΥΜΟΥΝΤΑ να αυξήσουν την ασφάλεια της διεθνούς οδικής μεταφοράς,

ΣΥΜΦΩΝΗΣΑΝ τα παρακάτω:-

Άρθρο 1

Για την εφαρμογή της παρούσας Συμφωνίας,

(α) με τον όρο "όχημα" νοούνται τα αυτοκίνητα, αρθρωτά οχήματα, ρυμουλκούμενα οχήματα (TRAILERS) και ημιρυμουλκούμενα (SEMI-TRAILERS), όπως ορίζεται στο άρθρο 4 της Σύμβασης Περί Οδικής Κυκλοφορίας της 19ης Σεπτεμβρίου 1949, εκτός των οχημάτων που ανήκουν ή τελούν υπό τις διαταγές των ενόπλων δυνάμεων του Συμβαλλόμενου Μέρους·

(β) με τον όρο "επικίνδυνα εμπορεύματα" νοούνται οι ύλες και τα είδη των οποίων η διεθνής οδική μεταφορά απαγορεύεται από, ή επιτρέπεται μόνον υπό ωρισμένους όρους από τα Παραρτήματα Α και Β·

(γ) με τον όρο "διεθνής μεταφορά" νοείται οποιαδήποτε επιχείρηση μεταφοράς, εκτελούμενη στην εδαφική περιοχή (επικράτεια) δύο τουλάχιστον Συμβαλλόμενων Μερών με οχήματα που ορίζονται στη πιό πάνω παράγραφο (α).

Άρθρο 2

1.- Υπό την επιφύλαξη των διατάξεων του άρθρου 4, παράγραφος 3, επικίνδυνα εμπορεύματα η μεταφορά των οποίων αποκλείεται από το Παράρτημα Α δεν θα γίνονται δεκτά

για διεθνή μεταφορά.

2.- Η διεθνής μεταφορά άλλων επικίνδυνων εμπορευμάτων θα εξουσιοδοτείται υπό την επιφύλαξη της τηρήσεως των

(α) όρων του Παραρτήματος Α για τα στο θέμα εμπορεύματα, ειδικότερα όσον αφορά τη συσκευασία και ετικετοποίησή τους, και των

(β) όρων του Παραρτήματος Β, ειδικότερα όσον αφορά τη κατασκευή, εξοπλισμό και λειτουργία του οχήματος του μεταφέροντος τα στο θέμα εμπορεύματα, υπό την επιφύλαξη των διατάξεων του άρθρου 4, παράγραφος 2.

Άρθρο 3

Τα Παραρτήματα της παρούσας Συμφωνίας θα αποτελούν αναπόσπαστο τμήμα αυτής.

Άρθρο 4

1.- Κάθε Συμβαλλόμενο Μέρος θα έχει το δικαίωμα να ρυθμίζει ή απαγορεύει, για λόγους εκτός της ασφαλείας διαρκούσης της μεταφοράς, την εισαγωγή επικίνδυνων εμπορευμάτων στην εδαφική του περιοχή (επικράτεια).

2.- Οχήματα σε υπηρεσία στην επικράτεια του Συμβαλλόμενου Μέρους όταν τεθεί σε ισχύ η παρούσα Συμφωνία ή τιθέμενα σε υπηρεσία στην επικράτεια αυτή εντός δύο μηνών από της θέσεώς της σε ισχύ θα επιτρέπεται, για χρονική περίοδο τριών ετών από της θέσεώς της σε ισχύ, να εκτελούν τη διεθνή μεταφορά επικίνδυνων εμπορευμάτων ακόμη και εάν η κατασκευή και ο εξοπλισμός τους δεν είναι ολωσδιόλου σύμφωνα με τις διατάξεις του Παραρτήματος Β για

την στο θέμα επιχείρηση μεταφοράς. Δυνάμει ειδικών άρθρων του Παραρτήματος Β, όμως , η περίοδος αυτή μπορεί να μειωθεί.

3.- Τα Συμβαλλόμενα Μέρη θα έχουν το δικαίωμα να κανονίζουν, με ειδικές δίμερείς ή πολυμερείς συμφωνίες, όπως ορισμένα από τα επικίνδύνα εμπορεύματα τα οποία σύμφωνα με τη παρούσα Συμφωνία αποκλείονται από όλες τις διεθνείς μεταφορές μπορούν, υπό την επιφύλαξη ορισμένων όρων, να γίνονται δεκτά για διεθνή μεταφορά στις επικράτειές τους, ή όπως επικίνδυνα εμπορεύματα τα οποία σύμφωνα με τη παρούσα Συμφωνία γίνονται δεκτά για διεθνή μεταφορά μόνον υπό ειδικούς όρους μπορούν να γίνονται δεκτά για διεθνή μεταφορά στις επικράτειές τους υπό όρους λιγώτερο αυστηρούς από εκείνους των Παραρτημάτων της παρούσας Συμφωνίας. Οι διμερείς ή πολυμερείς ειδικές συμφωνίες οι αναφερόμενες στη παρούσα παράγραφο θα ανακοινώνονται στο Γενικό Γραμματέα των Ηνωμένων Εθνών, ο οποίος θα ανακοινώνει αυτές στα Συμβαλλόμενα Μέρη τα οποία δεν έχουν υπογράψει τις συμφωνίες αυτές.

Άρθρο 5

Οι επιχειρήσεις μεταφοράς στις οποίες η παρούσα Συμφωνία έχει εφαρμογή θα παραμένουν υπό την επιφύλαξη των εθνικών ή διεθνών κανονισμών που ισχύουν γενικά στην οδική κυκλοφορία, στη διεθνή οδική μεταφορά και στο διεθνές εμπόριο.

Άρθρο 6

1.- Χώρες-μέλη της Οικονομικής Επιτροπής για την Ευ-

ρώπη και χώρες πούγιναν δεκτές στην Επιτροπή με συμβουλευτική ιδιότητα κατά τη παράγραφο 8 των όρων παραπομπής της Επιτροπής μπορούν να γίνουν Συμβαλλόμενα Μέρη της παρούσας Συμφωνίας

(α) υπογράφοντας αυτήν

(β) επικυρώνοντας αυτήν μετά την υπογραφή της υπό την την επιφύλαξη της επικυρώσεως

(γ) προσχωρώντας σ'αυτήν.

2.- Χώρες που μπορούν να μετάσχουν σε ορισμένες δραστηριότητες της Οικονομικής Επιτροπής για την Ευρώπη σύμφωνα με τη παράφραφο II των όρων παραπομπής της Επιτροπής μπορούν να γίνουν Συμβαλλόμενα Μέρη της παρούσας Συμφωνίας με τη προσχώρησή τους σ'αυτή αφού τεθεί σε ισχύ.

3.- Η Συμφωνία θα είναι ανοικτή για υπογραφή μέχρι της 15ης Δεκεμβρίου 1957. Μετά θα είναι ανοικτή για προσχώρηση.

4.- Επικύρωση ή προσχώρηση θα πραγματοποιείται με την κατάθεση εγγράφου στο Γενικό Γραμματέα των Ηνωμένων Εθνών.

Άρθρο 7

1.- Η παρούσα Συμφωνία θα τεθεί σε ισχύ ένα μήνα μετά την ημερομηνία κατά την οποία ο αριθμός των χωρών των αναφερόμενων στο άρθρο 6, παράγραφος 1, οι οποίες υπόγραψαν αυτή χωρίς επιφύλαξη επικυρώσεως ή οι οποίες κατέθεσαν τα έγγραφα επικυρώσεως ή προσχωρήσεώς τους ανέλθει συνολικά σε πέντε. Όμως, τα Παραρτήματα αυτής δεν θα έχουν εφαρμογή μέχρι έξι μήνες από της θέσεως σε ισχύ της Συμφωνίας.

Για οποιαδήποτε χώρα που επικυρώνει ή προσχωρεί στη παρούσα Συμφωνία μετά την υπογραφήν αυτής χωρίς επιφύλαξη επικυρώσεως ή την κατάθεση των εγγράφων επικυρώσεως ή προσχωρήσεώς τών πέντε χωρών των αναφερόμενων στο άρθρο 6, παράγραφος Ι, η παρούσα Συμφωνία θα τεθεί σε ισχύ ένα μήνα αφότου η χώρα αυτή καταθέσει το έγγραφό της επικυρώσεως ή προσχωρήσεως και τα Παραρτήματα αυτής θα έχουν εφαρμογή για τη χώρα αυτή είτε την αυτήν ημερομηνίαν, εάν είναι ήδη σε ισχύ μέχρι της ημερομηνίας αυτής, είτε, εάν δεν είναι σε ισχύ μέχρι της ημερομηνίας αυτής, την ημερομηνία κατά την οποία θα ισχύουν σύμφωνα με τις διατάξεις της παραγράφου Ι του παρόντος άρθρου.

Άρθρο 8

Ι.- Οποιοδήποτε Συμβαλλόμενο Μέρος μπορεί να καταγγείλει τη παρούσα Συμφωνία ειδοποιώντας σχετικά τον Γενικό Γραμματέα των Ηνωμένων Εθνών.

2.- Η καταγγελία θα τίθεται σε ισχύ δώδεκα μήνες μετά την παραλαβή από τον Γενικό Γραμματέα της γνωστοποιήσεως της καταγγελίας.

Άρθρο 9

Ι.- Η παρούσα Συμφωνία θα παύσει να ισχύει εάν, αφού τεθεί σε ισχύ, ο αριθμός των Συμβαλλομένων Μερών είναι μικρότερος των πέντε κατά τη διάρκεια δώδεκα συναπτών μηνών.

2.- Στη περίπτωση που θα συναφθεί παγκόσμια συμφωνία για τη ρύθμιση της μεταφοράς επικίνδυνων εμπορευμάτων, οποιαδήποτε διάταξη της παρούσας Συμφωνίας είναι αντίθετη προς οποιαδήποτε διάταξη της παγκόσμιας αυτής συμφωνίας,

από της ημερομηνίας κατά την οποία η τελευταία θα τεθεί σε ισχύ, θα παύει αυτομάτως να έχει εφαρμογή στις σχέσεις μεταξύ των Συμβαλλομένων της παρούσας Συμφωνίας Μερών που γίνονται συμβαλλόμενα μέρη της παγκόσμιας σύμφωνίας, και αυτομάτως θα αντικαθίστανται από τη σχετική διάταξη της παγκόσμιας αυτής συμφωνίας.

Άρθρο 10

1.- Οποιαδήποτε χώρα μπορεί, κατά την υπογραφή της παρούσας Συμφωνίας χωρίς επιφύλαξη επικυρώσεως ή την κατάθεση του εγγράφου της επικυρώσεως ή προσχωρήσεως ή οποτεδήποτε μετέπειτα, να δηλώσει με γνωστοποίηση απευθυνόμενη στο Γενικό Γραμματέα των Ηνωμένων Εθνών ότι η παρούσα Συμφωνία θα επεκταθεί σε όλες ή οποιεσδήποτε από τις επικράτειες για τις διεθνείς σχέσεις των οποίων είναι υπεύθυνη. Η Συμφωνία και τα Παραρτήματα αυτής θα επεκτείνονται στην επικράτεια ή επικράτειες που κατονομάζονται στη γνωστοποίηση ένα μήνα μετά τη παραλαβή αυτής από τον Γενικό Γραμματέα.

2.- Οποιαδήποτε χώρα που προέβη σε δήλωση, σύμφωνα με τη παράγραφο 1 του παρόντος άρθρου, ότι επεκτείνει την παρούσα Συμφωνία σε οποιαδήποτε επικράτεια για τις διεθνείς σχέσεις της οποίας είναι υπεύθυνη, μπορεί να καταγγείλει τη Συμφωνία χωριστά για την επικράτεια αυτή σύμφωνα με τις διατάξεις του Άρθρου 8.

Άρθρο 11

1.- Οποιαδήποτε διαφορά μεταξύ δύο ή περισσότέρων Συμβαλλόμενων Μερών σχετική με την ερμηνεία ή την εφαρμο-

γή της παρούσας Συμφωνίας θα τακτοποιείται εφόσον είναι δυνατόν με μεταξύ τους διαπραγματεύσεις.

2.- Οποιαδήποτε διαφορά που δεν τακτοποιείται με διαπραγμάτευση θα παραπέμπεται σε διαιτησία εάν οποιαδήποτε από τα έχοντα τη διαφορά Συμβαλλόμενα Μέρος το ζητήσει και κατά συνέπεια θα παραπέμπεται σε ένα ή περισσότερους διαιτητάς που θα επιλέγονται κατόπιν συμφωνίας των εχόντων τη διαφορά Μερών. Εάν εντός τριών μηνών από της ημερομηνίας της αιτήσεως διαιτησίας τα έχοντα τη διαφορά Μέρη αδυνατούν να συμφωνήσουν στην επιλογή διαιτητού ή διαιτητών, οποιοδήποτε των Μερών αυτών μπορεί να ζητήσει από τον Γραμματέα των Ηνωμένων Εθνών να διορίσει ένα διαιτητή στον οποίο θα παραπεμφθεί η διαφορά για την έκδοση αποφάσεως.

3.- Η απόφαση του διαιτητή ή διαιτητών των διορισθέντων σύμφωνα με τη παράγραφο 2 του παρόντος άρθρου θα είναι δεσμευτική για τα έχοντα τη διαφορά Συμβαλλόμενα Μέρη.

Άρθρο 12

1.- Κάθε Συμβαλλόμενο Μέρος μπορεί, κατά την υπογραφή, επικύρωση, ή προσχώρηση στην παρούσα Συμφωνία, να δηλώσει ότι δεν θεωρεί εαυτό δεσμευμένο από το άρθρο II. Άλλα Συμβαλλόμενα Μέρη δεν θα δεσμεύονται από το άρθρο II σε σχέσει με οποιοδήποτε Συμβαλλόμενο Μέρος το οποίο διατύπωσε τέτοια επιφύλαξη.

2.- Οποιοδήποτε Συμβαλλόμενο Μέρος που διατύπωσε την επιφύλαξη που προβλέπεται στη παράγραφο 1 του παρόντος άρθρου μπορεί οποτεδήποτε να αποσύρει την επιφύλαξη αυτή

γνωστοποιώντας σχετικά στον Γενικό Γραμματέα των Ηνωμένων Εθνών.

Άρθρο 13

1.- Μετά τη τριετή ισχύ της παρούσας Συμφωνίας, οποιοδήποτε Συμβαλλόμενο Μέρος μπορεί, με γνωστοποίηση προς τον Γενικό Γραμματέα των Ηνωμένων Εθνών, να ζητήσει όπως συγκληθεί διάσκεψη προς τον σκοπόν της αναθεωρήσεως του κειμένου της Συμφωνίας. Ο Γενικός Γραμματέας οφείλει να γνωστοποιήσει σ'όλα τα Συμβαλλόμενα Μέρη την αίτηση και διάσκεψη αναθεωρήσεως θα συγκληθεί από τον Γενικό Γραμματέα εάν, εντός περιόδου τεσσάρων μηνών από της ημερομηνίας της γνωστοποιήσεως από τον Γενικό Γραμματέα, όχι λιγώτερα του ενός τετάρτου των Συμβαλλομένων Μερών γνωστοποιήσουν εις αυτόν ότι συμφωνούν με την αίτηση.

2.- Εάν διάσκεψη συγκληθεί σύμφωνα με τη παράγραφο 1 του παρόντος άρθρου, ο Γενικός Γραμματέας οφείλει να γνωστοποιήσει αυτό σ'όλα τα Συμβαλλόμενα Μέρη και να προσκαλέσει αυτά να υποβάλουν εντός περιόδου τριών μηνών τις προτάσεις που μπορεί να επιθυμούν να συζητηθούν στη Διάσκεψη. Ο Γενικός Γραμματέας οφείλει να κυκλοφορήσει σ'όλα τα Συμβαλλόμενα Μέρη τη προσωρινήν ημερήσια διάταξη της διασκέψεως, μαζί με τα κείμενα των προτάσεων αυτών, τρείς μήνες τουλάχιστο προ της ημερομηνίας της διεξαγωγής της διασκέψεως.

3.- Ο Γενικός Γραμματέας οφείλει να προσκαλέσει σε διάσκεψη, συγκληθείσα σύμφωνα με το παρόν άρθρο, όλες τις χώρες τις αναφερόμενες στο άρθρο 6, παράγραφος 1, και χώρες που γίνηκαν Συμβαλλόμενα Μέρη δυνάμει του άρθρου 6, παράγραφος 2.

Άρθρο 14

1.- Ανεξάρτητα της διαδικασίας αναθεωρήσεως της προβλεπομένης από το Άρθρο 13, Συμβαλλόμενο Μέρος μπορεί να προτείνει μία ή περισσότερες τροποποιήσεις των Παραρτημάτων της παρούσας Συμφωνίας. Προς τον σκοπόν αυτόν οφείλει να διαβιβάσει το κείμενο αυτών στον Γενικό Γραμματέα των Ηνωμένων Εθνών. Ο Γενικός Γραμματέας μπορεί επίσης να προτείνει τροποποιήσεις των Παραρτημάτων της παρούσας Συμφωνίας προς τον σκοπό της εξασφαλίσεως συμφωνίας (αρμονίας) μεταξύ των Παραρτημάτων αυτών και λοιπών διεθνών συμφωνιών σχετικών με την μεταφοράν επικίνδυνων εμπορευμάτων.

2.- Ο Γενικός Γραμματέας οφείλει να διαβιβάσει οποιαδήποτε πρόταση που υποβλήθηκε σύμφωνα με τη παράγραφο 1 του παρόντος άρθρου σ'όλα τα Συμβαλλόμενα Μέρη και να πληροφορήσει σχετικά τις λοιπές χώρες τις αναφερόμενες στο άρθρο 6, παράγραφος 1.

3.- Οποιαδήποτε προταθείσα τροποποίηση των Παραρτημάτων θα θεωρείται ότι έγινε δεκτή εκτός εάν, εντός τριών μηνών από της ημερομηνίας κατά την οποίαν ο Γενικός Γραμματέας την κυκλοφορήσει, το ένα-τρίτο τουλάχιστο των Συμβαλλόμενων Μερών, ή πέντε τούτων εάν το ένα-τρίτο υπερβαίνει τον αριθμό αυτό, έχει δώσει στο Γενικό Γραμματέα γραπτή γνωστοποίηση της αντιρρήσεώς του προς την προταθείσα τροποποίηση. Εάν η τροποποίηση θεωρηθεί ότι έγινε δεκτή, θα τεθεί σε ισχύ για όλα τα Συμβαλλόμενα Μέρη, είτε στη λήξη συμπληρωματικής περιόδου τριών μηνών είτε, σε περιπτώσεις όπου παρόμοιες τροποποιήσεις έγιναν

ή ενδέχεται να γίνουν στις λοιπές διεθνείς συμφωνίες τις αναφερόμενες στη παράγραφο Ι του παρόντος άρθρου, στη λήξη περιόδου η διάρκεια της οποίας θα καθορισθεί από τον Γενικό Γραμματέα κατά τρόπο ώστε να επιτραπεί, οπουδήποτε είναι δυνατό, η ταυτόχρονη θέση σε ισχύ της τροποποιήσεως και εκείνων που έγιναν ή ενδέχεται να γίνουν στις λοιπές αυτές συμφωνίες· η περίοδος αυτή, , δεν θα είναι μικρότερης διάρκειας από ένα μήνα.

4.- Ο Γενικός Γραμματέας οφείλει, το ταχύτερο δυνατό, να γνωστοποιήσει σ'όλα τα Συμβαλλόμενα Μέρη και σ'όλες τις χώρες τις αναφερόμενες στο άρθρο 6, παράγραφος Ι, οποιαδήποτε αντίρρηση σε προτεινόμενη τροποποίηση που μπορεί να ληφθεί από τα Συμβαλλόμενα Μέρη.

5.- Εάν η προτεινόμενη τροποποίηση των Παραρτημάτων δεν θεωρείται ότι έγινε δεκτή, αλλά εάν τουλάχιστο ένα Συμβαλλόμενο Μέρος, εκτός του Συμβαλλομένου Μέρους που πρότεινε την τροποποίηση έχει δώσει στον Γενικό Γραμματέα γραπτή γνωστοποίηση της συμφωνίας του με την πρόταση, συνέλευση όλων των Συμβαλλομένων Μερών και όλων των χωρών των αναφερομένων στο άρθρο 6, παράγραφος Ι, θα συγκληθεί από τον Γενικό Γραμματέα εντός τριών μηνών από της λήξεως της περιόδου των τριών μηνών εντός της οποίας, συμφώνως προς την παράγραφο 3 του παρόντος άρθρου, γνωστοποίηση πρέπει να δοθεί της αντιρρήσεως προς την τροποποίηση. Ο Γενικός Γραμματέας μπορεί επίσης να προσκαλέσει στη συνέλευση αυτή εκπροσώπους των:-

(α) διακρατικών οργανισμών που ενδιαφέρονται για

ζητήματα μεταφοράς·

(β) διεθνών μη-κρατικών οργανισμών οι δραστηριότητες των οποίων σχετίζονται απ'ευθείας με τη μεταφορά επικίνδυνων εμπορευμάτων στις επικράτειες των Συμβαλλομένων Μερών.

6.- Τροποποίηση που υιοθετήθηκε από περισσότερα του μίσους του συνολικού αριθμού των Συμβαλλομένων Μερών σε συνέλευση συγκληθείσα σύμφωνα με τη παράγραφο 5 του παρόντος άρθρου θα τίθεται σε ισχύ για όλα τα Συμβαλλόμενα Μέρη σύμφωνα με τη διαδικασία την συμφωνηθείσα στη συνέλευση αυτή από τη πλειοψηφία των παριστάμενων στη συνέλευση Συμβαλλόμενων Μερών.

Άρθρο 15

Επιπροσθέτως των γνωστοποιήσεων των προβλεπόμενων από τα άρθρα 13 και 14, ο Γενικός Γραμματέας των Ηνωμένων Εθνών οφείλει να γνωστοποιήσει στις χώρες τις αναφερόμενες στο άρθρο 6, παράγραφος 1, και στις χώρες που έγιναν Συμβαλλόμενα Μέρη δυνάμει του άρθρου 6, παράγραφος 2,

(α) τις υπογραφές, επικυρώσεις και προσχωρήσεις σύμφωνα με το άρθρο 6·

(β) τις ημερομηνίες στις οποίες η παρούσα Συμφωνία και τα Παραρτήματα αυτής τέθηκαν σε ισχύ σύμφωνα με το άρθρο 7·

(γ) τις καταγγελίες σύμφωνα με το άρθρο 8·

(δ) τη λήξη της Συμφωνίας σύμφωνα με το άρθρο 9·

(ε) κοινοποιήσεις και καταγγελίες που λήφθηκαν σύμ-

φωνα με το άρθρο 10°

(στ) δηλώσεις και γνωστοποιήσεις που λήφθηκαν σύμφωνα με το άρθρο 12, παράγραφοι 1 και 2°

(ζ) την αποδοχή και την ημερομηνία θέσεως σε ισχύ των τροποποιήσεων σύμφωνα με το άρθρο 14, παράγραφοι 3 και 6.

Άρθρο 16

1.- Το Πρωτόκολλο Υπογραφής της παρούσας Συμφωνίας θα έχει την αυτή ισχύ, αποτέλεσμα και διάρκεια όπως η Συμφωνία, της οποίας θα θεωρείται σαν αναπόσπαστο τμήμα.

2.- Ουδεμία θα επιτρέπεται επιφύλαξη για τη παρούσα Συμφωνία, πλην εκείνων που διατυπώθηκαν στο Πρωτόκολλο Υπογραφής και εκείνων που έγιναν σύμφωνα με το άρθρο 12.

Άρθρο 17

Μετά την 15ην Δεκεμβρίου 1957, το πρωτότυπο της παρούσας Συμφωνίας θα κατατεθεί στον Γενικό Γραμματέα των Ηνωμένων Εθνών, ο οποίος οφείλει να διαβιβάσει επικυρωμένα αληθή αντίγραφα αυτού σε κάθε μία από τις χώρες που αναφέρονται στο άρθρο 6, παράγραφος 1.

ΣΕ ΠΙΣΤΩΣΗ ΤΩΝ ΟΠΟΙΩΝ οι υπογεγραμμένοι, εξουσιοδοτημένοι δεόντως προς τούτο, υπόγραφαν την παρούσα Συμφωνία.

ΚΑΤΑΡΤΙΣΤΗΚΕ στη Γενεύη, σήμερα τη τριακοστή Σεπτεμβρίου, Χίλια Εννιακόσια Πενήντα Επτά, σε ένα αντίγραφο στην Αγγλική και Γαλλική γλώσσα για το κείμενο της κυρίας Συμφωνίας, και στη Γαλλική γλώσσα για τα Παραρτήματα, κάθε δε κείμενο είναι εξ ίσου αυθεντικό κείμενο της κυρίας Συμφωνίας.

Ο Γενικός Γραμματέας των Ηνωμένων Εθνών παρακαλείται να ετοιμάσει επίσημη μετάφραση των Παραρτημάτων στην Αγγλική γλώσσα και επισυνάψει αυτήν στα επικυρωμένα αληθή αντίγραφα τα αναφερόμενα στο άρθρο Ι7.

ΠΡΩΤΟΚΟΛΛΟ ΥΠΟΓΡΑΦΗΣ ΤΗΣ ΕΥΡΩΠΑΪΚΗΣ ΣΥΜΦΩΝΙΑΣ ΓΙΑ ΤΗ ΔΙΕΘΝΗ ΟΔΙΚΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΕΜΠΟΡΕΥΜΑΤΩΝ (ADR)

Προβαίνοντας στην υπογραφή της Ευρωπαϊκής Συμφωνίας για τη Διεθνή Οδική Μεταφορά Επικίνδυνων Εμπορευμάτων (ADR) ο υπογεγραμμένος, δεόντως εξουσιοδοτημένος)

Ι.- ΘΕΩΡΩΝΤΑΣ ότι οι όροι οι διέποντες την θαλάσσια μεταφορά επικινδύνων εμπορευμάτων προς ή από το Ηνωμένο Βασίλειο διαφέρουν βασικά από εκείνους που περιέχονται στο Παράρτημα Α της ADR και ότι είναι αδύνατο να τροποποιηθούν ώστε να συμφωνούν με το τελευταίο στο εγγύς μέλλον·

ΛΑΜΒΑΝΟΝΤΑΣ ΥΠΟΨΗ την υποσχεση τη δοθείσα από το ΗΝΩΜΕΝΟ ΒΑΣΙΛΕΙΟ να υποβάλει σαν τροποποίηση του πιό πάνω αναφερθέντος Παραρτήματος Α ειδικό παράρτημα περιέχον ειδικές διατάξεις για οδική-θαλάσσια μεταφορά επικίνδυνων εμπορευμάτων μεταξύ της Ηπείρου και του Ηνωμένου Βασιλείου·

ΣΥΜΦΩΝΗΣΑ ότι, μέχρι της θέσεως σε ισχύ του πιό πάνω αναφερθέντος ειδικού παραρτήματος, επικίνδυνα εμπορεύματα μεταφερόμενα δυνάμει της ADR προς ή από το

Ηνωμένο Βασίλειο, θα συμμορφούται προς τις διατάξεις του Παραρτήματος Α της ADR καθώς και προς τους όρους του Ηνωμένου Βασιλείου για τη θαλάσσια μεταφορά επικινδύνων εμπορευμάτων·

2.- ΛΑΜΒΑΝΩ ΣΗΜΕΙΩΣΗ της δηλώσεως του αντιπροσώπου της Γαλλίας κατά την οποία η Κυβέρνησις της Γαλλικής Δημοκρατίας επιφυλάσσεται του δικαιώματος, κατά παρέκβαση των διατάξεων του άρθρου 4, παράγραφος 2, να αρνηθεί να επιτρέψει όπως οχήματα σε υπηρεσία στην επικράτεια άλλου Συμβαλλομένου Μέρους, οποιαδήποτε κι'άν ήταν η ημερομηνία που τέθηκαν σε υπηρεσία, χρησιμοποιηθούν για τη μεταφορά επικινδύνων προϊόντων στη Γαλλική επικράτεια, εκτός εάν τα οχήματα αυτά πληρούν είτε τους για τη μεταφορά αυτή όρους του Παραρτήματος Β είτε τους για τη μεταφορά των στο θέμα εμπορευμάτων όρους του Γαλλικού Κανονισμού που διέπει την οδική μεταφορά επικινδύνων εμπορευμάτων.

3.- ΠΡΟΤΕΙΝΩ όπως, προ της υποβολής σύμφωνα προς το άρθρο 14, παράγραφος 1, ή άρθρο 13, παράγραφος 2, οι προτεινόμενες τροποποιήσεις της παρούσας Συμφωνίας ή των Παραρτημάτων αυτής συζητηθούν κατ'αρχήν, εφόσον είναι δυνατόν, σε συνεδριάσεις εμπειρογνωμόνων των Συμβαλλόμενων Μερών και, εάν χρειασθεί, των λοιπών χωρών των αναφερομένων στο άρθρο 6, παράγραφος 1, της Συμφωνίας και των διεθνών οργανισμών των αναφερόμενων στο άρθρο 14, παράγραφο 5, της Συμφωνίας.

ΕΥΡΩΠΑΪΚΗ ΣΥΜΦΩΝΙΑ ΓΙΑ ΤΗ ΔΙΕΘΝΗ ΟΔΙΚΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΕΜΠΟΡΕΥΜΑΤΩΝ (ADR)

ΠΑΡΑΡΤΗΜΑ Α

ΔΙΑΤΑΞΕΙΣ ΣΧΕΤΙΚΕΣ ΜΕ ΤΙΣ ΕΠΙΚΙΝΔΥΝΕΣ ΥΛΕΣ & ΕΙΔΗ

Π ε ρ ι ε χ ό μ ε ν ο

Μέρος Ι.- ΟΡΙΣΜΟΣ ΚΑΙ ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ

	Περιθώρια
Ορισμοί	2000 και 2001
Γενικές διατάξεις	2002 - 2009

Μέρος ΙΙ.- ΚΑΤΑΣΤΑΣΕΙΣ ΥΛΩΝ ΚΑΙ ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΓΙΑ ΤΙΣ ΔΙΑΦΟΡΕΣ ΚΛΑΣΕΙΣ

Κλάση Ια	Εκρηκτικές ύλες και είδη,	2100	και επόμενα
Κλάση Ιβ	Είδη γεμισμένα με εκρηκτικές ύλες	2130	"
Κλάση Ιγ	Πυροκροτητές (αναφλεκτήρες), πυροτεχνήματα και παρόμοια εμπορεύματα	2170	"
Κλάση 2	Αέρια: πεπιεσμένα, υγροποιημένα ή διαλυμένα υπό πίεση	2200	"
Κλάση 3	Εύφλεκτα υγρά	2300	"
Κλάση 4.1	Εύφλεκτα στερεά	2400	"
Κλάση 4.2	Ύλες υποκείμενες σε αυτόματο ή αυτογενή ανάφλεξη	2430	"
Κλάση 4.3	Ύλες που βγάζουν εύφλεκτα αέρια σε επαφή με το νερό	2470	και επόμενα
Κλάση 5.1	Οξυγονούχες ύλες	2500	"
Κλάση 5.2	Οργανικά υπεροξείδια	2550	"

		περιθώρια
Κλάση 6.Ι	Τοξικές ύλες 2600	& επόμενα
Κλάση 6.2	Απεχθείς (σιχαμερές) ύλες και ουσίες που προξενούν μόλυνση 2650	"
Κλάση 7	Ραδιενεργείς ύλες 2700	"
Κλάση 8	Διαβρωτικές ύλες 2800	"

Μέρος ΙΙΙ.- Προσθήκες ΠΑΡΑΡΤΗΜΑΤΟΣ Α

Προσθήκη Α.Ι	Όροι σταθερότητας και ασφάλειας διέποντες τις εκρηκτικές ύλες, εύφλεκτα στερεά και οργανικά υπεροξείδια· Κανόνες για δοκιμές 3Ι00	"
Προσθήκη Α.2	Διατάξεις σχετικές με τη φύση των από κράμα αλουμινίου δοχείων για ωρισμένα αέρια της Κλάσεως 2· διατάξεις σχετικές με τα υλικά και τη κατασκευή των δοχείων των προοριζόμενων για τη μεταφορά των βαθειά-κατεψυγμένων (DEEPLY-REFRIGERATED) υγροποιημένων αερίων της Κλάσεως 2· και διατάξεις διέπουσες τις δοκιμές σε διανεμητές αεροζόλ και μη ξαναγεμιζόμενα δοχεία για αέρια υπό πίεση, της Κλάσεως 2, Ιο° και ΙΙ°... 3200	"
Προσθήκη Α.3	Δοκιμές σχετικές με εύφλεκτα υγρά των Κλάσεων 3 και 6.Ι 3300	"
Προσθήκη Α.4	Υπό επιφύλαξη 3400	"

		Περιθώρια
Προσθήκη Α.5	Διατάξεις σχετικές με δοκιμές σε μεταλλικά βαρέλια αναφερόμενα στα περιθώρια 2303(6) & 2813(Ι)(γ)	3500 & επόμενα
Προσθήκη Α.6	Διατάξεις σχετικές με ραδιενεργείς ύλες Κλάσεως 7	3600 "
Προσθήκη Α.7	Υπό επιφύλαξη	3700 "
Προσθήκη Α.8	Υπό επιφύλαξη	3800 "
Προσθήκη Α.9	Διατάξεις σχετικές με ετικέτες κινδύνου· Επεξήγηση συμβόλων και προτύπων ετικετών	3900 "

Μέρος Ι

ΟΡΙΣΜΟΙ ΚΑΙ ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ

ΟΡΙΣΜΟΙ I - 1999

(Ι) Για την εφαρμογή του παρόντος Παραρτήματος: 2000

- με τον όρο "αρμόδια αρχή" νοείται η αρχή που διορίστηκε σαν αρμόδια αρχή σε κάθε χώρα και κάθε ειδική περίπτωση από τη Κυβέρνηση·
- με τον όρο "εύθραυστο κόλο. (πακέτο)" νοείται κόλο. (πακέτο) περιέχον εύθραυστο δοχείο (π.χ. δοχείο κατασκευασμένο από γυαλί, πορσελάνη, πηλό ή παρόμοια υλικά) που δεν κλείνεται σε συσκευασία με αποτελεσματική προστασία όλων των πλευρών του σε περίπτωση κρούσεως (βλέπε επίσης περιθώριο 2001(5))·
- με τον όρο "αέριο" νοείται αέριο ή ατμός·

- με τον όρο "επικίνδυνες ύλες", όταν χρησιμοποιείται μόνος, νοούνται οι ύλες και τα είδη που ορίσθηκαν σαν ύλες και είδη της ADR· 2000 (Συνεχίζεται)
- με τον όρο "μεταφορά σε χύμα" νοείται η μεταφορά στερεάς ύλης χωρίς συσκευασία·
- με τον όρο "RID" νοούνται οι Διεθνείς Κανονισμοί οι διέποντες τη Σιδηροδρομική Μεταφορά Επικινδύνων Εμπορευμάτων (Παράρτημα Ι της Διεθνούς Συμβάσεως Περί Σιδηροδρομικής Μεταφοράς Εμπορευμάτων (CIM)).

(2) Για την εφαρμογή του παρόντος Παραρτήματος, οι δεξαμενές (βλέπε ορισμούς Παραρτήματος Β) δεν τοποθετούνται στην αυτή βάση με τα δοχεία, του όρου "δοχείο" χρησιμοποιουμένου υπό την περιοριστικήν αυτού έννοια. Διατάξεις σχετικές με τα δοχεία έχουν εφαρμογή σε σταθερές δεξαμενές, συστοιχίες δοχείων, αφαιρετές δεξαμενές και δεξαμενές-δοχεία (TANK-CONTAINERS) μόνον εάν αυτό συνομολογείται ρητά.

(3) Με τον όρο "πλήρες φορτίο" νοείται οποιοδήποτε φορτίο προερχόμενο από έναν αποστολέα, για το οποίο φορτίο επιφυλάσσεται αποκλειστικά η χρήση οχήματος ή μεγάλου δοχείου (CONTAINER) και όλες οι εργασίες για τη φόρτωση και εκφόρτωση του οποίου διεξάγονται σύμφωνα προς τις οδηγίες του αποστολέα ή του παραλήπτη.

(Ι) Εκτός εάν ρητώς αναφέρεται άλλως, το σύμβολο "°/ο" στο παρόν Παράρτημα αντιπροσωπεύει:- 2001

(α) προκειμένου περί μιγμάτων στερεών ή υγρών, ως και

προκειμένου περί διαλυμάτων ως και στερεών μουσκεμένων με υγρό: ποσοστό κατά βάρος βασιζόμενο επί του ολικού βάρους του μίγματος, του διαλύματος ή του μουσκεμένου (υγροποιημένου) στερεού· 2001 (Συνεχίζεται)

(β) προκειμένου περί αεριοποιημένων μιγμάτων: ποσοστό κατ'όγκο βασιζόμενο επί του συνολικού όγκου του αεριοποιημένου μίγματος.

(2) Όλα τα βάρη τα αναφερόμενα για κόλα (πακέτα) στο παρόν Παράρτημα, εκτός εάν άλλως ορίζεται, είναι μικτά βάρη. Το βάρος των δοχείων (CONTAINERS) ή δεξαμενών των χρησιμοποιουμένων για τη μεταφορά εμπορευμάτων δεν συμπεριλαμβάνεται στο μικτό βάρος.

(3) Πιέσεις παντός είδους σχετικές με τα δοχεία (όπως πίεση δοκιμής, εσωτερική πίεση, πίεση ανοίγματος βαλβίδας-ασφαλείας) σημειώνονται πάντοτε σε πίεση θλιβομέτρου KG/CM^2 (πίεση επί πλέον της ατμοσφαιρικής πίεσης)· Όμως, η πίεση ατμού των υλών εκφράζεται πάντοτε σε απόλυτο πίεση KG/CM^2.

(4) Όπου το παρόν Παράρτημα καθορίζει βαθμόν πληρώσεως δοχείων ή δεξαμενών, ο βαθμός αυτός πληρώσεως αναφέρεται πάντοτε σε θερμοκρασία των υλών 15^oC εκτός εάν κάποια άλλη θερμοκρασία σημειούται.

(5) Εύθραυστα δοχεία ασφαλισμένα, είτε μόνα τους είτε σε ομάδες, με αποσβεστικό (των κτυπημάτων) υλικό σε μεγάλο δοχείο, δεν θεωρούνται εύθραυστα δοχεία υπό τον όρον ότι το γερό δοχείο είναι στεγανό και έτσι σχεδιασμένο ώστε σε περίπτωση θραύσης ή διαρροής των εύθραυστων δοχείων το περιεχόμενό τους να μη μπορεί να

διαφύγει από το γερό δοχείο, και ότι η μηχανική αντο- 200Ι
χή του τελευταίου να μην εξασθενείται από διάβρωση κατά (Συνεχίζε
τη διάρκεια της μεταφοράς. ται)

ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ

(Ι) Το παρόν Παράρτημα καθορίζει τα επικίνδυνα εμπορεύματα τα οποία εξαιρούνται της διεθνούς οδικής μεταφοράς και τα επικίνδυνα εμπορεύματα τα οποία γίνονται δεκτά για τέτοια μεταφορά υπό ωρισμένους όρους. Ομαδοποιεί τα επικίνδυνα εμπορεύματα σε περιοριστικές και μή-περιοριστικές Κλάσεις. Εκ των επικινδύνων εμπορευμάτων των καλυπτομένων από τους τίτλους των περιοριστικών Κλάσεων (Κλάσεις Ια, Ιβ, Ιγ, 2, 4.2, 4.3, 5.2, 6.2 και 7), εκείνα που απαριθμούνται στα άρθρα τα σχετικά με τις Κλάσεις αυτές (περιθώρια 210Ι, 213Ι, 217Ι, 220Ι, 243Ι, 247Ι, 255Ι, 265Ι, και 270Ι) γίνονται δεκτά για μεταφορά υπό όρους οριζομένους στα άρθρα αυτά, και άλλα εξαιρούνται από τη μεταφορά. Μερικά από τα επικίνδυνα εμπορεύματα τα καλυπτόμενα από τους τίτλους των μή-περιοριστικών Κλάσεων (Κλάσεις 3, 4.Ι, 5.Ι, 6.Ι και 8), με σημειώσεις που παραθέτονται στα άρθρα τα σχετικά με τις διάφορες Κλάσεις, εξαιρούνται από τη μεταφορά· εκ των λοιπών εμπορευμάτων των καλυπτομένων από τους τίτλους των μη-περιοριστικών Κλάσεων, εκείνα που αναφέρονται ή ορίζονται στα άρθρα τα σχετικά με τις Κλάσεις αυτές (περιθώρια 230Ι, 240Ι, 250Ι, 260Ι και 280Ι) γίνονται δεκτά για μεταφορά μόνον υπό όρους οριζομένους εις τα άρθρα αυτά, και εκείνα που δεν αναφέρονται ή ορίζον-

ται εις αυτά δεν θεωρούνται ότι είναι επικίνδυνα εμπορεύματα για τους σκοπούς της παρούσας Συμφωνίας και γίνονται δεκτά για μεταφορά χωρίς οποιουσδήποτε ειδικούς όρους. 2002 (Συνεχίζεται)

(2) Οι Κλάσεις του Παραρτήματος αυτού είναι οι παρακάτω:-

Κλάση Ια	Εκρηκτικές ύλες και είδη	Περιοριστική
Κλάση Ιβ	Είδη γεμισμένα με εκρηκτικές ύλες	"
Κλάση Ιγ	Πυροκροτητές (αναφλεκτήρες), πυροτεχνήματα και παρόμοια εμπορεύματα	"
Κλάση 2	Αέρια: πεπιεσμένα, υγροποιημένα, ή διαλυμένα υπό πίεση	"
Κλάση 3	Εύφλεκτα υγρά	Μη-περιοριστική
Κλάση 4.1	Εύφλεκτα στερεά	"
Κλάση 4.2	Ύλες υποκείμενες σε αυτόματο ή αυτογενή ανάφλεξη	Περιοριστική
Κλάση 4.3	Ύλες που βγάζουν εύφλεκτα αέρια σε επαφή με το νερό	"
Κλάση 5.1	Οξυγονούχες ύλες	Μη-περιοριστική
Κλάση 5.2	Οργανικά υπεροξείδια	Περιοριστική
Κλάση 6.1	Τοξικές ύλες	Μη-περιοριστική
Κλάση 6.2	Απεχθείς (σιχαμερές). ύλες και ύλες που προξενούν μόλυνση	Περιοριστική
Κλάση 7	Ραδιενεργείς ύλες	"
Κλάση 8	Διαβρωτικές ύλες	Μη-περιοριστική

(3) Κάθε μεταφορά εμπορευμάτων διεπόμενη από το παρόν Παράρτημα θα είναι το αντικείμενο ενός εγγράφου μεταφοράς. Ο αποστολέας θα γνωρίζει γραπτώς στον μεταφορέα τις λεπτομέρειες που πρόκειται να συμπεριληφθούν στο έγγραφο μεταφοράς όπως αναφέρεται για κάθε κλάση στο Μέρος ΙΙ του παρόντος παραρτήματος στις παραγράφους 2.Β. Το έγγραφο μπορεί να είναι εκείνο που απαιτείται από άλλες ισχύουσες διατάξεις. Εμπορεύματα η μεταφορά των οποίων διέπεται από τον τρόπον αυτόν θα περιγράφονται στο έγγραφο μεταφοράς σύμφωνα με τις ενδείξεις της παραγράφου Β των ειδικών διατάξεων κάθε Κλάσεως. Οι λεπτομέρειες που θα καταχωρούνται στο έγγραφο μεταφοράς θα είναι συντεταγμένες στην επίσημη γλώσσα της προωθούσας (τα εμπορεύματα) χώρας, και επίσης, εάν η γλώσσα αυτή δεν είναι η Αγγλική, ή η Γαλλική, ή η Γερμανική, στην Αγγλική, Γαλλική ή Γερμανική, εκτός εάν, τυχόν, δασμολόγια (TARIFFS) διεθνούς οδικής μεταφοράς, ή συμφωνίες συναφθείσες μεταξύ των ενδιαφερομένων για την επιχείρηση της μεταφοράς χωρών, προβλέπουν άλλως. Το έγγραφο μεταφοράς θα συνοδεύεται, εάν κριθεί ενδεδειγμένον, από οδηγίες που θα εφαρμοσθούν σε περίπτωση ατυχήματος (βλέπε Παράρτημα Β, περιθώριο 10 185). Το έγγραφο μεταφοράς θα συνοδεύει τα μεταφερόμενα επικίνδυνα εμπορεύματα. 2002 (Συνεχίζεται)

(4) Εάν λόγω του μεγέθους του φορτίου μία αποστολή δεν μπορεί να φορτωθεί ολόκληρη σε ένα μεταφορικό μέσο, τουλάχιστο τόσα χωριστά έγγραφα, ή αντίγραφα του

ενός εγγράφου, θα ενδίδονται όσα και τα φορτωθέντα μεταφορικά μέσα. Επί πλέον, σ'όλες τις περιπτώσεις, χωριστά έγγραφα μεταφοράς θα ενδίδονται για αποστολές ή τμήματα αποστολών τα οποία δεν μπορούν να φορτωθούν μαζί στο αυτό όχημα λόγω των απαγορεύσεων του Παραρτήματος Β. 2002 (Συνεχίζεται)

(5) Εξωτερικές συσκευασίες συμπληρωματικές εκείνων που ορίζει το παρόν Παράρτημα μπορούν να χρησιμοποιούνται υπό τον όρον ότι δεν αντίκεινται στο πνεύμα των διατάξεων του παρόντος Παραρτήματος των σχετικών με τις εξωτερικές συσκευασίες. Εάν τέτοιες πρόσθετες συσκευασίες χρησιμοποιηθούν, οι προβλεπόμενες ενδείξεις και ετικέτες θα εφαρμοσθούν σ'αυτές.

(6) Εάν η μικτή συσκευασία διαφόρων επικίνδυνων υλών, μεταξύ των, ή με άλλα εμπορεύματα επιτρέπεται εκ των διατάξεων της παραγράφου Α.3 των ισχυουσών για τις διάφορες Κλάσεις διατάξεων, οι εσωτερικές συσκευασίες οι περιέχουσες διάφορες επικίνδυνες ύλες θα χωρίζονται προσεκτικά και αποτελεσματικά η μία από την άλλη στις συλλογικές συσκευασίες εάν επικίνδυνοι αντενέργειαι, όπως η παραγωγή επικινδύνου θερμότητας, αναφλεξης, ο σχηματισμός μιγμάτων που είναι ευαίσθητα στην τριβή ή κρούση, και η απελευθέρωση ευφλέκτων ή τοξικών αερίων, ενδέχεται να προκύψουν ως αποτέλεσμα βλάβης (ζημίας) ή καταστροφής των εσωτερικών συσκευασιών. Ειδικώτερα, εάν εύθραυστα δοχεία χρησιμοποιηθούν και συγκεκριμένα εάν τα ρηθέντα δοχεία περιέχουν υγρά, ο κίνδυνος σχηματισμού επικινδύνων μιγμά-

των θα αποφεύγεται και προς τον σκοπόν αυτόν θα λαμβάνονται όλα τα κατάλληλα μέτρα, όπως η χρήση καταλλήλου αποσβεστικού υλικού σε επαρκή ποσότητα, η ασφάλεια των δοχείων με δεύτερη, γερή συσκευασία, και η υποδιαίρεση των συλλογικών συσκευασιών σε πολλά διαμερίσματα. 2002 (Συνεχίζεται)

(7) Εάν μικτή συσκευασία χρησιμοποιηθεί, οι διατάξεις του παρόντος Παραρτήματος οι σχετικές με τις λεπτομέρειες στο έγγραφο μεταφοράς θα ισχύουν σε σχέση με κάθε μία από τα διάφορα είδη των επικίνδυνων υλών που περιέχονται στη συλλογική συσκευασία, και η συλλογική συσκευασία θα φέρει όλες τις επιγραφές και όλες τις ετικέτες κινδύνου τις προβλεπόμενες στο παρόν Παράρτημα για τις επικίνδυνες ύλες που η συλλογική συσκευασία περιέχει.

(8) Εάν διαλύματα υλών απαριθμούμενα στο παρόν Παράρτημα δεν αναφέρονται ρητά στον κατάλογο της Κλάσεως στην οποία οι διαλυμένες ύλες ανήκουν, αυτά εν τούτοις, θα θεωρούνται ως ύλες της ADR εάν η συμπύκνωσή των είναι τέτοια ώστε να διατηρείται ο εγγενής κίνδυνος στις ίδιες τις ύλες αυτές· η συσκευασία τους στη περίπτωση αυτή πρέπει να συμμορφώνεται προς τους όρους της παραγράφου Α των ειδικών διατάξεων που ισχύουν για την Κλάση στην οποίαν οι ρηθείσες ύλες ανήκουν, και εξυπακούεται ότι συσκευασίες που θα ήσαν ακατάλληλες για τη μεταφορά υγρών δεν πρέπει να χρησιμοποιούνται.

(9) Μίγματα υλών της ADR με άλλες ύλες θα θεωρούνται ως ύλες της ADR εάν διατηρούν τον εγγενή κίνδυνο στην ύλη που είναι ύλη της ADR.

2002 (Συνεχίζεται)

(IO) Ο αποστολέας, είτε στο έγγραφο της μεταφοράς είτε με χωριστή δήλωση, πρέπει να βεβαιώνει ότι η προσκομισθείσα ύλη μπορεί να μεταφερθεί οδικώς σύμφωνα με τις διατάξεις της ADR, ότι η κατάστασή της, επεξεργασία και, η κατάλληλη συσκευασία και τοποθέτηση ετικέτας συμμορφώνονται προς τις διατάξεις της ADR. Επί πλέον, εάν πολλά επικίνδυνα εμπορεύματα συσκευάζονται μαζί σε μία συλλογική συσκευασία ή σε ένα δοχείο (CONTAINER), ο αποστολέας υποχρεούται να δηλώσει ότι η μικτή αυτή συσκευασία δεν απαγορεύεται.

(II) Ύλη της οποίας η ειδική ραδιενέργεια δεν υπερβαίνει τα 0.002 MICROCURIE ανά γραμμάριο και η οποία καλύπτεται υπό συλλογικό τίτλον οιασδήποτε Κλάσεως θα εξαιρείται της μεταφοράς, εάν, επιπροσθέτως, καλύπτεται υπό τον τίτλο περιοριστικής Κλάσεως στην οποία δεν είναι γραμμένη.

(I2) Ύλη της οποίας η ειδική ραδιενέργεια δεν υπερβαίνει τα 0.002 MICROCURIE ανά γραμμάριο και η οποία δεν είναι γραμμένη με την ονομασία της σε Κλάση, αλλά καλύπτεται υπό δύο η περισσοτέρων συλλογικών τίτλων διαφόρων Κλάσεων, θα υπόκειται στους όρους μεταφοράς που αναφέρονται:-

(α) στη περιοριστική Κλάση, εάν μία από τις Κλάσεις για τις οποίες προκύπτει είναι περιοριστική Κλάση·

(β) στη Κλάση την αντιστοιχούσα για τον επικρατούντα κίνδυνο τον παρουσιαζόμενο από την ύλη κατά τη διάρκεια της μεταφοράς, εάν καμμία από τις Κλάσεις για τις οποίες προκύπτει είναι περιοριστική Κλάσις.

(Ι) Το παρόν Παράρτημα περιέχει για κάθε Κλάση 2003
πλην της Κλάσεως 7:

(α) κατάλογο των επικίνδυνων υλών των αποτελούντων την Κλάση, και όπου έχει εφαρμογήν, υπό μορφή περιθωρίου έχοντος αριθμό λήγοντα στο γράμμα "α", τις εξαιρέσεις τις επιτρεπόμενες από τις διατάξεις της ADR για μερικές από τις ύλες αυτές εάν συμμορφώνονται προς ωρισμένους όρους·

(β) διατάξεις υποδιαιρούμενες ώπως περιγράφεται:

Α.- Κόλα (Πακέτα):-

Ι.- Γενικοί όροι συσκευασίας·

2.- Συσκευασία μιας ύλης ή ειδών του αυτού είδους·

3.- Μικτή συσκευασία·

4.- Ενδείξεις και ετικέτες κινδύνου επάνω στα κόλα (πακέτα).

Β.- Λεπτομέρειες (στοιχεία) του εγγράφου μεταφοράς.

Γ.- Κενά κόλα (είδη συσκευασίας).

Δ.- (όπου ενδείκνυται) Άλλες διατάξεις.

(2) Διατάξεις σχετικές με:-

- την αποστολή σε χύμα, μέσα σε δοχεία (CONTAINERS) και σε δεξαμενές·
- τη μέθοδο διεκπεραιώσεως (προωθήσεως) και περιορισμούς στη προώθηση·
- απαγορεύσεις στη μικτή φόρτωση· και τόν
- εξοπλισμό μεταφοράς

μπορείτε να βρήτε στο Παράρτημα Β και στις προσθήκες του, που περιέχουν επίσης σχετικές

διατάξεις εφαρμοζόμενες ειδικά στην οδική μεταφορά. 2203 (Συνεχίζεται)

(3) Οι προσθήκες του Παραρτήματος τούτου περιέχουν:-

Προσθήκη Α.Ι:- Όροι σταθερότητας και ασφάλειας αφορώντες τις ενρηκτικές ύλες, τα εύφλεκτα στερεά και οργανικά υπεροξείδια, με κανόνες για δοκιμές·

Προσθήκη Α.2:- Συστάσεις σχετικές με τη φύση (προέλευση) των εκ κράματος αλουμινίου δοχείων για ωρισμένα αέρια της Κλάσεως 2· διατάξεις σχετικές με τα υλικάκαι την κατασκευή δοχείων, προοριζομένων για τη μεταφορά βαθειά-κατεψυγμένων (DEEPLY-REFRIGERATED) υγροποιημένων αερίων της Κλάσεως 2· και διατάξεις σχετικές με δοκιμές σε διανεμητές αεροζόλ και μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) για αέρια υπό πίεση της Κλάσεως 2, IO° και II°.

Προσθήκη Α.3:- Δοκιμές (έλεγχοι) σχετικές με εύφλεκτα υγρά των Κλάσεων 3 και 6.Ι·

Προσθήκη Α.5: Διατάξεις σχετικές με δοκιμές (ελέγχους) σε μεταλλικά βαρέρια αναφερόμενα στα περιθώρια 2303(6) και 28I3(I)(γ)·

Προσθήκη Α.6: Διατάξεις σχετικές με ραδιενεργείς ύλες της Κλάσεως 7·

Προσθήκη Α.9: Διατάξεις σχετικές με τις ετικέτες κινδύνου, και τη επεξήγηση των συμβόλων.

Οι προσθήκες Α.4, Α.7 και Α.8 είναι υπό επιφύλαξη.

(4) Για τη Κλάση 7, οι λεπτομέρειες οι σχετικές με τους όρους της συσκευασίας, τη μικτή συσκευασία, τη τοποθέτηση ετικετών και το μαρκάρισμα των κόλων καθώς και οι διατάξεις που διέπουν την αποθήκευση, διεκπεραίωση και μεταφορά, καθορίζονται στους πίνακες του Παραρτήματος Α τους απαριθμούμενους στο περιθώριο 2702. Μερικές από τις λεπτομέρειές και τεχνικές διατάξεις που αφορούν την Κλάση αυτή έχουν επεξεργασθεί στη Προσθήκη Α.6 η οποία περιλαμβάνει επίσης τον πλήρη πίνακα ραδιοπυρηνούχων (RADIONUCLIDES) και μέθοδο ελέγχου των κόλων εξ υλών της Κλάσεως 7. 2003 (Συνεχίζεται)

2004

Όπου οι διατάξεις οι σχετικές με τη μεταφορά "πλήρους φορτίου" έχουν εφαρμογή, οι αρμόδιες αρχές ενδέχεται να απαιτήσουν όπως το όχημα ή μεγάλο δοχείο (CONTAINER) το χρησιμοποιούμενο για τη σχετική επιχείρηση μεταφοράς φορτωθεί μόνο σε ένα σημείο και εκφορτωθεί μόνο σε ένα σημείο. 2005

(1) Εάν το όχημα που διεξάγει επιχείρηση μεταφοράς σύμφωνα με τις διατάξεις της ADR μεταφερθεί σε τμήμα του ταξιδίου όχι με οδική ρυμούλκηση, τότε οποιεσδήποτε εθνικές ή διεθνείς διατάξεις οι οποίες, στο αναφερόμενο τμήμα, διέπουν την μεταφορά επικίνδυνων εμπορευμάτων με τον τρόπο της μεταφοράς τον χρησιμοποιηθέντα για τη μεταφορά του οχήματος της οδού, θα έχουν και μόνον εφαρμογή για το αναφερόμενο τμήμα του ταξιδίου.

(2) Σε περιπτώσεις όπου η επιχείρηση μεταφοράς

που υπόκειται στις διατάξεις της ADR υπόκειται ομοίως για το σύνολο ή μέρος του οδικού ταξιδίου στις διατάξεις διεθνούς συμβάσεως η οποία ρυθμίζει τη μεταφορά επικινδύνων εμπορευμάτων με τρόπον μεταφοράς πλην της οδικής μεταφοράς δυνάμει άρθρων επεκτεινόντων τη δυνατότητα εφαρμογής της αναφερόμενης συμβάσεως σε ωρισμένες υπηρεσίες αυτοκινήτων, τότε οι διατάξεις της διεθνούς συμβάσεως θα έχουν εφαρμογήν, για το εν θέματι ταξίδιο παράλληλα με τις διατάξεις εκείνες της ADR που δεν είναι ασυμβίβαστες· τα άλλα άρθρα της ADR δεν θα έχουν εφαρμογήν για το εν θέματι ταξίδιο.

2003 (Συνεχίζεται).

2007-2009

Προς τον σκοπόν της διεξαγωγής των απαραίτητων δοκιμών (ελέγχων) προς τροποποίησιν των διατάξεων του παρόντος Παραρτήματος για να εφαρμοσθούν στις τεχνολογικές και βιομηχανικές αναπτύξεις, οι αρμόδιες αρχές των Συμβαλλόμενων Μερών μπορούν να συμφωνήσουν απ' ευθείας μεταξύ τους να εξουσιοδοτήσουν ωρισμένες επιχειρήσεις μεταφοράς στις εδαφικές τους περιοχές (επικράτειες) την προσωρινή ανάκληση των διατάξεων του παρόντος Παραρτήματος. Η αρχή η οποία πήρε την πρωτοβουλία για την έγκριση της προσωρινής ανακλήσεως οφείλει να γνωστοποιήσει την ανάκληση στην αρμόδια υπηρεσία ανακλήσεων της Γραμματείας των Ηνωμένων Εθνών, και η υπηρεσία αυτή θα θέσει αυτήν υπόψη των Συμβαλλομένων Μερών.

2010

2011-2099

Μέρος ΙΙ

ΚΑΤΑΛΟΓΟΣ ΥΛΩΝ ΚΑΙ
ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΔΙΑΦΟΡΩΝ ΚΛΑΣΕΩΝ

ΚΛΑΣΗ Ια.- ΕΚΡΗΚΤΙΚΕΣ ΥΛΕΣ ΚΑΙ ΕΙΔΗ

Σημείωση:- Ύλες και είδη που δεν μπορούν να ενεργούν σε επαφή με φλόγα και που δεν είναι περισσότερο ευαίσθητες σε πρόσκρουση ή τριβή του δινιτροβενζολίου δεν υπόκεινται στις διατάξεις της Κλάσεως Ια.

I.- Κατάλογος υλών και ειδών

(I) Μεταξύ των υλών και ειδών που καλύπτονται 2I00
υπό τον τίτλο της Κλάσεως Ια, μόνον εκείνες που αναγράφονται στο περιθώριο 2I0I γίνονται δεκτές για μεταφορά, και τότε μόνο υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και τα είδη που γίνονται δεκτά για μεταφορά υπό ορισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

(2) Στις εκρηκτικές ύλες που γίνονται δεκτές για μεταφορά, η νιτρογλυκερίνη μπορεί να αντικατασταθεί εν όλω ή εν μέρει από:-

(α) νιτρογλυκόλη, ή

(β) δινιτροδιαιθυλενογλυκόλη

(γ) ζάχαρο εμπλουτισμένο με άζωτο (εμπλουτισμένη με άζωτο σακχαρόζη), ή

(δ) μίγμα των παραπάνω υλών.

I° Πολύ εμπλουτισμένη με άζωτο νιτροκυτταρίνη (όπως 2I0I
βαμβακοπυρίτις), τ.έ. με άζωτο άνω του I2.6 τοις εκατό, καλώς σταθεροποιημένο και περιέχον επιπροσθέτως:

όταν η νιτροκυτταρίνη δεν συμπιέζεται, όχι λιγώτερο του 25 στα εκατό νερό ή αλκοόλη (μεθυλική, αιθυλική, κανονική προπυλική ή ισοπροπυλική, βουτυλική, ή αμυλική αλκοόλη ή μίγματα αυτών), συμπεριλαμβανομένης της μετουσιωμένης αλκοόλης· ή μίγματα νερού και αλκοόλης· 2101

όταν η νιτροκυτταρίνη συμπιέζεται, όχι λιγώτερο του 15 στα εκατό νερό, ή όχι λιγώτερο του 12 στα εκατό κηρού παραφίνης ή άλλων παρομοίων υλών.

Βλέπε επίσης Προσθήκη Α.Ι., περιθώριο 3101.

Σημείωση: 1.- Η νιτροκυτταρίνη με περιεχόμενον αζώτου μη υπερβαίνον το 12.6 στα εκατό είναι ύλη της Κλάσεως 4.1 εάν συμμορφώνεται με τις προδιαγραφές που αναφέρονται στο περιθώριο 2401, 7° (α), (β) ή (γ).

2.- Η νιτροκυτταρίνη υπό μορφήν ακάθάρτου λεπτού στρώματος νιτροκυτταρίνης (NITROCELLULOSE-FILM WASTE), ελευθέρου ζελατίνης, σε κυλίνδρους, φύλλα ή λωρίδες, είναι ύλη της Κλάσεως 4.2 (βλέπε περιθώριο 2431, 4°.

2° CORPITE PASTE (Κορδίτις πάστα), μη-ζελατινώδης ("POWDER CAKE"), προς χρήσιν στην κατασκευή άκάπνης πυρίτιδας και περιέχουσα άνω του 70 στο εκατόν άνύδρης ύλης και όχι λιγώτερο του 30 στα εκατό νερό· η άνυδρη ύλη δεν πρέπει να περιέχει άνω του 50 στα εκατό νιτρογλυκερίνη ή παρόμοιες υγρές εκρηκτικές ύλες.

3° Ζελατινώδης νιτροκυτταρινούχος πυρίτις και ζελατινώδης νιτροκυτταρινούχος πυρίτις περιέχουσα νιτρογλυκερίνη

(νιτρογλυκερινούχος πυρίτις):- 2101 (Συνεχίζεται)

(α) μη-πορώδης και μη-κονιώδης

(β) πορώδης ή κονιώδης

Βλέπε επίσης Προσθήκην Α.Ι, περιθώριον 3102.

4° Πλαστικοποιημένη νιτροκυτταρίνη περιέχουσα όχι λιγότερο του 12% εκατό αλλά λιγότερο του 18% εκατό πλαστικοποιητικές ύλες (όπως φθαλικό βουτύλιο ή πλαστικοποιητικήν ύλην τουλάχιστον ίσην σε δραστικότητα με το φθαλικό βουτύλιο), και της οποίας η νιτροκυτταρίνη έχει περιεχόμενον αζώτου μη υπερβαίνον το 12.6% εκατόν, επίσης υπό μορφή ρινισμάτων (CHIPS).

Σημείωσις:- Πλαστικοποιημένη νιτροκυτταρίνη περιέχουσα όχι λιγότερο του 18% εκατό φθαλικό βουτύλιο ή πλαστικοποιητικήν ύλην τουλάχιστον ίσην σε δραστικότητα είναι ύλη της Κλάσεως 4.1 (βλέπε περιθώριο 2401 7° (β) και (γ)).

Βλέπε επίσης Προσθήκην Α.Ι., περιθώριο 3102, Ι.

5° Μη-ζελατινώδης νιτροκυτταρινούχος πυρίτις. Βλέπε επίσης Προσθήκην Α.Ι, περιθώριον 3102.

6° Τρινιτροτολουόλη (τολίτης), επίσης όταν πιεσθεί ή χυθεί, τρινιτροτολουόλη μεμιγμένη με αλουμίνιο, μίγματα με την ονομασίαν υγρή τρινιτροτολουόλη, και τρινιτροανιζόλη.

Βλέπε επίσης Προσθήκην Α.Ι, περιθώριον 3103.

7° (α) HEXYL (Εξυλένιο) (εξανιτροδιφαινυλαμίνη) και πικρικό οξύ (μελινίτις)·

(β) PENTOLITES (Πεντολίτες) (μίγματα τετρανιτρικής πεντα-

ερυθριτόλης και τρινιτροτολουόλης) και HEXOLITES (Εξολίτες) (μίγματα τριμεθυλενίου-τρινιτραμίνης και τρινιτροτολουόλης) εάν το εις τρινιτροτολουόλην περιεχόμενόν τους είναι τέτοιο ώστε η ευαισθησία τους σε περίπτωση κρούσεως δεν υπερβαίνει την ευαισθησία της τετρύλης). 2101 (Συνεχίζεται)

(γ) PHLEGMATIZED PENTHRITE (Αδρανοποιημένος Πενθρίτης) (τετρανιτρική πενταερυθριτόλη) και PHLEGMATIZED HEXOGEN (Αδρανοποιημένον Εξόγονον) (τριμεθυλένιον-τρινιτραμίνιον), αμφότερα αδρανοποιημένα δι'ενσωματώσεως κηρού, κηρού παραφίνης ή άλλων παρόμοιων δραστικών υλών σε τέτοια ποσότητα ώστε η ευαισθησία των υλών αυτών σε περίπτωση κρούσεως να μην υπερβαίνει την ευαισθησία της τετρύλης).

Για τα (α), (β) και (γ), βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3103.

Σημείωσις:- Οι ύλες της 7°(β) και το PHLEGMATIZED HEXOGEN της 7°(γ) μπορεί επίσης να περιέχουν αλουμίνιο.

8° Εκρηκτικές οργανικές αζωτούχοι-συνθέσεις (ενώσεις):-

(α) διαλυτές στο νερό, π.χ. τρινιτρορεζορκίνη

(β) αδιάλυτες στο νερό, π.χ. τετρύλη (τρινιτροφαινυλικομεθυλονιτραμίνιον).

(γ) αναφλεκτικά εμπύρια τετρύλης χωρίς μεταλλικό κάλυμμα.

Για τα (α) και (β), βλέπε επίσης Προσθήκην Α.Ι., περιθώριο 3103.

Σημείωσις:- Εκτός για υγρή τρινιτροτολουόλη (6°), οι

2IOI
(Συνεχίζεται)

κρηκτικές οργανικές αζωτούχοι-συνθέσεις (ενώσεις) σε στερεά κατάσταση δεν γίνονται δεκτές για μεταφορά.

9° (α) Υγρός πενθρίτης (τετρανιτρική πενταερυθριτόλη) και υγρόν εξογόνων (τριμεθυλένιο-τρινιτραμίνιο) υγροποιημένα εξ ολοκλήρου με όχι λιγώτερο του 20 στα εκατό νερό στη περίπτωση του πρώτου και όχι λιγώτερο του 15 στα εκατό στην περίπτωση του δευτέρου·

(β) υγροί πεντολίτες (μίγματα πενθρίτου και τρινιτροτολουόλης) και υγροί εξολίτες (μίγματα εξογόνου και τρινιτροτολουόλης) η ευαισθησία των οποίων σε περίπτωση κρούσεως σε ξηρά κατάσταση υπερβαίνει εκείνη της τετρύλης και οι οποίες είναι υγροποιημένες εξ ολοκλήρου με όχι λιγώτερο του 15 στα εκατό νερό·

(γ) υγρά μίγματα πενθρίτου ή εξογόνου με κηρόν, κηρόν παραφίνης ή ύλες-όμοιες με κηρόν ή κηρόν παραφίνης, η ευαισθησία των οποίων σε περίπτωση κρούσεως σε ξηρά κατάσταση υπερβαίνει εκείνη της τετρύλης και οι οποίες είναι υγροποιημένες εξ ολοκλήρου με όχι λιγώτερο του 15 στα εκατό νερό·

(δ) πεπιεσμένα αναφλεκτικά εμπύρια πενθρίτου χωρίς μεταλλικό κάλυμμα.

Για τα (α), (β) και (γ), βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3I03.

IO° (α) Υπεροξείδιο Βενζοϋλίου:-

I.- σε ξηρά κατάσταση ή με λιγώτερο του IO στα εκα-

τό νερό· 2IOI

2.- με λιγότερο του 30 τοις εκατό αδρανοποιητική ύλη (PHLEGMATIZER). (Συνεχίζεται)

Σημείωση:- I.- Το υπεροξείδιο βενζοϋλίου με όχι λιγότερο του IO τοις εκατό νερό ή με όχι λιγότερο του 30 τοις εκατό αδρανοποιητική ύλη (PHLEGMATIZER) είναι ύλη της Κλάσεως 5.2 (βλέπε περιθώριο 255I, 8°(α) και (β)).

2.- Το υπεροξείδιο βενζοϋλίου με όχι λιγότερο του 70 τοις εκατό ξηρά και αδρανή στερεά δεν υπόκειται στις διατάξεις της ADR.

(β) Υπεροξείδια Κυκλοεξανόνης (L-HYDROXY-L'HYDROPEROXY-DICYCLOHEXYL υπεροξείδιο και BIS-(L-HYDROXYCYCLO-HEXYL) υπεροξείδιο και μίγματα των δύο τούτων συνθέσεων):

I.- σε ξηρά κατάσταση ή με λιγώτερο του 5 τοις εκατό νερό·

2.- με λιγότερο του 30 τοις εκατό αδρανοποιητικής ύλης (PHLEGMATIZER).

Σημείωσις:- I.- Τα υπεροξείδια κυκλοεξάνόνης και τα μίγματά τους με όχι λιγότερο του 5 τοις εκατό νερό ή όχι λιγότερο του 30 τοις εκατό αδρανοποιητική ύλη είναι ύλες της Κλάσεως 5.2 (βλέπε περιθώριο 255I 9° (α) και (β)).

2.- Τα υπεροξείδια κυκλοεξανόνης και τα μίγματά τους με όχι λιγώτερο του 70 τοις εκατό ξηρά και αδρανή στερεά δεν υπόκεινται στις διατάξεις της ADR.

(γ) Υπεροξείδιο Παραχλωροβενζοϋλίου:- 2IOI (Συνέχίζεται)

I.- σε ξηρά κατάσταση ή με λιγώτερο του IO τοις εκατό νερό·

2.- με λιγώτερο του 30 τοις εκατό αδρανοποιητικήν ύλην (PHLEGMATIZER).

Σημείωσις:- I.- Το υπεροξείδιο παραχλωροβενζοϋλίου με όχι λιγώτερο του IO τοις εκατό νερό ή με όχι λιγώτερο του 30 τοις εκατό αδρανοποιητικής ύλης είναι ύλη της Κλάσεως 5.2 (βλέπε περιθώριο 255I I7° (α) και (β)).

2.- Το υπεροξείδιο παραχλωροβενζοϋλίου με όχι λιγώτερο του 70 τοις εκατό ξηρά και αδρανή στερεά δεν υπόκειται στις διατάξεις της ADR.

II° (α) Μελανή πυρίτις (με βάσιν νιτρικού καλίου) υπό μορφήν κόκκων ή αλεύρου (κόνεως)·

(β) ορυκτική πυρίτις βραδείας ενεργείας (SLOW MINING POWDERS) όμοια με μελανήν πυρίτιδα (αποτελουμένη από νιτρικόν νάτριον, θείον και ξυλάνθρακα, άνθρακα ή λιγνίτην, η αποτελουμένη από νιτρικόν κάλιον μετά ή άνευ νιτρικού νατρίου, θείου άνθρακος ή λιγνίτου)·

(γ) φυσίγγια πεπιεσμένης μελανής πυρίτιδας ή πυρίτιδας ομοίας με πεπιεσμένην μελανήν πυρίτιδα.

Σημείωσις:- Η πυκνότης της πεπιεσμένης μάζας δεν πρέπει να είναι μικρότερα των I.5 γραμμαρίων ανά CM^3.

Για τα (α) και (β), βλέπε επίσης Προσθήκην A.I, περιθώριο 3I04.

I2° (α) Νιτρικές εκρηκτικές ύλες, υπό μορφήν πυρίτιδος μη καλυπτόμενες υπό των II° ή I4° (α) ή (γ) και αποτελούμενες βασικώς εκ νιτρικού αμμωνίου ή εκ μίγματος νιτρικού αμμωνίου και άλκαλι ή νιτρικών υλών αλκαλικών γαιών ή μίγματος νιτρικού αμμωνίου και χλωριούχου νατρίου, ή μίγματος άλκαλι ή νιτρικών υλών αλκαλικών γαιών και χλωριούχου αμμωνίου, ή μίγματος νιτρικού αμμωνίου με άλκαλι ή νιτρικών υλών αλκαλικών γαιών και χλωριούχου αμμωνίου. Μπορούν, επιπροσθέτως, να περιέχουν καύσιμες ύλες (όπως ξυλάλευρον, ή άλλα φυτικά άλευρα ή υδρογονάνθρακες), ευαισθητοποιητικές ύλες (π.χ. λεπτή κόνις αλουμινίου), αρωματικές αζωτούχους-συνθέσεις, νιτρογλυκερίνην ή νιτρογλυκόλην ή μίγμα των δύο, και αδρανείς σταθεροποιητικές ή χρωστικές ύλες (βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3I05). 2I0I (Συνεχίζεται)

(β) Εκρηκτικές ύλες μη περιέχουσες ανόργανα νιτρικά άλατα, υπό μορφήν πυρίτιδος, αποτελούμενες βασικώς εκ μίγματος αδρανών υλών (ως χλωριούχα άλκαλι) με νιτρογλυκερίνην ή νιτρογλυκόλην ή μίγμα των δύο. Μπορούν να περιέχουν, επιπροσθέτως, αρωματικές αζωτούχους-συνθέσεις και ύλες με αποτέλεσμα αδρανοποιητικόν, σταθεροποιητικόν ή ζελατινώδες ή χρωστικόν. Βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3I05.

I3° Χλωρικές και υπερχλωρικές εκρηκτικές ύλες, τ.έ. μίγματα χλωριούχων ή υπερχλωριούχων άλκαλι ή μετάλλων αλκαλικών-γαιών με συνθέσεις πλούσιες εις άνθρακα. Βλέπε

επίσης Προσθήκην Α.Ι, περιθώριο 3Ι06. 2Ι0Ι

Ι4° (α) Δυναμίτες με αδρανές απορροφητικόν, και εκρηκτικές ύλες όμοιες με δυναμίτη με αδρανές απορροφητικόν· (Συνεχίζεται)

(β) BLASTING GELATINE (εγκαιροφλεγής ζελατίνη) αποτελούμενη από βαμβακοπυρίτιδα και όχι άνω του 93 τοις εκατόν νιτρογλυκερίνην, και GELATINIZED DYNAMITES (ζελατινώδεις δυναμίτες) με περιεχόμενον νιτρογλυκερίνης μη υπερβαίνον το 85 τοις εκατόν·

(γ) ζελατινώδεις νιτρικές εκρηκτικές ύλες, αποτελούμενες βασικώς εκ νιτρικού αμμωνίου, ή εκ μίγματος νιτρικού αμμωνίου με νιτρικές ύλες άλκαλι ή μέταλλα αλκαλικών γαιών περιέχοντα όχι άνω του 40 τοις εκατόν ζελατινώδους νιτρογλυκερίνης ή ζελατινώδους νιτρογλυκερίνης ή μίγματος των δύο. Μπορούν να περιέχουν, επιπροσθέτως, αζωτούχους συνθέσεις ή καυσίμους ύλες (ως ξυλάλευρον ή έτερον φυτικόν άλευρον ή υδρογονάνθρακας) και, επιπροσθέτως άλλες άλλες αδρανείς ή χρωστικές ύλες.

Για τα (α), (β) και (γ), βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3Ι07.

Ι5° Κενά είδη συσκευασίας, καθαρίστα, που περιείχαν επικίνδυνες ύλες της Κλάσεως Ια.

2.- Διατάξεις

Α.- Κόλα

Ι.- Γενικοί όροι συσκευασίας

(Ι) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα

και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου. Η χρήση μεταλλικών λωρίδων ή συρμάτων προς εξασφάλισιν του κλεισίματος απαγορεύεται εκτός εάν ο τρόπος αυτός ειδικώς επιτρέπεται εκ των ειδικών διατάξεων των σχετικών με την συσκευασίαν των δύο άλλων υλών ή εμπορευμάτων (ειδών). 2102 (Συνεχίζεται)

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και το κλείσιμο αυτών κατασκευάζονται δεν θα πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενον ή να σχηματίζουν επιβλαβείς ή επικινδύνους συνθέσεις.

(3) Τα είδη συσκευασίας, περιλαμβανομένων των κλεισιμάτων αυτών, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα τμήματά τους προς αποφυγήν οποιασδήποτε χαλαρώσεως διαρκούσης της μεταφοράς και για να πληρούν τους κανονικούς όρους μεταφοράς. Στερεές ύλες θα ασφαλίζονται σταθερά στις συσκευασίες τους, και εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στη παράγραφο που τιτλοφορείται "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", τα εσωτερικά είδη συσκευασίας μπορούν να εγκλείονται στα εξωτερικά, είτε ένα-ένα είτε σε ομάδες.

(4) Φιάλες και άλλα γυάλινα δοχεία (σκεύη) πρέπει να είναι απηλλαγμένα από βλάβες που κινδυνεύουν να εξασθενίσουν την αντοχή τους· ειδικώτερα, πρέπει να έχουν καταλλήλως απαλλαγεί από εσωτερικές τάσεις (θραύσεως, κλπ.). Το πάχος των τοιχωμάτων δεν πρέπει να είναι μικρότερο των 2 ΜΜ (χιλ.).

(5) Αποσβεστικό (μαξιλάρια, κλπ.) υλικό θα πρέπει να ταιριάζει με τη φύση του περιεχομένου· ειδικώτερα, πρέπει να είναι απορροφητικό, εάν το περιεχόμενο είναι υγρόν ή μπορούσε να εξιδρώσει υγρό. 2102 (Συνεχίζεται)

2.- Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού είδους

(1) Οι ύλες της $1^{ο}$ και $2^{ο}$ θα συσκευάζονται:- 2103

(α) σε ξύλινα δοχεία ή βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα (ινοσανίδα)· αυτά τα δοχεία και βαρέλια θα είναι επιπροσθέτως εφοδιασμένα με αδιαπέραστη από τα υγρά που περιέχουν εσωτερική επένδυση· το κλείσιμό τους πρέπει να είναι στεγανό ή

(β) σε αδιαπέραστους σάκκους (π.χ. κατασκευασμένους από ελαστικό ή κατάλληλη πλαστική ύλη όχι ευχερώς εύφλεκτη) τοποθετημένους σε ξύλινα κιβώτια· ή

(γ) σε σιδηρά βαρέλια επενδεδυμένα εσωτερικώς με ψευδάργυρον ή μόλυβδον· ή

(δ) σε δοχεία κατασκευασμένα από πλάκες κασσιτέρου, φύλλα ψευδαργύρου ή φύλλα αλουμινίου, τα οποία θα ασφαλίζονται με αποσβεστικό (μαξιλάρια, κλπ.) υλικό σε ξύλινα κιβώτια.

(2) Μεταλλικά δοχεία θα είναι εφοδιασμένα με κλείσιμον ή μηχανισμούς ασφαλείας που θα υποχωρούν όταν η εσωτερική πίεση φθάσει σε τιμή όχι μεγαλύτερη των 3 KG/CM^2· η παρουσία αυτών των κλεισιμάτων ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχήν του δοχείου ούτε να εξασθενεί το κλείσιμο αυτού.

(3) Η νιτροκυτταρίνη της Ι°, εάν υγροποιηθεί αποκλειστικά με νερό, μπορεί να συσκευασθεί σε βαρέλια από ινώδη σανίδα· η ινώδης σανίδα πρέπει να έχει υποστεί ειδική επεξεργασία ώστε να καταστεί τελείως αδιαπέραστη· τα κλεισίματα των βαρελιών πρέπει να είναι υδατο-ατμοστεγανά. 2103 (Συνεχίζεται)

(4) Κόλον περιέχον ύλες της Ι° δεν πρέπει να ζυγίζει πάνω από 120 KG ή, εάν μπορεί να ρολλαρισθεί, πάνω από 300 KG. Εν τούτοις, όταν χρησιμοποιούνται βαρέλια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

Κόλον περιέχον ύλες της 2° δεν πρέπει να ζυγίζει πάνω από 75 KG.

(Ι) Ύλες της 3° (α) και 4° θα συσκευάζονται 2104
(α) εάν πρόκειται να μεταφερθούν σάν πλήρες φορτίο:-
(Ι) σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα· ή
(2) σε συσκευασίες κατασκευασμένες από ξύλο ή μέταλλο εκτός από μελανόν έλασμα σιδήρου·
(β) εάν δεν πρόκειται να μεταφερθούν σαν πλήρες φορτίο:-
Ι.- σε κυτία κατασκευασμένα από ινώδη σανίδα, πλάκες-κασσιτέρου, φύλλα ψευδαργύρου ή φύλλα αλουμινίου, ή από κατάλληλη πλαστική ύλα κατασκευασμένη έτσι ώστε να μην είναι ευχερώς εύφλεκτη, ή σε σάκκους κατασκευασμένους από ύφασμα με πυκνή ύφανση ή από γερό χαρτί τουλάχιστον δί-φυλλο ή από γερό χαρτί ντυμένο με λεπτό φύλλο

αλουμινίου ή με κατάλληλη πλαστική ύλη. Οι συ- 2104
σκευασίες αυτές θα τοποθετούνται σε ξύλινα (Συνεχίζεται)
κιβώτια· ή

2.- χωρίς προπαταρκτική συσκευασία σε κιβώτια (κυτία)/ή σάκκους:-

α.- σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα ή σε ξύλινα βυτία (CASKS)· ή

β.- σε ξύλινες συσκευασίες επενδεδυμένες με φύλλα ψευδαργύρου ή φύλλα αλουμινίου· ή

γ.- σε δοχεία κατασκευασμένα από μέταλλο εκτός από μελανό έλασμα-σιδήρου.

(2) Εάν η πυρίτιδα είναι σε σωλήνες, ράβδους, νήματα, λωρίδες ή φύλλα, μπορεί επίσης να εγκλεισθεί, χωρίς προπαταρκτική συσκευασία σε κυτία ή σάκκους, μέσα σε ξύλινα κιβώτια.

(3) Μεταλλικά δοχεία θα είναι εφοδιασμένα με μηχανισμούς ασφαλείας ή κλεισίματα που θα υποχωρούν όταν η εσωτερική πίεσις φθάσει τιμήν όχι μεγαλύτερη των 3 KG/CM^2· η παρουσία των μηχανισμών αυτών και κλεισιμάτων δεν πρέπει να εξασθενεί την αντοχήν του δοχείου ούτε να εξασθενεί το κλείσιμό του.

(4) Το κλείσιμο των ξυλίνων κιβωτίων μπορεί να εξασφαλίζεται με λωρίδες (τσέρκια) ή σύρματα κατασκευασμένα από κατάλληλο μέταλλο στερεωμένο σφικτά γύρω από αυτά. Εάν οι λωρίδες ή τα σύρματα είναι κατασκευασμένα από σίδερο θα καλύπτονται με υλικό που δεν θα κινδυνεύει να παράγει σπινθήρες όταν υποστεί κρούση ή τριβή.

(5) Το κόλον δεν πρέπει να ζυγίζει πάνω από 2104
I20 KG. Όμως, όταν χρησιμοποιούνται βαρέλια (Συνεχίζεται)
από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

(I) Ύλες της 3°(β) και 5° θα συσκευάζονται:- 2105

(α) εάν πρόκειται να μεταφερθούν σαν πλήρες φορτίο:-

I.- σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα· ή

2.- σε συσκευασίες κατασκευασμένες από ξύλο ή μέταλλο εκτός από μελανό έλασμα-σιδήρου·

(β) εάν δεν πρόκειται να μεταφερθούν σάν πλήρες φορτίο:-

I.- σε κυτία κατασκευασμένα από ινώδη σανίδα, πλάκες-κασσιτέρου ή φύλλα αλουμινίου. Το κυτίο δεν πρέπει να περιέχει πάνω από I KG πυρίτιδα και πρέπει να είναι τυλιγμένο με χαρτί. Οι συσκευασίες αυτές θα τοποθετούνται σε ξύλινες συσκευασίες·

ή

2.- σε σάκκους κατασκευασμένους από ύφασμα με πυκνή ύφανση ή από γερό χαρτί τουλάχιστο δί-φυλλο ή από γερό χαρτί επενδεδυμένο με λεπτό φύλλο αλουμινίου ή με κατάλληλη πλαστική ύλη. Οι σάκκοι αυτοί θα τοποθετούνται σε βαρέλια από ινώδη σανίδα ή σε ξύλινους κάδους (βυτία) ή σε ξύλινες συσκευασίες επενδεδυμένες με φύλλα ψευδαργύρου ή φύλλα αλουμινίου, ή σε δοχεία κατασκευασμένα από φύλλα ψευδαργύρου ή φύλλα αλουμινίου. Δοχεία κατα-

σκευασμένα από φύλλα ψευδαργύρου ή φύλλα αλουμι- 2105
νίου θα είναι τελείως επενδεδυμένα με ξύλο ή (Συνεχίζε
ται)
ινώδη σανίδα.

(2) Μεταλλικά δοχεία θα είναι εφοδιασμένα με κλεισίματα ή μηχανισμούς ασφαλείας οι οποίοι θα υποχωρούν όταν η εσωτερική πίεση φθάσει τιμήν όχι μεγαλύτεραν των 3 KG/CM^2. η παρουσία των κλεισιμάτων αυτών ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχήν του δοχείου ούτε να εξασθενεί το κλείσιμον αυτών.

(3) Το κλείσιμο των ξυλίνων κιβωτίων μπορεί να εξασφαλισθεί με λωρίδες ή σύρματα κατασκευασμένα από κατάλληλο μέταλλο στερεωμένα σφικτά γύρω-απ'αυτά. Εάν οι λωρίδες ή τα σύρματα είναι κατασκευασμένα από σίδερο θα καλύπτονται από υλικό που δεν κινδυνεύει να παράγει σπινθήρες όταν υποβληθεί σε κρούση ή τριβή.

(4) Κόλον της (I) (α) δεν πρέπει να ζυγίζει πάνω από 100 KG· όμως, όταν χρησιμοποιούνται βαρέλια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλον της (I) (β) δεν πρέπει να ζυγίζει πάνω από 75 KG. Δεν πρέπει να περιέχει πάνω από 30 KG πυρίτιδας νιτροκυτταρίνης.

(I) Ύλες της 6^o θα συσκευάζονται σε ξύλινα δο- 2106
χεία. Βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα θα γίνονται επίσης δεκτά για στερεά τρινιτροτολουόλη και για τρινιτροανιζόλη, και σιδερά δοχεία γιά μίγματα με την ονομασία υγρά τρινιτροτολουόλη.

(2) Τα μεταλλικά δοχεία θα είναι εφοδιασμένα με

κλεισίματα ή μηχανισμούς ασφαλείας που υποχωρούν όταν η εσωτερική πίεση φθάσει τιμήν όχι μεγαλύτερα των 3 KG/CM^2. η ύπαρξη των κλεισιμάτων αυτών ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχήν του δοχείου ούτε να εξασθενεί το κλείσιμό του. 2I06 (Συνεχίζεται)

(3) Κόλον δεν πρέπει να ζυγίζει πάνω από I20 KG ή, εάν μπορεί να ρολλαρισθεί, πάνω από 300 KG· ομως ., όπου χρησιμοποιούνται βαρέλια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

(I) Ύλες της 7° θα συσκευάζονται: 2I07

(α) ύλες της 7°(α): σε ξύλινα δοχεία ή σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα. Μόλυβδος και υλικά περιέχοντα μόλυβδον (κράματα ή συνθέσεις) δεν πρέπει να χρησιμοποιούνται στη συσκευασία HEXYL (Εξυλενίου) (Εξανιτροδιφαινυλαμίνης) και πικρικού οξέος.

Το πικρικό οξύ μπορεί επίσης να συσκευασθεί όχι πάνω από 500 γραμμάρια ανά δοχείο, σε δοχεία κατασκευασμένα από γυαλί, πορσελάνη, κεραμεική ύλη (πηλός) ή παρόμοια υλικά ή από κατάλληλη πλαστική ύλη, ασφαλισμένα σε ξύλινο κιβώτιο με αποσβεστικό υλικό (π.χ. κυματοειδής ινώδης σανίδα). Τα δοχεία θα κλείνονται με βούλωμα, από φελλό ή ελαστικό ή από κατάλληλη πλαστική ύλη, που θα κρατείται στη θέση του με πρόσθετο μηχανισμό (όπως πώμα, καπάκι, κορώνα, σφραγίδα ή δέσιμο) ικανόν να εμποδίσει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς·

(β) ύλες της 7°(β) και (γ): όχι πάνω από 30 KG ανά σάκκον, σε υφασματένιους σάκκους που δεν επιτρέπουν στο περιεχόμενο να διηθηθεί, ή σε σακκούλες κατασκευασμένες από γερό χαρτί ή κατάλληλη πλαστική ύλη, που θα τοποθετούνται σε ξύλινα στεγανά δοχεία ή βαρέλια κατασκευασμένα από σκληρή (κατόπιν βαφής) ινώδη σανίδα ικανά να κλείνουν έτσι ώστε να είναι στεγανά και των οποίων οι πυθμένες και τα καλύμματα θα είναι κατασκευασμένα από κόντρα πλακέ. Τα καλύμματα των κιβωτίων θα ασφαλίζονται με βίδες και των βαρελιών με κολλάρο. 2107 (Συνεχίζεται)

(2) Κόλον περιέχον ύλες της 7°(α) δεν πρέπει να ζυγίζει πάνω από 120 KG εάν είναι ξύλινο δοχείο· οσάκις χρησιμοποιούνται βαρέλια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα περιέχοντα πικρικόν οξύ συσκευασμένο σε εύθραυστα δοχεία ή σε δοχεία κατασκευασμένα από πλαστική ύλη δεν πρέπει να ζυγίζουν πάνω από 15 KG. Κόλον περιέχον ύλες της 7°(β) ή (γ) δεν πρέπει να ζυγίζει πάνω από 75 KG· κιβώτια των οποίων το περιεχόμενο ζυγίζει πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές.

(Ι) Ύλες και είδη της 8° θα συσκευάζονται:- 2108

(α) ύλες της 8°(α): σε δοχεία κατασκευασμένα από χάλυβα μη υποκείμενον σε σκουριά, ή από οποιοδήποτε άλλο κατάλληλο υλικό (το οποίο ειδικώτερα εξιδρώνει μόλυβδον και τα κράματα αυτού). Νιτρικές-συνθέσεις θα έχουν ομοιόμορφα υγροποιηθεί (μουσκεφθεί) με αρκετό νερό για να εξασφαλίζεται ότι περιέχουν όχι λιγότερο του

25 στα εκατό νερό καθ'όλο το ταξίδι, σε κάθε σημείο της ύλης. Τα μεταλλικά δοχεία θα είναι εφοδιασμένα με κλεισίματα ή μηχανισμούς ασφαλείας που υποχωρούν όταν η εσωτερική πίεση φθάσει τιμήν όχι μεγαλύτερη των 3 KG/CM^2. η ύπαρξη των κλεισιμάτων αυτών ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχή του δοχείου ούτε να εξασθενεί το κλείσιμό του. Δοχεία, εκτός εκείνων που είναι κατασκευασμένα από χάλυβα μη υποκείμενον σε σκουριά, θα εξασφαλίζονται (στερεώνονται) με αποσβεστικό (μαξιλάρια, κλπ.) υλικό σε ξύλινες συσκευασίες. 2108 (Συνεχίζεται)

(β) ύλες της 8°(β):- όχι πάνω από 15 KG ανά σάκκον, σε σάκκους κατασκευασμένους από ύφασμα ή κατάλληλο πλαστικό υλικό, τοποθετημένους σε ξύλινες συσκευασίες.

(γ) ύλες της 8°(α) και (β) μπορούν επίσης να συσκευάζονται, όχι πάνω από 500 γραμμάρια ανά δοχείο, σε δοχεία κατασκευασμένα από γυαλί, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλο πλαστική ύλη, σφραγισμένα με αποσβεστικό υλικό (π.χ. κυματοειδή ινώδη σανίδα) σε ξύλινο κιβώτιο. Το κόλον δεν πρέπει να περιέχει πάνω από 5 KG αζωτούχων συνθέσεων. Τα δοχεία θα κλείουν με αναστολέα (STOPPER), κατασκευασμένον από φελλό ή ελαστικό ή από κατάλληλη πλαστική ύλη, και θα κρατείται στη θέση του με πρόσθετο μηχανισμό (όπως καπάκι, κορώνα, σφραγίδα ή δέσιμο) ικανόν να εμποδίζει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς.

(δ) είδη (εμπορεύματα) της 8°(γ): χωριστά σε χονδρό χαρτί και τοποθετημένα, όχι πάνω από 100 ανά κυτίο, σε κυτία από μεταλλικά ελάσματα. Όχι περισσότερα των 100 τοιούτων κυτίων θα συσκευάζονται σε κιβώτιο ξύλινης συσκευασίας· 2108 (Συνεχίζεται)

(2) Κόλον των παραγράφων (Ι) (α) ή (β) δεν πρέπει να ζυγίζει πάνω από 75 KG· δεν πρέπει να περιέχει πάνω από 25 KG ύλες της 8°(α) ή πάνω από 50 KG ύλες της 8°(β). Κόλον της παραγράφου (Ι) (γ) δεν πρέπει να ζυγίζει πάνω από 15 KG, ή κόλον της παραγράφου Ι(δ) πάνω από 40 KG.

(Ι) Ύλες και είδη της 9° θα συσκευάζονται: 2109

(α) ύλες της 9°(α) έως (γ):-

1.- όχι πάνω από 10 KG ανά σάκκον, σε σάκκους από ύφασμα ή από καταλληλη πλαστική ύλη, τοποθετημένους σε κυτίο από αδιαπέραστη ινώδη σανίδα ή σε κυτίο κατασκευασμένο από πλάκες-κασσιτέρου ή φύλλα αλουμινίου ή φύλλα ψευδαργύρου· ή

2.- όχι πάνω από 10 KG ανά δοχείο, σε δοχεία κατασκευασμένα από ινώδη σανίδα καταλλήλου αντοχής, εμποτισμένη με κηρόν παραφίνης ή καταστάσα αδιαπέραστη με άλλα μέσα.

Κυτία κατασκευασμένα από πλάκες-κασσιτέρου ή φύλλα αλουμινίου ή φύλλα ψευδαργύρου και κυτία ή δοχεία από άλλα είδη θα τοποθετούνται σε ξύλινο κιβώτιο επενδεδυμένο με κυματοειδή ινώδη-σανίδα· μεταλλικά κυτία ούτω τοποθετημένα θα χωρίζονται το ένα από το άλλο με περιτύλιγμα από κυματοειδή ινώδη-σανίδα. Το κιβώτιο δεν πρέπει να περιέχει

πάνω από τέσσερα κυτία ή δοχεία άλλων ειδών. Τα καλύμματα των κιβωτίων θα στερεώνονται με βίδες. 2109 (Συνεχίζεται)

(β) πενθρίτης (9°(α)) μπορεί επίσης να συσκευάζεται είτε:-

(1) όχι πάνω από 5 KG ανά δοχείο, σε δοχεία κατασκευασμένα από γυαλί, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, κλεισμένα με αναστολέα (βούλωμα) από φελλό ή ελαστικό ή από κατάλληλη πλαστική ύλη· κάθε δοχείο θα τοποθετείται σε μεταλλικό δοχείο ερμητικώς κλεισμένο δια συγκολλήσεως ή μαλακής συγκολλήσεως και θα συγκρατείται από κτύπημα με υλικά που έχουν ελαστικότητα σε τρόπο ώστε να σφηνώνουν στερεά το εσωτερικό δοχείο χωρίς να αφήνουν άδειο χώρο. Όχι περισσότερα από 4 μεταλλικά δοχεία θα συσκευάζονται σε ξύλινο κιβώτιο επενδεδυμένο με κυματοειδή ινώδη-σανίδα και θα χωρίζονται το ένα από το άλλο με διάφορα πάχη κυματοειδούς ινώδους σανίδας ή άλλο υλικό ικανό να εκτελέσει την ίδια λειτουργία· ή

(2) όχι πάνω από 500 γραμμάρια ξηρού βάρους ανά δοχείο, σε δοχεία κατασκευασμένα από γυαλί, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, κλεισμένα με αναστολέα (βούλωμα) από φελλό ή ελαστικό ή από κατάλληλη πλαστική ύλη. Τα δοχεία αυτά θα τοποθετούνται σε ξύλινο κιβώτιο. Θα χωρίζονται το ένα από το άλλο με περιτύλιγμα κυματοειδούς ινώδους σανίδας και από τα πλευρά του κιβωτίου σε απόσταση όχι μικρότερη των 3 CM που θα γεμίζεται (ο κενός χώρος) με αποσβεστικό υλικό·

(γ) Το ΗΕΛΟGΕΝ (εξογόνον) (9°(α)) μπορεί επίσης να συσκευάζεται όπως προβλέπεται στην (β)Ι, ανωτέρω, για τον πενθρίτη· 2109. (Συνεχίζεται)

(δ) είδη της 9°(δ): πρώτα χωριστά σε γερό χαρτί και θα τοποθετούνται, όχι άνω των 3 KG ανά νιβώτιο, σε νιβώτια από ινώδη σανίδα στα οποία θα στηρίζονται στη θέση τους με αποσβεστικό υλικό· τα νιβώτια αυτά, όχι άνω των Ι0 ανά ξύλινο νιβώτιο, θα στερεώνονται με αποσβεστικό υλικό σε ξύλινο νιβώτιο πλεισμένο με βίδες σε τρόπο ώστε χώρος όχι μικρότερος των 3 CM να γεμίζεται με αποσβεστικό υλικό σ'όλα τα σημεία μεταξύ των, εκ σανίδος ινώδους, νιβωτίων και του νιβωτίου συσκευασίας.

(2) Κόλον των (Ι) (α) ή (Ι) (β) Ι. δεν πρέπει να ζυγίζει πάνω από 75 KG· κόλον της Ι(γ) δεν πρέπει να ζυγίζει πάνω από Ι0 KG. Κόλον της (Ι) (β) 2, ή (Ι) (δ) δεν πρέπει να ζυγίζει πάνω από 25 KG. Κόλα τα οποία, με το περιεχόμενό τους, ζυγίζουν πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές.

(Ι) Ύλες της Ι0° θα συσκευάζονται, όχι άνω των 500 γραμμαρίων ανά σάκκον, σε στερεά δεμένους σάκκους από κατάλληλο εύκαμπτο υλικό· κάθε σάκκος θα τοποθετείται σε κυτίο από μέταλλο, ινώδη-σανίδα ή χαρτόνι (χαρτοσανίδα)· αυτά τα κυτία, όχι περισσότερα από 30 ανά νιβώτιο συσκευασίας, θα στερεώνονται με αποσβεστικό υλικό σε ξύλινο νιβώτιο συσκευασίας με πλήρεις πλευρές πάχους όχι μικροτέρου των Ι2 MM (χιλιοστών).

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 25 KG.

(I) Ύλες και είδη της II° θα συσκευάζονται: 2III

(α) ύλες της II°(α) και (β):

(I) όχι άνω των 2.5 KG ανά σάκκον, σε σάκκους τοποθετημένους σε κυτία κατασκευασμένα από ινώδη σανίδα, πλάκες κασσιτέρου ή από αλουμίνιο. Τα κυτία θα στερεώνονται με αποσβεστικό υλικό σε ξύλινα είδη συσκευασίας· ή

(2) σε σάκκους κατασκευασμένους από ύφασμα με πυκνή ύφανση, τοποθετημένους σε ξύλινα κιβώτια·

(β) είδη της II°(γ): ρολλαρισμένα με γερό χαρτί· κάθε ρόλλος δεν πρέπει να ζυγίζει πάνω από 300 γραμμάρια. Οι ρόλλοι θα τοποθετούνται σε ξύλινο κιβώτιο επενδεδυμένο με γερό χαρτί.

(2) Τα καλύμματα των ξυλίνων κιβωτίων θα στερεώνονται με βίδες· εάν οι βίδες είναι κατασκευασμένες από σίδερο θα επιχρίονται με υλικό που δεν θα παράγει σπινθήρες όταν υποστεί κρούση ή τριβή.

(3) Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG εάν μεταφέρεται ως τμήμα πλήρους φορτίου, και όχι περισσότερο από 35 KG εάν δεν μεταφέρεται ως τμήμα πλήρους φορτίου.

(I) Ύλες της I2° θα φυσιγγιοποιούνται μέσα σε περιτυλίγματα κατασκευασμένα από κατάλληλη πλαστική ύλη ή χαρτί. Τα φυσίγγια θα βυθίζονται σε κηρό παραφίνης, κηροζίνη ή ρητίνη, ή θα τυλίγονται σε κατάλληλη πλαστική ύλη, ώστε να προστατεύονται από την υγρασία. Εκρηκτικά

περιέχοντα πάνω από 6 έτσι εκατόν υγρούς νιτρικούς εστέρας θα φυσιγγιοποιούνται με χαρτί επενδεδυμένο με κηρόν παραφίνης ή κηροζίνη ή με αδιαπέραστη πλαστική ύλη όπως το πολυαιθυλένιο. Τα φυσίγγια θα τοποθετούνται σε ξύλινα είδη συσκευασίας. 2112 (Συνεχίζεται)

(2) Φυσίγγια μη επενδεδυμένα με κηρόν παραφίνης ή κηροζίνην, ή φυσίγγια σε αδιαπέραστα περιτυλίγματα, θα γίνονται πακέτα που ζυγίζουν όχι άνω των 2.5 KG το καθένα. Έτσι κατασκευασμένα πακέτα, τα περιτυλίγματα των οποίων πρέπει να αποτελούνται τουλάχιστο από γερό χαρτί, θα βυθίζονται σε κηρό παραφίνης, κηροζίνη ή ρητίνη ή θα περιτυλίγονται με κατάλληλη πλαστική ύλη ώστε να προστατεύονται από την υγρασία. Τα πακέτα θα τοποθετούνται σε ξύλινα είδη συσκευασίας.

(3) Τα κλεισίματα των ξυλίνων ειδών συσκευασίας μπορούν να ασφαλίζονται με μεταλλικές λωρίδες ή σύρματα δεμένα σφικτά γύρω τους.

(4) Το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Δεν πρέπει να περιέχει πάνω από 50 KG εκρηκτικών.

(5) Αντί των ξυλίνων συσκευασιών των προβλεπομένων στις παραγράφους (I) και (2), επιτρέπεται επίσης να χρησιμοποιούνται κατάλληλα κιβώτια, κατασκευασμένα από στερεά ινώδη σανίδα ή κυματοειδή ινώδη σανίδα, που είναι επαρκούς μηχανικής αντοχής και των οποίων τα πτερύγια (κλαπέτα) των καλυμμάτων και πυθμένων θα πρέπει να κλείνονται με κολλητικές ταινίες επαρκούς αντοχής. Το σχέδιο των κιβωτίων των κατασκευαζομένων από στερεά ινώδη σανίδα ή κυ-

ματοειδή ινώδη σανίδα πρέπει να εγκριθεί από την αρμό- 2ΙΙ2
δια αρχή της χώρας της αναχωρήσεως. Ένα τέτοιο κό- (Συνεχίζε-
λον δεν πρέπει να ζυγίζει πάνω από 30 KG· δεν πρέπει ται)
να περιέχει πάνω από 25 KG εκρηκτικά.

(Ι) Οι ύλες της Ι3° θα φυσιγγιοποιούνται με χάρτινα περιτυλίγματα. Φυσίγγια μη επιχρισμένα με κηρόν παραφίνης ή κηροζίνην πρέπει αρχικά να γίνουν ρόλλοι με χαρτί το οποίον έχει καταστεί αδιαπέραστο. Θα κατασκευάζονται από χάρτινο περιτύλιγμα σε πακέτα ζυγίζοντα όχι άνω των 2.5 KG το καθένα, και θα στερεώνονται με αποσβεστικό υλικό σε ξύλινα είδη συσκευασίας των οποίων το κλείσιμο μπορεί να εξασφαλίζεται δια μεταλλικών ταινιών ή συρμάτων στερεωμένων σφικτά πέριξ αυτών.

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 35 KG.

(Ι) Ύλες της Ι4° θα συσκευάζονται: 2ΙΙ4

(α) ύλες της Ι4°(α): φυσιγγιοποιημένες σε περιτυλίγματα κατασκευασμένα από χαρτί το οποίο έχει καταστεί αδιαπέραστο. Τα φυσίγγια θα πακετάρονται με χάρτινο περιτύλιγμα ή, εάν χωρίς χάρτινο περιτύλιγμα, θα στερεώνονται με αδρανές αποσβεστικό υλικό σε ξύλινα είδη συσκευασίας των οποίων το κλείσιμο μπορεί να εξασφαλίζεται δια μεταλλικών ταινιών ή συρμάτων δεμένων (στερεωμένων) σφικτά γύρω τους.

(β) ύλες της Ι4°(β): φυσιγγιοποιημένες σε περιτυλίγματα κατασκευασμένα από χαρτί το οποίο έχει καταστεί αδιαπέραστο. Τα φυσίγγια θα τοποθετούνται σε κυτίο

από ινώδη σανίδα. Τα κυτία από ινώδη σανίδα, περι- 2II4
τυλιγμένα με χαρτί το οποίο έχει καταστεί αδιαπέ- (Συνεχίζε-
ραστο, θα στερεώνονται, "χωρίς να αφήνουν κενά δια- ται)
στήματα, σε ξύλινα είδη συσκευασίας των οποίων το
κλείσιμο μπορεί να εξασφαλιστεί με μεταλλικές ται-
νίες ή σύρματα δεμένα (στερεωμένα) σφιχτά γύρω τους.

(γ) Ύλες της 14° (γ):-

I.- φυσιγγιοποιημένες σε περιτυλίγματα κατασκευασμέ-
να από κατάλληλη πλαστική ύλη ή χαρτί. Τα φυσίγγια
μπορούν να εμβυθίζονται σε κηρό παραφίνης, κηρο-
ζίνην ή ρητίνην ή να περιτυλίγονται με κατάλ-
ληλη πλαστική ύλη, ώστε να προφυλάσσονται από
την υγρασία. Εκρηκτικά περιέχοντα άνω του 6ετ
εκατόν υγρούς νιτρικούς εστέρες θα φυσιγγιοποιούν-
ται με χαρτί επιχρισμένο με κηρόν παραφίνης ή κη-
ροζίνην ή με αδιαπέραστη πλαστική ύλη όπως το πο-
λυαιθυλένιον. Τα φυσίγγια θα τοποθετούνται σε ξύ-
λινα είδη συσκευασίας·

2.- φυσίγγια μη επιχρισμένα με κηρο παραφίνης ή κη-
ροζίνη, ή φυσίγγια σε αδιαπέραστα περιτυλίγματα,
θα παρασκευάζονται σε πακέτα ζυγίζοντα όχι πάνω
από 2.5 KG το καθένα. Τα πακέτα αυτά, των οποίων
το περιτύλιγμα πρέπει να είναι τουλάχιστον από
γερό χαρτί, θα εμβυθίζονται σε κηρό παραφίνης,
κηροζίνη ή ρητίνη ή θα περιτυλίγονται με κατάλ-
ληλη πλαστική ύλη, ώστε να προστατεύονται από την

υγρασία. Τα πακέτα θα τοποθετούνται σε ξύλινα 2II4
είδη συσκευασίας. (Συνεχίζεται)

3.- το κλείσιμο των ξυλίνων συσκευασιών μπορεί να εξασφαλίζεται δια μεταλλικών ταινιών ή συρμάτων δεμένων σφικτά γύρω τους.

4.- αντί των ξυλίνων συσκευασιών των περιγραφομένων στις ανωτέρω παραγράφους I και 2, επιτρέπεται επίσης η χρησιμοποίηση καταλλήλων κιβωτίων, κατασκευασμένων από στερεά ινώδη σανίδα ή κυματοειδή ινώδη σανίδα που είναι επαρκούς μηχανικής αντοχής και των οποίων τα πτερύγια (κλαπέτα) των καλλυμμάτων και πυθμένων θα πρέπει να κλείνονται με κολλητικές ταινίες επαρκούς αντοχής. Το σχέδιο των κιβωτίων των κατασκευασμένων από στερεά ινώδη σανίδα ή κυματοειδή ινώδη σανίδα πρέπει να εγκρίνεται από την αρμόδια αρχή της χώρας της αναχωρήσεως.

(2) Κόλον περιέχον ύλες της I4°(α) ή (β) δεν πρέπει να ζυγίζει πάνω από 35 KG. Κόλον περιέχον ύλες της I4° (γ) δεν πρέπει να ζυγίζει πάνω από 75 KG· δεν πρέπει να περιέχει εκρηκτικά πάνω από 50 KG. Στη περίπτωση συσκευασίας της παραγράφου I (γ) 4, το κόλον δεν πρέπει να ζυγίζει πάνω από 30 KG ούτε να περιέχει εκρηκτικά πάνω από 25 KG.

3.- Μικτή συσκευασία

Ύλες αναγραφόμενες κάτω από αριθμόν είδους του 2II5
περιθωρίου 2I0I δεν πρέπει να συμπεριλαμβάνονται στο αυτό κόλον είτε με ύλες ομαδοποιημένες κάτω από τον αυτόν ή

άλλον αριθμόν είδους του περιθωρίου αυτού, είτε με ύλες ή εμπορεύματα άλλων Κλάσεων, είτε με άλλα εμπορεύματα. 2II5 (Συνεχίζεται)

Σημείωσις:- Κόλα αναφερόμενα στο περιθώριο 2I08(I)(γ) μπορούν να περιέχουν οργανικάς αζωτούχους συνθέσεις εχούσας διαφορετικάς συνθέσεις και ονομασίας.

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου επί των κόλων (βλέπε Προσθήκην Α.9)

Κόλα περιέχοντα πικρικόν οξύ (7^{o}(α)) θα μαρκάρονται με την ονομασία της ύλης με σαφείς, ευαναγνώστους και ανεξίτηλους ερυθρούς χαρακτήρες. Το μαρκάρισμα αυτό θα είναι στην επίσημη γλώσσα της χώρας της αναχωρήσεως και επίσης, εάν η γλώσσα αυτή δεν είναι η Αγγλική, ή η Γαλλική, ή η Γερμανική, στην Αγγλική, Γαλλική ή Γερμανική, εκτός εάν, τυχόν, δασμολόγια διεθνούς οδικής μεταφοράς, ή συμφωνίες συναφθείσες μεταξύ των ενδιαφερομένων για την επιχείρηση της μεταφοράς κρατών, προβλέπουν άλλως. 2II6

(I) Κόλα περιέχοντα ύλες και είδη της Κλάσεως Ια θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No.I. 2II7

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορατά από έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα οφείλουν επιπροσθέτως, εκτός προκειμένου περί σφραγισμένων αμπουλών, να φέρουν ετικέτες συμφώνους προς το μοντέλο No.8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά ισοδύναμον τρόπον όσάκις χρησιμοποιούνται άλλα είδη συσκευασίας.

Β.- Λεπτομέρειες του εγγράφου της μεταφοράς

(Ι) Η περιγραφή των εμπορευμάτων στο έγγραφο μετα- 2ΙΙ9
φοράς πρέπει να είναι σύμφωνη προς μίαν των ονομασιών των υπογραμμισμένων στο περιθώριο 2ΙΟΙ. Όταν η ονομασία της ύλης δεν καθορίζεται στη περίπτωση της 8°(ε) και (β), θα πρέπει να χρησιμοποιείται η εμπορική ονομασία. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από λεπτομέρειες της Κλάσεως, του αριθμού του είδους (ομού με, το τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. Ια 3° (α) ADR)).

(2) Τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο της μεταφοράς: "Η φύσις των εμπορευμάτων, και το είδος της συσκευασίας, είναι σύμφωνα με τις διατάξεις της ADR".

(3) Για αποστολές οι οποίες, υπό περιθώριο ΙΙ 400 του Παραρτήματος Β, πρόκειται να γίνουν δεκτές για μεταφορά ως πλήρες φορτίο και μόνον, το έγγραφο της μεταφοράς θα εικονίζει επίσης το βάρος κάθε κόλου και τον αριθμόν και την φύσιν των ειδών συσκευασίας.

2Ι20 - 2Ι25

Γ.- Κενά είδη συσκευασίας

(Ι) Τα είδη συσκευασίας της Ι5° πρέπει να είναι 2Ι26
ασφαλώς κλεισμένα και στεγανά στον ίδιο βαθμό σαν να ήσαν γεμάτα.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι: "Κενόν κόλον, Ια, Ι5°, ADR (ή) RID". Η περιγραφή πρέπει να υπογραμμίζεται με κόκκινο.

2Ι27- 2Ι29

ΚΛΑΣΗ Ιβ.- ΕΙΔΗ ΓΕΜΙΣΜΕΝΑ ΜΕ ΕΚΡΗΚΤΙΚΕΣ ΥΛΕΣ

I.- Κατάλογος ειδών

(I) Μεταξύ των ειδών που καλύπτονται από τον τίτλον της Κλάσεως Ιβ, μόνον τα αναγραφόμενα στο περιθώριο 2I3I θα γίνονται δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Τα είδη αυτά τα οποία γίνονται δεκτά υπό ωρισμένους όρους θα θεωρούνται ως είδη της ADR. 2I30

(2) Εάν τα είδη τα αναγραφόμενα εις 7°, I0° ή II° του περιθωρίου 2I3I συντίθενται από, ή είναι γεμισμένα με, εκρηκτικές ύλες που αναγράφονται στο περιθώριο 2I0I, οι ύλες αυτές πρέπει να πληρούν τους αφορώντας αυτούς όρους σταθερότητας και ασφαλείας τους αναγραφομένους στη Προσθήκη Α.Ι.

I° Πυροσωλήνες, μη εμπυρευμένοι:- 2I3I

(α) πυροσωλήνες ταχείας καύσεως (αναφλέξεως) (πυροσωλήνες αποτελούμενοι από χοντρό σωλήνα με πυρήνα (φυτίλλι) από μελανή πυρίτιδα, ή με φυτίλλι από νήματα εμποτισμένα με μελανή πυρίτιδα, ή με φυτίλλι από βαμβακό-νήματα εμπλουτισμένα με άζωτο)·

(β) εκρηκτικοί πυροσωλήνες υπό μορφήν μικράς τομής μεταλλικών σωλήνων με λεπτά τοιχώματα και με πυρήνα γεμισμένον με εκρηκτικήν ύλην· βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3I08·

(γ) εύκαμπτοι εκρηκτικοί πυροσωλήνες τυλιγμένοι σε ύφασμα ή πλαστική ύλη, μικράς τομής και με πυρήνα (φυτίλλι) γεμισμένον με εκρηκτικήν ύλην· βλέπε επί-

σης Προσθήκην Α.Ι, περιθώριο 3Ι09)·

(δ) εκρηκτικοί πυροσωλήνες ακαριαίας ενεργείας (μικράς-τομής υφασμένοι πυροσωλήνες με πυρήνα γεμισμένο με εκρηκτική ύλη πειό επικίνδωνη από τον πενθρίτη). 2Ι3Ι (Συνεχίζεται)

Για άλλους πυροσωλήνες, βλέπε Κλάσιν Ιγ, 3° (περιθώριο 2Ι7Ι).

Μη-εκρηκτικά εμπύρια (εμπύρια τα οποία δεν παράγουν διαρρηκτικόν αποτέλεσμα είτε με τη βοήθεια πυροκροτητών είτε με άλλα μέσα):

(α) κρουσιφλεγή καψύλλια·

(β) Ι.- εμπυρευμένοι θάλαμοι φυσιγγίων κεντρικής-κρούσεως μη γεμισμένοι με προωθητική πυρίτιδα, για πυροβόλα όπλα όλων των διαμετρημάτων·

2.- εμπυρευμένοι θάλαμοι φυσιγγίων RIM-FIRE, μη γεμισμένοι με προωθητική πυρίτιδα, για όπλα FLOBERT και ατομικά όπλα ομοίων διαμετρημάτων·

(γ) φυτίλλια, ελικοειδή-εμπύρια και λοιπά όμοια εμπύρια περιέχοντα μικρό γέμισμα (μελανή πυρίτιδα ή άλλες εκρηκτικές ύλες), που ενεργοποιούνται με τη τριβή, κρούση ή τον ηλεκτρισμόν·

(δ) πυροσωλήνες άνευ οιουδήποτε μηχανισμού, π.χ. πυροκροτητού, δημιουργούντες διαρρηκτικόν αποτέλεσμα και χωρίς μεταδοτικόν (τροφοδοτικόν) γέμισμα (TRANSMISSION CHARGE).

3° Σιδηροδρομικά σήματα ομίχλης

4° Φυσίγια φορητών (ατομικών) όπλων (με εξαίρεση τα πε-

ριέχοντα εκρηκτικό γέμισμα (βλέπε II°)):- 2I3I (Συνεχίζεται)

(α) φυσίγγια κυνηγίου·

(β) φυσίγγια FLOBERT·

(γ) τροχιοδεικτικά φυσίγγια·

(δ) εμπρηστικά φυσίγγια·

(ε) λοιπά φυσίγγια κεντρικής-κρούσεως.

Σημείωση:- Πλην των φυσιγγίων κυνηγίου με μολυβδένια σκάγια, μόνον τα φυσίγγια το διαμέτρημα των οποίων δεν υπερβαίνει τα I3.2 ΜΜ (χιλιοστά) θα θεωρούνται ως είδη της 4°.

5° Εκρηκτικοί πυροσωλήνες:-

(α) πυροκροτητές μετά ή άνευ μηχανισμού βραδείας ενεργείας· βραδείας ενεργείας συνδετικά τεμάχια για εκρηκτικούς πυροσωλήνες·

(β) ηλεκτρικοί πυροκροτητές εφοδιασμένοι με πυροσωλήνες μετά ή άνευ μηχανισμών βραδείας ενεργείας·

(γ) πυροκροτητές συνδεδεμένοι σταθερά με πυροσωλήνες μελανής πυρίτιδος·

(δ) πυροκροτητές με αναφλεκτικά εμπύρια (πυροκροτητές συνδυασμένοι με μεταδοτικόν (τροφοδοτικόν) γέμισμα αποτελούμενον από πεπιεσμένον εκρηκτικόν)· βλέπε επίσης Προσθήκην A.I, περιθώριο 3II0·

(ε) πυροσωλήνες με πυροκροτητές (FUSED DETONATORS) μετά ή άνευ μεταδοτικού (τροφοδοτικού) γεμίσματος·

(στ) πυροκροτητές με καψύλλιον κρούσεως ("BOUCHONS ALLUMEURS") μετά ή άνευ μηχανισμού βραδείας ενεργείας, μετά ή άνευ μηχανισμού πυροδοτήσεως, και άνευ μεταδοτικού (τροφοδοτικού) γεμίσματος.

6° Ηχοβολιστικά καψύλλια (πυροκροτητές, μετά ή άνευ εμπυρίων, περιεχόμενοι σε μεταλλικούς σωλήνες). 2I3I (Συνεχίζεται)

7° Είδη με προωθητικόν γέμισμα, πλην των αναγραφομένων στη παράγραφο 8°· είδη με εκρηκτικό γέμισμα· είδη με προωθητικό και εκρηκτικό γέμισμα, υπό τον όρον ότι περιέχουν μόνον εκρηκτικές ύλες της Κλάσεως Ια, άπαντα χωρίς μηχανισμόν παράγοντα διαρρηκτικόν αποτέλεσμα (π.χ. πυροκροτητή). Το γέμισμα των ειδών αυτών μπορεί να περιλαμβάνει τροχιοδεικτικήν ύλην (βλέπε επίσης 8° και II°).

Σημείωσις:- Μη-εκρηκτικά εμπύρια (2°) επιτρέπονται στα είδη αυτά.

8° Είδη γεμισμένα με τροχιοδεικτικές ύλες ή ύλες προοριζόμενες για σηματοδοσία, μετά ή άνευ προωθητικού γεμίσματος, μετά ή άνευ απορριπτικού γεμίσματος, και άνευ εκρηκτικού γεμίσματος, εις τα οποία η προωθητική ή τροχιοδεικτική ύλη συμπιέζεται κατά τέτοιο τρόπο ώστε τα είδη να δύνανται να εκραγούν όταν αναφλεγούν.

9° Καπνογόνοι μηχανισμοί περιέχοντες χλωρικά (άλατα) ή μεταφέροντες εκρηκτικό γέμισμα ή εκρηκτικό αναφλεκτικό γέμισμα.

Για καπνογόνες ύλες για αγροτικούς και δασικούς σκοπούς, βλέπε Κλάσιν Ιγ, περιθώριο 2I7I 27°.

I0° Διατρητικοί μηχανισμοί περιέχοντες γέμισμα από δυναμίτη ή από εκρηκτική ύλη όμοια με δυναμίτη, μετά πυροσωλήνων και άνευ οιουδήποτε μηχανισμού παράγοντος διαρρηκτικόν αποτέλεσμα (π.χ. πυροκροτητή), μηχανισμοί κοίλου-γεμί-

σματος για βιομηχανικούς σκοπούς, περιέχοντες όχι άνω του I KG εκρηκτικής ύλης ασφαλισμένης εντός θήκης, και άνευ πυροκροτητού. 2I3I (Συνεχίζεται)

II° Είδη με εκρηκτικό γέμισμα, είδη με προωθητικό και εκρηκτικό γέμισμα, άπαντα εφοδιασμένα με μηχανισμό παράγοντα διαρρηκτικόν αποτέλεσμα (π.χ. πυροκροτητής), το σύνολο καλώς ασφαλισμένο. Το βάρος κάθε είδους δεν πρέπει να υπερβαίνει τα 25 KG.

2.- Διατάξεις

A.- Κόλα

I.- Γενικοί όροι συσκευασίας 2I32

(I) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα και στεγανά ώστε να εμποδίζουν την απώλεια του περιεχομένου. Η χρήση μεταλλικών ταινιών ή συρμάτων δεμένων γύρω από τον κόλον για να εξασφαλίζουν το κλείσιμόν τους επιτρέπεται· η χρήση των είναι υποχρεωτική σε κιβώτια πού έχουν καλύμματα με μεντεσέδες εάν τα καλύμματα δεν είναι εφοδιασμένα με αποτελεσματικό μηχανισμό ώστε να αποφεύγεται οποιαδήποτε χαλάρωση του κλεισίματος.

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και τα κλεισίματά των κατασκευάζονται πρέπει να μη κινδυνεύουν να προσβληθούν από το περιεχόμενό τους ή να σχηματίζουν με αυτό επιβλαβείς ή επικίνδυνες ενώσεις.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι σταθερά στερεωμένα στα είδη συσκευασίας των, και τα εσωτερικά είδη συσκευασίας σταθερά στερεωμένα στα εξωτερικά είδη συσκευασίας.

Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία εμπορευμάτων του αυτού είδους", τα εσωτερικά είδη συσκευασίας μπορούν να εγκλεισθούν στα εξωτερικά, είτε ένα-ένα είτε σε ομάδες. 2I32 (Συνεχίζεται)

(4) Το αποσβεστικό υλικό θα ταιριάζει στη φύση του περιεχομένου.

2.- Συσκευασία εμπορευμάτων του αυτού είδους

Είδη της I° θα συσκευάζονται ως εξής: 2I33

(α) είδη της I°(α) και (β): σε ξύλινες συσκευασίες ή σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα. Το κόλον δεν πρέπει να ζυγίζει πάνω από I20 KG· εν τούτοις, βαρέλι από ινώδη σανίδα δεν πρέπει να ζυγίζει πάνω από 75 KG.

(β) είδη της I°(γ): ρολλαρισμένα σε μήκη των 250 μ. σε καρούλια από ξύλο ή ινώδη σανίδα. Τα καρούλια θα τοποθετούνται σε ξύλινα κιβώτια κατά τέτοιο τρόπο ώστε να μη μπορούν να έρχονται σε επαφή είτε το ένα με το άλλο είτε με τις πλευρές των κιβωτίων. Το κιβώτιο δεν πρέπει να περιέχει πάνω από I.000 μ. πυροσωλήνα·

(γ) είδη της I°(δ): ρολλαρισμένα σε μήκη μέχρι I25 μ. σε καρούλια από ξύλο ή ινώδη σανίδα τα οποία θα συσκευάζονται σε ξύλινα κιβώτια, κλεισμένο με βίδες, και έχον πλευρές πάχους όχι λιγώτερο των I8 MM (χιλ.), κατά τέτοιο τρόπο ώστε τα καρούλια να μη μπορούν να έλθουν σε επαφή είτε το ένα με το άλλο είτε με τις πλευρές του κιβωτίου. Το κιβώτιο δεν πρέπει να πε-

ριέχει πάνω από Ι.000 μ. εκρηκτικού πυροσωλήνος στιγ- 2Ι33
μιαίας ενεργείας. (Συνεχίζεται)

(Ι) Είδη της 2° θα συσκευάζονται ως εξής:-

(α) είδη της 2°(α): καψύλλια με ακάλυπτο εκρηκτικό γέμισμα, όχι πάνω από 500 ανά κυτίο ή μικρό κιβώτιο, και καψύλλια με καλυπτομένη εκρηκτική γόμωση, όχι πάνω από 5.000 ανά κυτίο ή μικρό κιβώτιο, σε μεταλλικά κυτία από ινώδη σανίδα ή μικρά ξύλινα κιβώτια. Οι συσκευασίες αυτές θα τοποθετούνται σε ξύλινο ή μεταλλικό κιβώτιο συσκευασίας·

(β) είδη της 2°(β)Ι: εμπυρευμένοι θάλαμοι φυσιγγίων κεντρικής πρόσωσεως, μη γεμισμένοι με προωθητική πυρίτιδα, για πυροβόλα όπλα όλων των διαμετρημάτων, σε κιβώτια από ξύλο ή ινώδη σανίδα ή σε υφασματένιους σάκκους·

(γ) είδη της 2°(β)2: εμπυρευμένοι θάλαμοι φυσιγγίων RIM-FIRE, μη γεμισμένοι με προωθητική πυρίτιδα, για όπλα FLOBERT και πυροβόλα όπλα ομοίων διαμετρημάτων, όχι πάνω από 5000 ανά κυτίο, σε κυτία κατασκευασμένα από μεταλλικό έλασμα ή ινώδη σανίδα τα οποία θα τοποθετούνται σε κιβώτιο συσκευασίας κατασκευασμένο από ξύλο ή μεταλλικό έλασμα· εκτός, οι εμπυρευμένοι αυτοί θάλαμοι φυσιγγίων RIM-FIRE μπορούν επίσης να συσκευάζονται, όχι πάνω από 25.000 ανά σάκκον, σε σάκκο ο οποίος θα ασφαλίζεται με κυματοειδή ινώδη σανίδα σε κιβώτιο συσκευασίας κατασκευασμένο από ξύλο ή σίδερο·

(δ) είδη της 2°(γ) και (δ): σε κυτία από ινώδη σανίδα, ξύλο ή μεταλλικό έλασμα τα οποία θα τοποθετούνται σε

είδη συσκευασίας κατασκευασμένα από ξύλο ή μέταλλο. 2Ι34

(2) Κόλον περιέχον είδη της 2°(α), (γ) ή (δ) δεν πρέπει να ζυγίζει πάνω από Ι00 ΚG. (Συνεχίζεται)

(Ι) Είδη της 3° θα συσκευάζονται σε κιβώτια κατα- 2Ι35
σκευασμένα από σανίδες πάζους όχι μικροτέρου των Ι8 ΜΜ (χιλ.), με γλωσσίδι και αυλάκια και συναρμολογούμενα με ξύλινες βίδες. Τα σήματα ομίχλης θα ασφαλίζονται σε κιβώτια με αποσβεστικό υλικό κατά τέτοιο τρόπο ώστε να μη μπορούν να έρχονται σε επαφή είτε το ένα με το άλλο είτε με τις πλευρές του κιβωτίου.

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 50ΚG.

(Ι) Είδη της 4°(α), (β) και (ε) θα τοποθετούνται 2Ι36
σφικτά σε σταθερά κλεισμένα κυτία κατασκευασμένα από έλασμα, ξύλο ή ινώδη σανίδα· τα κυτία αυτά θα τοποθετούνται, χωρίς κενά διαστήματα, σε κιβώτια συσκευασίας κατασκευασμένα από μέταλλο, ξύλο, σκληρή σανίδα, στερεά ινώδη σανίδα ή κυματοειδή ινώδη σανίδα· η ινώδης σανίδα πρέπει να έχει γίνει αδιαπέραστη δι'εμποτισμού και να να είναι επαρκούς μηχανικής αντοχής.

Κιβώτια από ινώδη σανίδα θα κλείνονται με κολλητικές ταινίες επαρκούς αντοχής. Το μοντέλο παραγωγής κιβωτίων κατασκευαζομένωναπό στερεά ινώδη σανίδα ή κυματοειδή ινώδη σανίδα πρέπει να εγκριθεί από την αρμόδια αρχή της χώρας της αναχωρήσεως.

(2) Είδη της 4°(γ) και (δ) θα τοποθετούνται, όχι άνω των 400 ανά κυτίο, σε κυτία κατασκευασμένα από μεταλλικό φύλλο (έλασμα), ξύλο ή ινώδη σανίδα· τα κυτία αυτά

θα συσκευάζονται ασφαλώς σε κιβώτια συσκευασίας κατα- 2Ι36
σκευασμένα από μέταλλο ή ξύλο. (Συνεχίζε-
ται)

(3) Το κόλον δεν πρέπει να ζυγίζει πάνω από ΙΟΟ KG· ε ὅπως, όπου χρησιμοποιούνται κιβώτια από Χάρντμπορντ (HARDBOARD) ή ινοσανίδα, το κόλον το περιέχον είδη της 4(α), (β) ή (ε) δεν πρέπει να ζυγίζει πάνω από 40 KG.

(Ι) Είδη της 5° θα συσκευάζονται ως κάτωθι:- 2Ι37

(α) είδη της 5°(α): όχι άνω των ΙΟΟ ανά δοχείον προκειμένου περί πυροκροτητών και όχι άνω των 50 ανά δοχείον προκειμένου περί συνδετικών τεμαχίων, σε δοχεία, κατασκευασμένα από έλασμα ή αδιαπέραστη ινοσανίδα, όπου και θα προστατεύονται καλώς κατά της αναφλέξεως και θα ασφαλίζονται με αποσβεστικό υλικό. Δοχεία από έλασμα (φύλλο-μετάλλου) θα επενδύονται με εύκαμπτο υλικό. Τα καλύμματα θα ασφαλίζονται γύρω-γύρω με κολλητικές ταινίες. Τα δοχεία, όχι άνω των 5 ανά πακέτο ή κυτίο προκειμένου περι πυροκροτητών και όχι άνω των Ι0 ανά πακέτο ή κυτίο προκειμένου περί συνδετικών τεμαχίων, θα κλείνονται σε πακέτο ή τοποθετούνται σε κυτίο από ινοσανίδα. Τα πακέτα ή κυτία θα συσκευάζονται σε ξύλινο κιβώτιο κλεισμένο με βίδες και με πλευρές πάχους όχι μικροτέρου των Ι8 ΜΜ (χιλ.). ή σε είδος συσκευασίας από φύλλο-μετάλλου, του είδους τούτου συσκευασίας ή του κιβωτίου ασφαλιζο-μένων με αποσβεστικό υλικό σε κιβώτιο συσκευασίας με πλευρές όχι μικροτέρου πάχους των Ι8 ΜΜ (χιλ.)

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(Συνεχίζεται)

κατά τέτοιο τρόπο ώστε να υπάρχει διάστημα όχι μικρότερο των 3 CM γεμισμένο με αποσβεστικό υλικό σε όλα τα σημεία μεταξύ του ξυλίνου κιβωτίου ή της συσκευασίας εκ φύλλου-μετάλλου και του κιβωτίου συσκευασίας·

(β) είδη της 5°(β): όχι άνω των 100 ανά πακέτο, σε πακέτα με εναλλάξ πυροκροτητές κείμενους προς τα αντίθετα άκρα του πακέτου. Όχι περισσότερα των 10 τούτων θα δένονται μαζί για να σχηματίζουν ένα συλλογικό πακέτο. Όχι περισσότερα των πέντε συλλογικών τούτων πακέτων θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο συσκευασίας με πλευρές πάχους όχι μικροτέρου των 18 MM (χιλ.), ή σε συσκευασία από φύλλο-μετάλλου κατά τέτοιο τρόπο ώστε να περιέχεται ένα διάστημα όχι μικρότερο των 3 CM γεμισμένο με αποσβεστικό υλικό σε όλα τα σημεία μεταξύ των συλλογικών πακέτων και του κιβωτίου συσκευασίας ή της συσκευασίας από φύλλο-μετάλλου.

(γ) είδη της 5°(γ): πυροσωλήνες εφοδιασμένοι με πυροκροτητήρες, ρολλαρισμένοι σε πηνία· όχι άνω των 10 πηνίων θα γίνονται ρολλό το οποίο θα τυλίγεται με χαρτί. Όχι περισσότεροι των 10 ρόλλοι θα ασφαλίζονται με αποσβεστικό υλικό σε μικρό ξύλινο κιβώτιο κλεισμένο με βίδες και με πλευρές πάχους όχι μικροτέρου των 18 MM (χιλ.) κατά τέτοιο τρόπο ώστε να υπάρχει διάστημα όχι μικρότερο των 3 CM γεμισμένο με αποσβεστικό υλικό σε όλα τα σημεία μεταξύ των μικρών κιβωτίων

και του κιβωτίου της συσκευασίας· 2137
(Συνεχίζεται)

(δ) είδη της 5°(δ):

I.- όχι άνω των 100 πυροκροτητών ανά κιβώτιο, σε ξύλινα κιβώτια με πλευρές πάχους όχι μικρι-τέρου των 18 ΜΜ (χιλ.), κατά τέτοιο τρόπο ώστε οι πυροκροτητές να χωρίζονται μεταξύ τους όχι λιγώτερο από 1 CM καθώς και από τις πλευρές του κιβωτίου. Οι διαμορφώσεις πλευρές θα είναι ματισμέ-νες και ο πυθμένας και το κάλυμμα θα ασφαλίζονται με βίδες. Εάν το κιβώτιο είναι επενδεδυμένο με φύλλο ψευδαργύρου ή φύλλο αλουμινίου, πλευρικό πάχος 16 ΜΜ (χιλ.) είναι επαρκές. Το κιβώτιο θα ασφαλίζεται με αποσβεστικό υλικό σε κιβώτιο συ-σκευασίας με πλευρές πάχους όχι μικροτέρου των 18 ΜΜ (χιλ.) κατά τέτοιο τρόπο ώστε να υπάρχει ένα διάστημα όχι μικρότερο των 3 CM γεμισμένο με αποσβεστικό υλικό σε όλα τα σημεία μεταξύ αυτού και του κιβωτίου συσκευασίας· ή

2.- όχι άνω των 5 πυροκροτητών ανά κυτίον; σε κυτία από φύλλο-μετάλου, των πυροκροτητών τοποθετημέ-νων εις αυτά εντός ξυλίνων πλαισίων από λεπτές λωρίδες ξύλου ή εντός διατρήτων τεμαχίων ξύλου. Το κάλυμμα θα ασφαλίζεται γύρω-γύρω με κολλητικές ταινίες. Όχι περισσότερα των 20 κυτίων από φύλλο-μετάλλου θα τοποθετούνται σε κιβώτιο συσκευασίας με πλευρές πάχους όχι μικροτέρου των 18 ΜΜ (χιλ.)·

(ε) είδη της 5°(ε): όχι άνω των 50 ανά κιβώτιο, σε ξύλινα

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νιβώτια με πλευρές πάχους όχι μικροτέρου των I8 MM (χιλ.). Τα είδη θα ασφαλίζονται εντός των νιβωτίων δια ξυλίνου κατασκευάσματος κατά τέτοιο τρόπο ώστε να χωρίζονται όχι λιγώτερο του I CM μεταξύ των και από τις πλευρές του νιβωτίου. Οι πλευρές του νιβωτίου θα είναι ματισμένες και ο πυθμένας και το κάλυμμα θα ασφαλίζονται με αποσβεστικό υλικό σε νιβώτιο συσκευασίας με πλευρές πάχους όχι μικροτέρου των I8 MM (χιλ.) κατά τέτοιο τρόπο ώστε να υπάρχει ένα διάστημα όχι μικρότερο των 3 CM (εκ.) γεμισμένο με αποσβεστικό υλικό σε όλα τα σημεία μεταξύ των νιβωτίων και του νιβωτίου συσκευασίας. Το διάστημα μπορεί να μειωθεί όχι λιγώτερο του I CM (εκ.) εάν γεμισθεί με πλάκες από πορώδη ξύλινη ύλη. Εάν τα είδη συσκευασθούν επί μέρους (ατομικά) και έχουν σταθερά στερεωθεί σε ερμητικώς κλείνοντα κυτία κατασκευασμένα από φύλλο μετάλλου ή πλαστική ύλη, μπορούν να τοποθετηθούν σε ξύλινο νιβώτιο συσκευασίας με πλευρές πάχους όχι μικροτέρου των I8 MM (χιλ.). Τα είδη πρέπει να χωρίζονται μεταξύ των και να έχουν σταθερά ασφαλισθεί με πλάκες από ινώδη σανίδα ή ξύλινη ύλη.

(ατ) είδη της 5°(στ):

I.- όχι άνω των 50 ανά νιβώτιο, σε ξύλινα ή μεταλλικά νιβώτια· στα νιβώτια αυτά κάθε εκρηκτικό τμήμα του "BOUCHON ALLUMEUR" (πυροκροτητού με καψύλλιο κρούσεως) θα έχουν έτσι τακτοποιηθεί σε ξύλινο με εγκοπές υποστήριγμα ώστε η απόστασις μεταξύ των γειτνιαζόντων πυροκροτητών και μεταξύ των εξω-

έξω πυροκροτητών "BOUCHONS ALLUMEURS" και της πλευράς του κιβωτίου δεν είναι μικρότερη των 2 CM (εκ.)· κλείνοντας το κάλυμμα του κιβωτίου θα εξασφαλίζεται πλήρης ακινησία του συνόλου· όχι περισσότερα των 3 κιβωτίων θα τοποθετούνται, μη αφήνοντας κενά διαστήματα, σε ξύλινο κιβώτιο συσκευασίας με πλευρές πάχους όχι μικρότερου των I8 MM (χιλ.)· ή 2I37 (Συνεχίζεται)

2.- σε κυτία κατασκευασμένα από ξύλο ή μέταλλο· στα κυτία αυτά κάθε "BOUCHON ALLUMEUR" θα υποστηρίζεται από πλαίσιο κατά τρόπο ώστε η απόσταση μεταξύ δύο "BOUCHON ALLUMEURS" και μεταξύ ενός "BOUCHON ALLUMEUR" και της πλευράς του κυτίου να μην είναι μικρότερη των 2 CM (εκ.) και να εξασφαλίζεται η ακινησία του συνόλου· τα κυτία αυτά θα τοποθετούνται σε κιβώτιο συσκευασίας με πλευρές πάχους όχι μικρότερου των I8 MM (χιλ.) κατά τέτοιο τρόπο ώστε να υπάρχει διάστημα όχι μικρότερο των 3 CM (εκ.) γεμισμένο με απορροφητικό υλικό σε όλα τα σημεία μεταξύ των κυτίων και μεταξύ των κυτίων και του κιβωτίου συσκευασίας· το κάλον δεν πρέπει να περιέχει περισσότερα από I50 "BOUCHON ALLUMEURS".

(2) Το κάλυμμα του κιβωτίου συσκευασίας θα κλείνει με βίδες ή μεντεσέδες και πυσσόμενες ράβδους/μπάρες.

(3) Κάθε κάλον περιέχον είδη της 5° θα είναι εφοδιασμένο με κλείσιμο προστατευόμενο είτε από μολυβδένιες

είτε άλλες σφραγίδες επί δύο κεφαλών κοχλίου εις τα άκρα 2Ι37
του κυρίου άξονος του καλύμματος ή των πτυσσομένων ρά- (Συνεχίζε-
βδων, είτε από λωρίδα, φέρουσα το εμπορικό σήμα, κολλη- ται)
μένη με γόμμα στο κάλυμμα και στις δύο αντίθετες πλευρές
του κιβωτίου.

(4) Το κόλον δεν πρέπει να ζυγίζει πάνω από 75KG· κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές.

(Ι) Είδη της 6ο θα ρολλαρισθούν χωριστά σε χαρτί 2Ι38
και θα τοποθετηθούν σε περιτυλίγματα κυματοειδούς ινοσανίδας. Θα συσκευασθούν όχι περισσότερα των 25 ανά κυτίο, σε κυτία από ινοσανίδα ή φύλλο μετάλλου. Τα καλύμματα θα σαφαλίζονται γύρω-γύρω με κολλητικές ταινίες. Όχι πάνω από 20 κυτία θα τοποθετούνται σε ξύλινο κιβώτιο συσκευασίας.

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 50KG. Κόλα ζυγίζοντα άνω των 30 KG θα είναι εφοδιασμένα με χειρολαβές.

(Ι) Είδη της 7ο θα συσκευάζονται σε ξύλινα κι- 2Ι39
βώτια κλεισμένα με βίδες ή μεντεσέδες και πφυσσόμενες ράβδους (μπάρες) και με πλευρές πάχους όχι μικρότερου των Ι6 ΜΜ (χιλ.), ή σε δοχεία κατασκευασμένα από μέταλλο ή κατάλληλη πλαστική ύλη επαρκούς αντοχής. Τα καλύμματα και οι πυθμένες των ξυλίνων κιβωτίων μπορούν επίσης να κατασκευάζονται από πολύ πεπιεσμένη χαρτοσανίδα με πλευρές ισης αντοχής. Είδη ζυγίζοντα άνω των 20 KG μπορούν επίσης να προωθούνται σε σκελετοκιβώτια ή χωρίς συσκευασία.

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από

100 KG εάν περιέχει είδη καθέβα των οποίων το περιεχόμενον ζυγίζει πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές. 2139 (Συνεχίζεται)

(1) Είδη της 8° θα συσκευάζονται σε ξύλινα κιβώτια, σε βαρέλια από ινοσανίδα η οποία έχει καταστεί αδιαπέραστη, ή σε δοχεία μεταλλικά ή από κατάλληλη πλαστική ύλη επαρκούς αντοχής. Η κεφαλή αναφλέξεως θα προστατεύεται κατά τέτοιο τρόπο ώστε να αποφεύγεται οποιαδήποτε διασπορά του γεμίσματος από το είδος. 2140

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 100KG· όμως, όταν χρησιμοποιούνται βαρέλια από ινοσανίδα, το κόλον δεν θα ζυγίζει πάνω από 75 KG. Κιβώτια των οποίων το περιεχόμενον ζυγίζει πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές.

Είδη της 9° θα κλείνονται σε ξύλινα είδη συσκευασίας. Το κόλον δεν πρέπει να ζυγίζει πάνω από 75KG· κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές. 2141

Είδη της 10° θα συσκευάζονται σε ξύλινα κιβώτια. Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές. 2142

Είδη της 11° θα συσκευάζονται ως εξής: 2143

(α) είδη διαμέτρου μικροτέρας των 13.2 ΜΜ (χιλ.): όχι περισσότερα των 25 ανά κυτίο, συσκευασμένα σφικτά σε κυτία από ινοσανίδα κλείνοντα σταθερά σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη επαρκούς αντοχής· τα κυτία αυτά ή δοχεία θα τοποθετούνται,

χωρίς άδεια διαστήματα, σε ξύλινο κιβώτιο, με πλευ- 2143
ρές πάχους όχι μικροτέρου των 18 ΜΜ (χιλ.), το ο- (Συνεχίζε-
ποίο μπορεί να έχει επενδυθεί με πλάκες-κασσοτέ- ται)
ρου, φύλλο ψευδαργύρου ή φύλλο αλουμινίου, ή με κα-
τάλληλη πλαστική ύλη·έπαρκούς αντοχής.

Το κόλον δεν πρέπει να ζυγίζει πάνω από 60KG. Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές.

(β) είδη διαμέτρου από 13.2 ΜΜ (χιλ.) μέχρι 57 ΜΜ (χιλ.):

I.- χωριστά

σε σωλήνα κατασκευασμένον από ινοσανίδα ή από κατάλληλη πλαστική ύλη, γερόν, εφαρμοστόν, κλείνοντα γερά και στα δύο άκρα· ή

σε σωλήνα κατασκευασμένον από ινοσανίδα ή κατάλληλη πλαστική ύλη, γερόν, εφαρμοστόν, κλεισμένον στο ένα άκρο και ανοικτόν στο άλλο· ή

σε σωλήνα κατασκευασμένον από ινοσανίδα ή κατάλληλη πλαστική ύλη, ανοικτόν, και στα δύο άκρα αλλά με εσωτερική προεξοχή ή άλλον κατάλληλον εσωτερικόν μηχανισμόν ώστε να αποδεύγεται η μετακίνηση του είδους.

Συσκευασμένα κατά τον τρόπο αυτόν, όχι περισσότερα από:-

300 είδη διαμέτρου όχι μικροτέρας των 13.2 ΜΜ (χιλ.) και όχι μεγαλυτέρας των 21 ΜΜ (χιλ.)· ή

60 είδη διαμέτρου άνω των 21 ΜΜ (χιλ.), αλλά όχι άνω των 37 ΜΜ (χιλ.)· ή

25 είδη διαμέτρου μεγαλυτέρας των 37 ΜΜ (χιλ.) αλλά όχι μεγαλυτέρας των 57 ΜΜ (χιλ.) θα τοποθετούνται σε στρώματα σε ξύλινο κιβώτιο με πλευρές πάχους όχι μικρότερου των Ι8 ΜΜ (χιλ.), το δε ξύλινο κιβώτιο θα είναι επενδεδυμένο με πλάκα κασσιτέρου, φύλλο ψευδαργύρου, ή φύλλο αλουμινίου. 2Ι43 (Συνεχίζεται)

Προκειμένου περί ειδών συσκευασμένων σε σωλήνες ανοικτές και στα δύο άκρα ή στο ένα, το κιβώτιο της συσκευασίας θα είναι επενδεδυμένο στη πλευρά ή στις πλευρές που γειτνιάζουν με τα ανοικτά άκρα των σωλήνων με φύλλα πιλήματος πάχους όχι μικροτέρου των 7 ΜΜ (χιλ.) ή με φύλλο του αυτού πάχους διπλής όψεως κυματοειδούς ινοσανίδος ή ομοίου υλικού.

Το κόλον δεν πρέπει να ζυγίζει πάνω από Ι00 KG. Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές.

2.- είδη διαμέτρου 20 ΜΜ (χιλ.) μπορούν επίσης να συσκευάζονται, όχι περισσότερα των Ι0 ανά κυτίον, σε γερά κυτία από ινοσανίδα επενδεδυμένα με κηρόν παραφίνης και εφοδιασμένα με κυψελοειδές κάτω παρέμβλημα και με χωρίσματα από ινοσανίδα επιχρισμένην με κηρόν παραφίνης. Τα κυτία θα κλείνονται με κομμιωμένη δικλείδα (κλαπέτο). Όχι περισσότερα των 30 κυτίων θα συσκευάζονται σφικτά σε ξύλινο κιβώτιο με πλευρές πάχους όχι μικρότερου των Ι8 ΜΜ (χιλ.), το δε ξύλινο κιβώτιο θα είναι επενδεδυμένο με φύλλο ψευδαργύρου, πλάκα κασσιτέρου ή φύλλο αλουμινίου.

Το κόλον δεν πρέπει να ζυγίζει πάνω από ΙΟΟΚG. 2Ι43
Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με (Συνεχίζεται)
χειρολαβές·

3.- είδη διαμέτρου όχι μεγαλύτερης των 30 ΜΜ (χιλ.) μπορούν, σε αριθμό μη υπερβαίνοντα τον αναφερόμενον υπό στοιχείον Ι., ανωτέρω, να τοποθετούνται επίσης σε ταινίες και συσκευάζονται σε γερό χαλύβδινο δοχείο. Το δοχείο αυτό μπορεί να είναι κυλινδρικό.

Τα είδη αυτά τοποθετημένα σε ταινίες θα περβάλονται από κατάλληλο μηχανισμό ώστε να αποτελούν συμπαγή μονάδα και να αποφεύγεται η απόσπαση του καθενός των ειδών. Μία ή περισσότερες μονάδες θα στερεώνονται στο δοχείο κατά τέτοιο τρόπο ώστε να μη μετατοπίζονται.

Τα άκρα των ειδών των τοποθετημένων σε ταινίες θα ακουμπούν πάνω σε αντικραδατικά μη μεταλλικά υποστηρίγματα.

Το κάλυμμα του δοχείου πρέπει να κλείνει κατά τρόπον στεγανόν και να ασφαλίζεται με μηχανισμόν ασφαλίσεως δυνάμενον να σφραγισθεί ώστε τα είδη να μη μπορούν να πέσουν.

Το κόλον δεν πρέπει να ζυγίζει πάνω από ΙΟΟΚG. Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές. Υποδοχείς ικανοί να ρολλαρισθούν θα έχουν τα καπάκια τους εφοδιασμένα με γερή χειρολαβή ώστε να μπορούν να μεταφερθούν·

4.- είδη διαμέτρου όχι μικροτέρας των 30 ΜΜ (χιλ.) και όχι μεγαλυτέρας των 57 ΜΜ (χιλ.) μπορούν επίσης να συσκευά-

ζονται χωριστά σε γερό, εφαρμοστό, ερμητικά-κλει- 2Ι43
σμένο κυλινδρικό κυτίο κατασκευασμένο από ινώδη (Συνεχίζε-
σανίδα, ίνα ή κατάλληλη πλαστική ύλη. Όχι περισ- ται)
σότερα των 40 των κυτίων αυτών θα τοποθετούνται σε
στρώματα σε ξύλινο κιβώτιο με πλευρές πάχους όχι
μικρότερου των Ι8 ΜΜ (χιλ.)

Το κόλον δεν πρέπει να ζυγίζει πάνω από Ι00ΚG. Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβές.

(γ) λοιπά είδη της ΙΙ°: σύμφωνα με τις διατάξεις του περιθωρίου 2Ι39(Ι). Το κόλον δεν πρέπει να ζυγίζει πάνω από Ι00 KG. Κόλα ζυγίζοντα πάνω από 30 KG πρέπει να είναι εφοδιασμένα με χειρολαβές.

Σημείωσις:- Προκειμένου περί ειδών περιεχόντων τόσον προωθητικόν όσον και εκρηκτικόν γέμισμα, η διάμετρος εις την οποίαν αναφερόμεθα είναι εκείνη του κυλινδρικού τμήματος του περιέχοντος το εκρηκτικό γέμισμα.

3.- Μικτή συσκευασία

(Ι) Είδη αναφερόμενα υπό αριθμόν είδους του περι- 2Ι44
θωρίου 2Ι3Ι μπορούν να μη συμπεριλαμβάνονται στο αυτό κόλον είτε με είδη διαφόρου είδους αλλά του αυτού αριθμού είδους, είτε με είδη άλλου αριθμού είδους του ανωτέρω περιθωρίου, είτε με ύλες ή είδη ανήκοντα σε άλλες Κλάσεις, είτε με άλλα εμπορεύματα.

(2) Τά παρακάτω, όμως, είδη μπορούν να συμπεριλαμβάνονται στο αυτό κόλον:-

(α) είδη της I^{o}, μεταξύ των. 2I44 (Συνεχίζεται)

Όταν είδη της I^{o}(α) και (β) συμπεριληφθούν στο αυτό κόλον, θα συσκευάζονται σύμφωνα με το περιθώριο 2I33(α).

Όταν είδη της I^{o}(γ) συμπεριληφθούν στο αυτό κόλον με είδη της I^{o}(α) ή (β) ή αμφότερα, τα είδη της I^{o}(γ) θα συσκευάζονται σύμφωνα με τις διατάξεις τις ισχύουσες γι'αυτά και η εξωτερική συσκευασία θα είναι η προβλεπομένη για είδη της I^{o}(α) ή (β). Το κόλον δεν πρέπει να ζυγίζει πάνω από I20 KG.

(β) είδη της 2^{o}(α) με εκείνα της 2^{o}(β), υπό τον όρον ότι αμφότερα περιέχονται σε εσωτερικά είδη συσκευασίας αποτελούμενα εκ κυτίων τοποθετημένων σε ξύλινα κιβώτια. Το κόλον δεν πρέπει να ζυγίζει πάρα πάνω από I00 KG.

(γ) είδη της 4^{o}, μεταξύ των, λαμβανομένων υπόψει των διατάξεων για εσωτερικά είδη συσκευασίας, εντός ξυλίνου εσωτερικής συσκευασίας. Το κόλον δεν πρέπει να ζυγίζειν πάνω από I00 KG.

(δ) είδη της 7^{o} με εκείνα της 5^{o}(α), (δ), (ε) και (στ), υπό τον όρον ότι η συσκευασία των τελευταίων τούτων εμποδίζει την μετάδοσιν πιθανής εκπυρσοκροτήσεως στα είδη της 7^{o}. Σε ένα κόλον, ο αριθμός των ειδών 5^{o}(α), (δ), (ε) και(στ) πρέπει να είναι ο αυτός με εκείνον των ειδών 7^{o}. Το κόλον δεν πρέπει να ζυγίζει περισσότερο από I00 KG.

4.- <u>Μαρκάρισμα και ετικέτες κινδύνου πάνω στα κόλα</u>

(βλέπε Προσθήκην Α.9)

Κόλα περιέχοντα είδη της Κλάσεως Ιβ θα φέ- 2Ι45
ρουν ετικέτα σύμφωνον με το μοντέλο No.I. Όμως, κόλα περιέχοντα είδη της Ι°(δ), 5° και 6ª θα φέρουν δύο ετικέτες σύμφωνες προς το μοντέλο No.I.

2Ι46

Β.- Λεπτομέρειες (στοιχεία) του εγγράφου της μεταφοράς

(Ι) Η περιγραφή των εμπορευμάτων στο έγγραφο μετα- 2Ι47
φοράς πρέπει να συμφωνεί με μίαν των ονομασιών των υπο-γραμμισμένων στο περιθώριο 2Ι3Ι· πρέπει να έχει κόκκινη υπογράμμιση και να ακολουθείται από λεπτομέρειες (στοιχεία) της Κλάσεως, τον αριθμό του είδους, μαζί με το, τυχόν, γράμμα, και τα αρχικά "ADR" ή "RID" (π.χ., Ιβ 2°(α), ADR).

(2) Τα παρακάτω πρέπει να βεβαιώνονται στό έγ-γραφο της μεταφοράς:-

"Η φύση των εμπορευμάτων, και το είδος συσκευασίας συμφωνούν με τις διατάξεις της ADR".

2Ι48-
2Ι62

Γ.- Κενά είδη συσκευασίας

Καμμία διάταξη. 2Ι63

2Ι64-
2Ι69

ΚΛΑΣΗ Ιγ.- ΑΝΑΦΛΕΚΤΗΡΕΣ, ΠΥΡΟΤΕΧΝΗΜΑΤΑ
ΚΑΙ ΠΑΡΟΜΟΙΑ ΕΜΠΟΡΕΥΜΑΤΑ

Ι.- Κατάλογος εμπορευμάτων

(Ι) Μεταξύ των υλών και των ειδών των καλυπτομένων υπό τον τίτλον της Κλάσεως Ιγ, μόνον τα αναγραφόμενα στο περιθώριο 2Ι7Ι θα γίνονται δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Αυτές οι ύλες και είδη που πρόκειται να γίνουν δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR. 2Ι70

(2) Τα είδη που πρόκειται να γίνουν δεκτά πρέπει να πληρούν τους παρακάτω όρους:-

(α) Το εκρηκτικό γέμισμα θα συγκροτείται, ταυτοποιείται και διανέμεται κατά τοιούτον τρόπον ώστε ούτε η τριβή, το κούνημα ή κρούση, ακόμη και η ανάφλεξη των συσκευασμένων ειδών να μπορούν να οδηγήσουν σε μία έκρηξη του όλου περιεχομένου του κόλου·

(β) λευκός ή κίτρινος φωσφόρος μπορεί να μη χρησιμοποιείται εκτός με είδη της 2° και 20°.

(γ) η εκρηκτική σύνθεση των πυροτεχνημάτων (2Ι°-24°), μαγνησίου (26°) και οι καπνογόνες συνθέσεις των παρασιτοκτόνων (27°), δεν πρέπει να περιέχουν χλωρικά άλατα·

(δ) το εκρηκτικό γέμισμα πρέπει να πληροί τους όρους σταθερότητας της Προσθήκης Α.Ι, περιθώριο 3ΙΙΙ.

Α.- Αναφλεκτήρες: 2Ι7Ι

Ι° (α) Πυρεία ασφαλείας (με βάση χλωρικού καλίου και θείου·

(β) πυρεία με βάσιν χλωρικού καλίου και υποθειούχου φωσφόρου (σεσκισουλφίδιο του φωσφόρου), ως και αναφλεκτήρες τριβής. 2171

2° Ταινίες εμπυρίων για φανούς ασφαλείας και ταινίες εμποτισμένων σε κηρό παραφίνης εμπυρίων για φανούς ασφαλείας. Ι.000 εμπύρια δεν πρέπει να περιέχουν εκρηκτικό πάνω από 7.5 γραμμάρια.

Για ταινίες καψυλλίων, βλέπε Ι5°.

3° Πυροσωλήνες βραδείας-καύσεως (πυροσωλήνες αποτελούμενοι από λεπτό αδιαπέραστο σωλήνα με στενό τμήμα πυρήνος μελανής πυρίτιδος).

Για άλλους πυροσωλήνες, βλέπε Κλάσιν Ιβ, Ι° (περιθώριο 2131).

4° Νήμα πυροκυλίνης (PYROXIN THREAD) (βαμβακόνημα εμπλουτισμένο με άζωτο). Βλέπε επίσης Προσθήκην Α:Ι, περιθώριο 3101.

5° Σωληνωτοί αναφλεκτήρες ("LANCES D'ALLUMAGE") (σωλήνες από ινοσανίδα, περιέχοντες μικρή ποσότητα συνθέσεως πυροσωλήνος εξ οξυγονοποιημένων υλών και οργανικών υλών και, πιθανόν, εξ αρωματικών συνθέσεων εμπλουτισμένων με άζωτο) και καψύλλια θερμίτη με δισκία αναφλεκτήρων.

6° Αναφλεκτήρες ασφαλείας για πυροσωλήνες (φυσίγγια από χαρτί περιέχοντα εμπύριον διαπερασμένον με νήμα (φυτίλι) προοριζόμενον να προκαλέσει τριβήν, ή σχάσιγγ, ή παρόμοιους μηχανισμούς).

7° (α) Ηλεκτρικά εμπύρια χωρίς πυροκροτητή·

(β) δισκία για ηλεκτρικά εμπύρια. 2171 (Συνεχίζεται)

8° Ηλεκτρικοί αναφλεκτήρες (π.χ. αναφλεκτήρες προοριζόμενοι για ανάφλεξη φωτογραφικού μαγνησίου). Το γέμισμα του καθενός τούτων δεν πρέπει να υπερβαίνει τα 30 KG ούτε να περιέχει πάνω από 10 τοις εκατόν βροντώδη υδράργυρο.

Σημείωση:- Συσκευές τύπου ηλεκτρικού λαμπτήρος παράγουσαι ξαφνικό φως και περιέχουσαι γέμισμα αναφλέξεως όμοιο με εκείνο των ηλεκτρικών αναφλεκτήρων δεν υπόκεινται στις διατάξεις της ADR.

Β.- Πυροτεχνικά είδη και παιγνίδια:- καψύλλια και (ταινίες) καψυλλίων: εκρηκτικά είδη·

9° Πυροτεχνικά είδη εσωτερικού (π.χ. Κύλινδροι BOSCO, βόμβες κονφετί, κοτιγιόν). Είδη με βάσιν εμπλουτισμένο με άζωτο βάμβακα (κολλοδιοβάμβακας) δεν πρέπει να περιέχουν περισσότερο από 1 γραμμάριο ανά είδος.

10° Εκρηγνυόμενα κουφέτα (μπομπόνια), λουλουδο-κροτίδες, ταινίες εμπλουτισμένες με αζωτούχο χαρτί (κολλοδιόχαρτο).

11° (α) Εκρηγνυόμενα μπιζέλια, εκρηγνυόμενες βομβίδες και λοιπά όμοια πυροτεχνικά παιγνίδια περιέχοντα βροντώδη άργυρο·

(β) εκρηγνυόμενα πυρεία (σπίρτα)·

(γ) εξαρτήματα με βροντώση άργυρο.

προστίθεται ότι:- στα ανωτέρω (α), (β) και (γ):- 1.000 είδη δεν πρέπει να περιέχουν πάνω από 2.5 γραμμάρια βροντώδη άργύρο.

I2° Εκρηκτικά χαλίκια, το καθένα μεταφέρον, εξωτερικά, γέμισμα εκρηκτικής ύλης πλην κροτικού άλατος όχι πάνω από 3 γραμμάρια.

I3° Πυροτεχνικά πυρεία (π.χ. Βεγγαλικά πυρεία, πυρεία χρυσής βροχής, ή πυρεία CASCADE-OF-FLOWERS).

I4° Μαγικά κεριά χωρίς κεφαλές αναφλέξεως.

I5° Καψύλλια για παιδικά παιγνίδια, ταινίες καψυλλίων και ελατήρια καψυλλίων.

I.000 καψύλλια δεν πρέπει να περιέχουν πάνω από 7.5 γραμμάρια εκρηκτικής ύλης ελευθέρας από κροτικό άλας.

Για ταινίες καψυλλίων για φανούς ασφαλείας, βλέπε 2°.

I6° Εκρηκτικοί φελλοί με εκρηκτικό γέμισμα έχον βάσιν φωσφόρου και χλωρικού άλατος ή με γέμισμα κροτικού άλατος ή ομοίας συνθέσεως πεπιεσμένο σε φυσίγγια κάρντ-μπόρντ. I.000 φελλοί δεν πρέπει να περιέχουν περισσότερο από 60 γραμμάρια εκρηκτικής ύλης εκ χλωρικού άλατος ούτε περισσότερο από I0 γραμμάρια κροτικού άλατος συνθέσεως με βάσιν κροτικού άλατος.

I7° Στρόγγυλα βαρελότα με εκρηκτικό γέμισμα έχον βάσιν φωσφόρου και χλωρικού άλατος. I.000 βαρελότα δεν πρέπει να περιέχουν πάνω από 45 γραμμάρια εκρηκτικής ύλης.

I8° Καψύλλια από κάρντ-μπόρντ (πυρομαχικά παιγνιδιών) με εκρηκτικό γέμισμα έχον βάσιν φωσφόρου και χλωρικού άλατος ή με γέμισμα κροτικού άλατος ή ομοίας συνθέσεως. I.000 καψύλλια δεν πρέπει να περιέχουν πάνω από 25 γραμμάρια εκρηκτικής ύλης.

I9° Καψύλλια από κάρντ-μπόρντ εκρηγνυόμενα κάτω από το πόδι, με προστατευμένο γέμισμα έχον βάσιν φωσφόρου και χλωρικού άλατος. I.000 καψύλλια δεν πρέπει να περιέχουν περισσότερα από 30 γραμμάρια εκρηκτικής ύλης. 2I7I (Συνεχίζεται)

20° (α) Εκρηκτικά φύλλα (DETONATING SHEETS).

(β) MARTINIKAS (έτσι καλούνται τα Ισπανικά πυροτεχνήματα.

Αμφότερα περιλαμβάνουν ένα μίγμα από λευκό (κίτρινο) και ερυθρόν φωσφόρο με χλωρικό κάλιο και όχι λιγώτερο του 50% εκατόν αδρανών υλών που δεν συμμετέχουν στην αποσύνθεση του μίγματος φωσφόρου και χλωρικού άλατος. Ένα φύλλο δεν πρέπει να ζυγίζει πάνω από 2,5 γραμμάρια και ένα MARTINIKA πάνω από 0,I γραμμάρια.

Γ.- Πυροτεχνήματα

2I° Πύραυλοι (ρουκέτες) ANTI-HAIL χωρίς πυροκροτητή, βόμβες και εσχάρες (όλμοι) (FIREPOTS).

Το γέμισμα, συμπεριλαμβανομένου του προωθητικού γεμίσματος, δεν πρέπει να ζυγίζει πάνω από I4 KG ανά είδος, ή βόμβα ή ο όλμος (FIREPOT) όχι πάνω από I8 KG συνολικά.

22° Εμπρηστικές βόμβες, ρουκέτες, Ρωμαϊκά κεριά, πηγές (πίδακες), τροχοί και παρόμοια πυροτεχνήματα, με γέμισμα μη ζυγίζον πάνω από I.200 γραμμάρια ανά είδος.

23° CANNON SHOTS (Βλήματα Πυροβόλου), ζυγίζον το καθένα όχι πάνω από 600 γραμμάρια κοκκώδους μελανής πυρίτιδας ή 220 γραμμάρια εκρηκτικής ύλης όχι περισσότερον επικίν-

δύναμης της πυρίτιδας αλουμινίου με υπερχλωρικόν κάλιον, 2I7I
RIFLE SHOTS (Βλήματα Τυφεκίου) (κροτικά) το καθένα περιέχον όχι πάνω από 20 γραμμ. κοκκώδη πυρίτιδα, άπαντα εφοδιασμένα με πυροσωλήνες με καλυμμένα άκρα· και παρόμοια είδη παράγοντα δυνατή εκπυρσοκρότηση (κρότο). (Συνεχίζεται)

Για σιδηροδρομικά σήματα ομίχλης, βλέπε Κλάσιν Ιβ, 3° (περιθώριο 2I3I).

24° Μικρά πυροτεχνήματα (π.χ. στραναστρούκες, οφείδια, χρυσή βροχή, αργυρή βροχή, εάν περιέχουν όχι πάρα πάνω από I.000 γραμμάρια κοκκώδη μελανή πυρίτιδα ανά I44 είδη· υφαίστεια και κομήτες χειρός, εάν περιέχουν όχι πάρα πάνω από 30 γραμμάρια κοκκώδους μελανής πυρίτιδος το καθένα).

25° Βεγγαλικά χωρίς κεφαλές αναφλέξεως (π.χ. Βεγγαλικές δάδες, φώτα, φλόγες).

26° MAGNESIUM FLASH-POWDERS (Μαγνήσιο για φλάς φωτογραφικών μηχανών), όχι πάρα πάνω από 5 γραμμάρια ανά σακκούλα ή σωλήνα, σε χάρτινες σακκούλες ή μικρούς γυάλινους σωλήνες.

Δ.- Παρασιτοκτόνα (ύλες και είδη):-

27° Καπνογόνες ύλες για γεωργικούς και δασικούς σκοπούς, και καπνογόνα φυσίγγια προς χρήσιν ως παρασιτοκτόνα.

Για καπνογόνους μηχανισμούς περιέχοντας χλωρικά άλατα ή μεταφέροντα εκρηκτικό γέμισμα ή εκρηκτικό αναφλεκτικό γέμισμα, βλέπε Κλάσιν Ιβ, 9° (περιθώριο 2I3I).

2.- Διατάξεις

Α.- Κόλα

Ι.- Γενικοί όροι συσκευασίας

(Ι) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου. 2Ι72

(2) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη τους ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους κανονικούς όρους μεταφοράς. Τα είδη θα πρέπει να ασφαλίζονται σταθερά, και οι εσωτερικές συσκευασίες σταθερά ασφαλισμένες στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ειδικώς ορίζεται στο άρθρο υπό τον τρίτλον "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", τα εσωτερικά είδη συσκευασίας μπορούν να εσωκλείονται σε εξωτερικά είδη συσκευασίας, είτε ένα-ένα είτε ομαδικά.

(3) Το αποσβεστικό υλικό θα ταιριάζει με τη φύση του περιεχομένου.

2.- Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους

(Ι) Είδη της Ι°(α) θα συσκευάζονται σε κυτία ή βιβλία. Τα κυτία αυτά ή βιβλία θα τυλίγονται με χοντρό χαρτί ώστε να αποτελούν ένα συλλογικό κόλον, όλες οι πτυχές του οποίου θα κολλούνται. Τα βιβλία μπορούν επίσης να τοποθετούνται σε κυτία κατασκευασμένα από ινώδη δανίδα ή από υλικό όχι ευχερώς εύφλεκτο (π.χ. ακετυλοκυτταρίνη). 2Ι73

Τα από ινώδη σανίδα κυτία ή τα συλλογικά κόλα θα τοποθετούνται σε γερό κιβώτιο κατασκευασμένο από ξύλο, μέταλλο, σανίδα πεπιεσμένου ξύλου, γερή στερεά ινώδη σανίδα ή διπλής όψεως κυματοειδούς ινώδους σανίδας. 2173 (Συνεχίζεται)

Όλες οι ενώσεις των μεταλλικών κιβωτίων θα κλείνονται με μαλακή κόλληση ή με διπλή-ραφή.

Τα κιβώτια από ινώδη σανίδα θα κλείνονται με ενωμένα πτερύγια (κλαπέτα). Τα άκρα των εξωτερικών πτερυγίων, και όλες οι ενώσεις, είτε θα κολλούνται είτε θα κλείνουν σταθερά δι'άλλου καταλλήλου μέσου.

Εάν τα από ινώδη σανίδα κυτία ή τα συλλογικά πακέτα συσκευάζονται σε κιβώτια από ινώδη σανίδα, το βάρος του κόλου δεν θα υπερβαίνει τα 20 KG.

(2) Είδη της I^{o}(β) θα είναι έτσι συσκευασμένα σε κυτία ώστε να αποφεύγεται κάθε μετακίνησις. Όχι περισσότερα από I2 από αυτά τα κυτία θα εγκλείονται σε πακέτο, όλες οι πτυχές του οποίου θα κολλούνται.

Όχι περισσότερα από I2 από αυτά τα πακέτα θα τυλίγονται με γερό χαρτί ώστε να αποτελούν ένα συλλογικό πακέτο, όλες οι πτυχές του οποίου θα κολλούνται. Τα συλλογικά πακέτα θα τοποθετούνται σε γερό κιβώτιο κατασκευασμένο από ξύλο, μέταλλο, χάρντ-μπόρντ πεπιεσμένου ξύλου, γερή στερεά ινώδη σανίδα ή διπλής όψεως κυματοειδή ινώδη σανίδα.

Όλες οι ενώσεις των μεταλλικών κιβωτίων θα ασφαλίζονται με μαλακή συγκόλληση ή διπλή ραφή.

Κιβώτια από ινώδη σανίδα θα κλείνονται με ενωμένα πτερύγια (κλαπέτα). Τα άκρα των εξωτερικών πτε-

ρυγίων, και όλες οι ενώσεις, πρέπει είτε να κολλούνται είτε να κλείνονται σταθερά δι'άλλου καταλλήλου μέσου. 2Ι73 (Συνεχίζεται)

Εάν τα συλλογικά πακέτα συσκευάζονται σε κιβώτια από ινώδη σανίδα, το βάρος του κόλου δεν πρέπει να υπερβαίνει τα 20 KG.

(Ι) Είδη της 2ο θα συσκευάζονται σε κυτία κατασκευασμένα από φύλλο μετάλλου ή ινώδη σανίδα. Όχι περισσότερα από 30 κιβώτια από φύλλο μετάλλου ή Ι44 κιβώτια από ινώδη σανίδα θα κλείνονται σε ένα πακέτο το οποίο δεν πρέπει να περιέχει περισσότερο από 90 γραμμάρια εκρηκτικής ύλης. Τα πακέτα αυτά θα τοποθετούνται σε κιβώτιο συσκευασίας, με καλώς ενωμένες πλευρές πάχους όχι μικροτέρου των Ι8 ΜΜ (χιλ.), επενδεδυμένο με γερό χαρτί ή με λεπτό φύλλο ψευδαργύρου ή αλουμινίου ή με φύλλο από πλαστικήν ύλην όχι ευχερώς εύφλεκτη. Πλευρικόν πάχος ΙΙ ΜΜ (χιλ.) αρκεί για κόλον που ζυγίζει όχι πάνω από 35 KG εάν το κιβώτιο περιβληθεί με σιδερένια ταινία. 2Ι74

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από Ι00 KG.

(Ι) Είδη της 3ο θα συσκευάζονται σε ξύλινα κιβώτια επενδεδυμένα με γερό χαρτί ή λεπτό φύλλο ψευδαργύρου ή αλουμινίου. 2Ι75

Μικρές αποστολές που ζυγίζουν όχι πάνω από 20 KG, περιτυλιγμένες με κυματοειδή ινώδη σανίδα, μπορούν επίσης να γίνονται πακέτα με γερό δι-φυλλο χαρτί συσκευασίας ασφαλώς δεμένα με σπάγγο.

(2) Οσάκις χρησιμοποιούνται βαρέλια από ινώδη

σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

(I) Νήμα πυροκυλίνης (PYROXYLIN THREAD) (4°) 2I76
θα ρολλάρεται, σε μήκη όχι υπερβαίνοντα τα 30 μ. ανά ρόλλον, ή ρόλλους ινώδους σανίδας. Ο κάθε ρόλλος θα τυλίγεται σε χαρτί. Όχι περισσότεροι από I0 από αυτούς τους ρόλλους θα τυλίγονται σε χαρτί συσκευασίας ώστε να αποτελούν πακέτα τα οποία θα ασφαλίζονται με αποσβεστικό υλικό σε μικρά ξύλινα κιβώτια. Τα κιβώτια θα τοποθετούνται σε ξύλινο κιβώτιο συσκευασίας.

(2) Το κόλον δεν πρέπει να περιέχει πάνω από 6.000 μ. νήματος πυροκυλίνης (PYROXYLIN THREAD).

(I) Είδη της 5° θα συσκευάζονται, όχι περισσό- 2I77
τερα των 25 ανά κυτίον, σε κυτία κατασκευασμένα από πλάκα κασσιτέρου ή ινώση σανίδα· εν τούτοις, καφύλλια θερμίτη μπορούν να συσκευάζονται, όχι περισσότερα από I00 ανά κυτίον, σε κυτία από ινώδη σανίδα. Όχι περισσότερα από 40 από αυτά τα κυτία θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο κατά τέτοιο τρόπο ώστε να μη μπορούν να έλθουν σε επαφή είτε μεταξύ των είτε με τις πλευρές του κιβωτίου.

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από I00 KG.

(I) Είδη των 6° - 8° θα συσκευάζονται:- 2I78

(α) είδη της 6°: σε ξύλινα κιβώτια·

(β) είδη της 7°(α): σε ξύλινα κιβώτια ή σε ξύλινα βυτία ή σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα·

(γ) είδη της 7°(β): όχι περισσότερα των Ι.000 ανά κυτίο, ασφαλιζόμενα με αποσβεστικό υλικό από πριονόσκονη (πριονίδια) σε κυτία από ινώδη σανίδα διηρημένα σε όχι λιγώτερο από τρία διαμερίσματα περιέχοντα το καθένα περίπου τον αυτόν αριθμόν ειδών και διαχωριζόμενα με τιθέμενα μεταξύ αυτών φύλλα από ινώδη σανίδα. Τα καλύμματα των κυτίων θα ασφαλίζονται με κομμιωμένες γύρω-γύρω ταινίες. Όχι περισσότερα από 100 από τα κυτία αυτά από ινώδη σανίδα θα τοποθετούνται σε διάτρητο δοχείο από φύλλο-σιδήρου. Το δοχείο τούτο θα ασφαλίζεται με αποσβεστικό υλικό σε κιβώτιο συσκευασίας ξύλινο το οποίο θα κλείνει με βίδες και του οποίου οι πλευρές θα έχουν πάχος όχι μικρότερο των 18 ΜΜ (χιλ.), κατά τοιούτο τρόπο ώστε να υπάρχει διάστημα όχι λιγώτερο των 3 ΣΜ (εκ.) γεμισμένο με αποσβεστικό υλικό σε όλα τα σημεία μεταξύ του δοχείου από φύλλο-σιδήρου και του κιβωτίου συσκευασίας· 2178 (Συνεχίζεται)

(δ) είδη της 8°: σε κυτία από ινώδη σανίδα. Τα κυτία θα γίνονται πακέτο το οποίο θα περιέχει όχι περισσοτέρους από Ι.000 ηλεκτρικούς αναφλεκτήρες. Το πακέτο θα τοποθετείται σε ξύλινο κιβώτιο συσκευασίας.

(2) Προκειμένου περί βαρελίων από ινώδη σανίδα, το κόλον που περιέχει είδη της 7°(α) δεν πρέπει να ζυγίζει περισσότερο από 75 ΚΓ. Κόλον που περιέχει είδη της 7°(β) δεν πρέπει να ζυγίζει περισσότερο από 50 ΚΓ·

εάν ζυγίζει περισσότερο από 30 KG θα είναι εφοδιασμένο με χειρολαβές. 2178 (Συνεχίζεται)

(Ι) Είδη των 9° - 26° θα εγκλείονται (εσωτερική συσκευασία):- 2179

(α) είδη των 9° και 10°: σε χάρτινα είδη συσκευασίας ή σε κυψία·

(β) είδη της 11°(α): όχι περισσότερα των 500 ανά κυτίο από ινώδη σανίδα ή ανά μικρό ξύλινο κιβώτιο, ασφαλιζόμενα με αποσβεστικό υλικό από πριονίδια:

1.- σε κυτία από ινώδη σανίδα τα οποία θα τυλίγονται με χαρτί· ή

2.- σε μικρά ξύλινα κιβώτια·

(γ) είδη της 11°(β): όχι περισσότερα των 10 ανά βιβλίο, σε βιβλία· όχι περισσότερα των 100 βιβλίων μαζί θα συσκευάζονται σε κυτίο από ινώδη σανίδα ή τυλίγονται με γερό χαρτί·

(δ) είδη της 11°(γ): όχι περισσότερα από 10 ανά σακκούλα, σε σακκούλες χάρτινες ή από κατάλληλη πλαστική ύλη· όχι περισσότερες από 100 σακκούλες μαζί θα συσκευάζονται σε κυτίο από ινώδη σανίδα·

(ε) είδη της 12°: όχι περισσότερα από 25 ανά κυτίο, σε κυτία από ινώδη σανίδα·

(στ) είδη της 13°: σε κυτία τυλιγμένα σε χαρτί ώστε να αποτελούν πακέτα περιέχοντα το καθένα όχι περισσότερα από 12 κυτία·

(ζ) είδη της 14°: σε κυτία ή σακκούλες από χαρτί ή κατάλληλη πλαστική ύλη. Οι συσκευασίες αυτές θα

τυλίγονται σε χαρτί ώστε να αποτελούν πακέτα περιέχοντα το καθένα όχι περισσότερα των 144 των ειδών αυτών· 2179 (Συνεχίζεται)

(η) είδη της 15°: σε κυτία από ινώδη σανίδα περιέχοντα το καθένα:-

όχι περισσότερα των 100 καψυλλίων, το καθένα, γεμισμένο με όχι περισσότερα των 5 MG εκρηκτικής ύλης·

ή

όχι περισσότερα των 50 καψυλλίων το καθένα γεμισμένο με όχι περισσότερα των 7,5MG εκρηκτικής ύλης.

Όχι περισσότερα των 12 από τα κυτία αυτά θα γίνονται χάρτινος ρόλλος, και όχι περισσότεροι από 12 ρόλλοι θα τυλίγονται σε χαρτί συσκευασίας ώστε να αποτελούν πακέτο.

Ταινίες των 50 καψυλλίων, το καθένα καψύλλιο γεμισμένο με όχι περισσότερα των 5 MG εκρηκτικής ύλης μπορούν να συσκευάζονται κατά τον ακόλουθο τρόπο:-

5 ταινίες ανά κυτίο, σε κυτία από ινώδη σανίδα τυλιγμένα 6 μαζί σε χαρτί ισοδύναμο σε αντοχή με χαρτί KRAFT (χοντρό χαρτί συσκευασίας) κατωτάτου βάρους 40 MG/μ^2· 12 μικρά πακέτα θα τυλίγονται μαζί σε χαρτί της αυτής ποιότητος ώστε να αποτελέσουν ένα μεγάλο πακέτο·

(θ) είδη της Ι6°: ασφαλιζόμενα με αποσβεστικό υλικό, όχι περισσότερα των 50 ανά κυτίο, σε κυτία από ινώδη σανίδα. Οι φελλοί θα κολλούνται στον πυθμένα των κυτίων ή θα τοποθετούνται στη θέση τους με κάποια ισοδύναμο μέθοδο. Το κάθε κυτίο θα τυλίγεται με χαρτί και όχι περισσότερα από Ι0 κυτία θα τυλίγονται σε χαρτί συσκευασίας ώστε να αποτελούν πακέτο· 2Ι79 (Συνεχίζεται)

(ι) είδη της Ι7°: όχι περισσότερα των 5 ανά κυτίο, σε κυτία από ινώδη σανίδα. Όχι περισσότερα των 200 κυτίων, τακτοποιημένων σε ρόλλους, θα τοποθετούνται μαζί σε συλλογικό κυτίο από ινώδη σανίδα·

(κ) είδη της Ι8°: ασφαλιζόμενα με αποσβεστικό υλικό, όχι περισσότερα των Ι0 ανά κυτίο, σε κυτία από ινώδη σανίδα. Όχι περισσότερα των Ι00 κυτίων, τακτοποιημένων σε ρόλλους, θα τυλίγονται με χαρτί ώστε να αποτελέσουν πακέτο·

(λ) είδη της Ι9°: ασφαλιζόμενα με αποσβεστικό υλικό, όχι περισσότερα των Ι5 ανά κυτίο, σε κυτία από ινώδη σανίδα. Όχι περισσότερα των Ι44 κυτίων, τακτοποιημένων σε ρόλλους, θα συσκευάζονται σε δεύτερο κυτίο από ινώδη σανίδα·

(μ) είδη της 20°(α): ασφαλιζόμενα με αποσβεστικό υλικό, όχι περισσότερα των Ι44 ανά κιβώτιο, σε κιβώτια από ινώδη σανίδα·

(ν) είδη της 20°(β): όχι περισσότερα των 75 ανά κυτίο, σε κυτία από ινώδη σανίδα· όχι περισσότερα των 72

2179 (Συνεχίζεται)

κυτίων θα τυλίγονται με ινώδη σανίδα ώστε να αποτελέσουν ένα πακέτο·

(ξ) είδη της 21°: σε κυτία από ινώδη σανίδα ή σε γερό χαρτί. Εάν το σημείο αναφλέξεως των ειδών δεν καλύπτεται από προστατευτικό καψύλλιο, το καθέβα είδος πρέπει πρώτα να τυλιχθεί χωριστά με χαρτί. Το προωθητικό γέμισμα των βομβών που ζυγίζουν πάνω από 5 KG θα προστατεύεται από χάρτινο κιβώτιο καλύπτον το κάτω μέρος της βόμβας·

(ο) είδη της 22°: σε κυτία από ινώδη σανίδα ή σε χοντρό χαρτί. Ωμώς , μεγάλα πυροτεχνήματα δεν χρειάζεται να έχουν εσωτερική συσκευασία εάν το σημείο αναφλέξεώς τους καλύπτεται από προστατευτικό κάλυμμα·

(π) είδη της 23°: ασφαλιζόμενα με αποσβεστικό υλικό σε κυτία κατασκευασμένα από ξύλο ή ινώδη σανίδα. Οι κεφαλές αναφλέξεως θα προστατεύονται από προστατευτικό κάλυμμα·

(ρ) είδη της 24°: σε κυτία από ινώδη σανίδα ή σε γερό χαρτί·

(σ) είδη της 25°: σε κυτία από ινώδη σανίδα ή σε γερό χαρτί. Εν τούτοις, μεγάλα πυροτεχνήματα δεν χρειάζεται να έχουν εσωτερική συσκευασία εάν το σημείο αναφλέξεώς τους έχει καλυφθεί με προστατευτικό κάλυμμα·

(τ) είδη της 26°: σε κυτία από ινώδη σανίδα. Το κυτίο δεν πρέπει να περιέχει περισσοτέρους από 3 γυάλι-

νους σωλήνες.

2179 (Συνεχίζεται)

(2) Οι εσωτερικές συσκευασίες οι αναφερόμενες στο (Ι) θα συσκευάζονται:-

(α) συσκευασίες περιέχουσες είδη των 10°, 13° και 14°, σε ξύλινα κιβώτια συσκευασίας·

(β) συσκευασίες περιέχουσες ύλες ή είδη των 9°, 11°, 12° και 15° - 26°, σε ξύλινα κιβώτια συσκευασίας με καλά ενωμένες πλευρές πάχους όχι μικρότερου των 18 ΜΜ (χιλ.), επενδεδυμένα με γερό χαρτί ή λεπτό φύλλο ψευδαργύρου ή φύλλο αλουμινίου. Πλευρικό πάχος 11 ΜΜ (χιλ.) αρκεί για κόλον που ζυγίζει όχι πάνω από 35 KG εάν το κιβώτιο περιβάλλεται από σιδερή ταινία.

Το περιεχόμενον του κιβωτίου συσκευασίας περιορίζεται ως κάτωθι:-

προκειμένου για είδη της 17°, σε εξωτερικά κυτία από ινώδη σανίδα·

προκειμένου για είδη της 18°, σε 25 πακέτα·

προκειμένου για είδη της 20°(α), σε 50 κιβώτια από ινώδη σανίδα·

προκειμένου για είδη της 20°(β), σε 50 πακέτα, το καθένα των 72 κυτίων από ινώδη σανίδα· και

προκειμένου για είδη της 21°, σε αριθμό ειδών τέτοιο ώστε το βάρος του ολικού γεμίσματος να μην υπερβαίνει τα 56 KG·

(γ) συσκευασία περιέχουσα MAGNESIUM FLASH-POWDERS (Μαγνήσιον Φωτογραφιών) (26°), είτε σύμφωνα με

την (β) ανωτέρω, είτε σε ξύλινα κιβώτια συσκευασίας, το καθένα ζυγίζον όχι πάνω από 5 KG, ή, προκειμένου για συσκευασίες χαρτίνων σακκουλών, σε γερά κιβώτια από ινώδη σανίδα το καθένα ζυγίζον όχι πάνω από 5 KG. 2I79 (Συνεχίζεται)

(3) Ξύλινα κιβώτια περιέχοντα είδη με εκρηκτικό γέμισμα με βάσιν φωσφόρου και χλωρικού άλατος πρέπει να κλείνονται με βίδες.

(4) Κόλον περιέχον είδη των 9^{o}, II^{o}, $I2^{o}$, $I5^{o}$ - 22α ή 24^{o}- 26^{o} δεν πρέπει να ζυγίζει πάνω από I00 KG· δεν πρέπει να ζυγίζει πάνω από 50 KG εάν περιέχει είδη της 23^{o} ή πάνω από 35 KG εάν οι πλευρές του κιβωτίου είναι πάχους μόνον II MM (χιλ.) και το κιβώτιο περιβάλεται από σιδερένια ταινία.

(I) Ύλες των ειδών της 27^{o} θα συσκευάζονται σε ξύλινα κιβώτια επενδεδυμένα με χαρτί συσκευασίας, λαδόχαρτο ή κυματοειδή ινώδη σανίδα. Ουδεμία επένδυσις απαιτείται εάν οι ύλες αυτές και τα είδη τυλιχθούν με χαρτί ή ινώδη σανίδα. 2I80

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από I00KG.

(3) Καπνογόνα φυσίγγια προς χρήσιν ως παρασιτοκτόνα μπορούν, εάν είναι τυλιγμένα με χαρτί ή ινώδη σανίδα να συσκευασθούν επίσης:-

(α) σε κυτία από κυματοειδή ινώδη σανίδα ή σε γερά κιβώτια από ινώδες σανίδα· τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 20 KG· ή

(β) σε συνήθη κιβώτια από ινώδη σανίδα· τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 5 KG.

Μικτή Συσκευασία

(1) Ύλες και είδη ομαδοποιημένα υπό τον αυτόν 2181
αριθμόν είδους μπορούν να συμπεριλαμβάνονται στο ίδιο κόλον. Οι εσωτερικές συσκευασίες θα είναι σύμφωνες με όσα έχουν καταχωρηθεί για κάθε επικίνδυνη ύλη, και η εξωτερική συσκευασία θα είναι εκείνη που έχει καταχωρηθεί για τις επικίνδυνες ύλες του ίδιου αριθμού είδους. Εν προκειμένω, κιβώτιο από ινώδη σανίδα περιέχον είδη της 20°(α) θα θεωρείται ισοδύναμο με πακέτο περιέχον είδη της 20°(β).

(2) Εάν κικρότερες ποσότητες δεν προβλέπονται υπό του άρθρου του φέροντος τον τίτλον "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", οι επικίνδυνες ύλες της Κλάσεως αυτής, σε ποσότητες μη υπερβαίνουσες τα 6 KG για όλες τις επικίνδυνες ύλες τις αναφερόμενες υπό τον αυτόν αριθμόν είδους ή υπό το αυτό γράμμα, μπορούν να εγκλείονται στο ίδιο κόλον είτε με επικίνδυνες ύλες άλλου αριθμού είδους ή άλλου γράμματος της αυτής Κλάσεως, ή με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις (εάν μικτή συσκευασία επιτρέπεται επίσης προκειμένου για τέτοιες ύλες), ή με άλλα εμπορεύματα υπό την επιφύλαξη των παρακάτω ειδικών όρων.

Τα εσωτερικά είδη συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως πρέπει να τηρούνται οι γενικές διατάξεις οι περιεχόμενες στα περιθώρια 2001(5) και 2002(6) και (7).

Το κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG, ή πάνω από 50 KG εάν περιέχει είδη της 25°. 2181 (Συνεχίζεται)

Ειδικοί όροι:-

Αριθμός Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότης ανά δοχείο	ανά κόλον	Ειδικές Διατάξεις
1°	Πυρεία	5 KG	5 KG	Δεν πρέπει να συσκευάζονται μαζί με όλες των Κλάσεων 3, 4.1 και 4.2
2° & 3°	Ταινίες εμπυρίων και πυροσωλήνες βραδείας καύσεως	Μικτή συσκευασία απαγορεύεται		
4°	Νήμα Πυροκυλίνης	1.500 μ. νήματος πυροκυλίνης		
5° - 8°	Όλα τα είδη	Μικτή συσκευασία απαγορεύεται		
9° - 20°	Όλα τα είδη			Μικτή συσκευασία επιτρέπεται μόνον με μικρά είδη ή μη-πυροτεχνικά παιγνίδια, από τα οποία πρέπει να τηρούνται χωριστά. Το συλλογικό κιβώτιο πρέπει να πληροί τους προβλεπομένους για τα

Αριθμός Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	Ανωτάτη Ποσότητα ανά κόλον	Ειδικές Διατάξεις
				περιεχόμενα εις αυτά είδη για τα οποία το περιθώριο 2Ι79(2) και (3) επιβάλλει τους πειό αυστηρούς όρους
2Ι° - 25°	Όλα τα είδη			Μικτή συσκευασία επιτρέπεται μόνο μεταξύ των. Το συλλογικό κιβώτιο πρέπει να πληροί τους προβλεπομένους για τα περιεχόμενα εις αυτά είδη για τα οποία το περιθώριο)Ι79(2) και (3) επιβάλλει τους πειό αυστηρούς όρους.
26° & 27°	Όλα τα είδη και ύλες	Μικτή συσκευασία απαγορεύεται		

4.- Μαρκάρισμα και ετικέτες κινδύνου επί των κόλων

(βλέπε Προσθήκην Α.9)

(Ι) Κόλα περιέχοντα είδη της Κλάσεως Ιγ, Ι6°, ή 2Ι82
2Ι° έως 23°, θα φέρουν ετικέτα σύμφωνον με το μοντέλο No.I.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορατά 2Ι83
από έξω θα φέρουν ετικέτα σύμφωνον με το μοντέλο No.9.

Β.- Λεπτομέρειες του εγγράφου της μεταφοράς

(1) Η περιγραφή των εμπορευμάτων στο έγγραφο της μεταφοράς πρέπει να συμφωνεί με μία των ονομασιών των υπογραμμιζομένων στο περθώριο 2Ι7Ι· πρέπει να έχει κόκκινη υπογράμμιση και να ακολουθείται από τις λεπτομέρειες της Κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά της "ADR" ή της "RID" (π.χ., Ιγ, Ι°(α), ADR). Η διατύπωση "Πυροτεχνήματα της ADR, Ιγ, αριθμός είδους .....", με λεπτομέρειες των αριθμών του είδους υπό τους οποίους αι μεταφερόμενες ύλες ή είδη αναγράφονται, επιτρέπεται επίσης στο έγγραφο μεταφοράς. 2Ι84

(2) Προκειμένου περί υλών και ειδών των 2°, 4°, 5°, 8°, 9°, ΙΙ°, Ι2° και Ι5° - 27°, τα παρακάτω πρέπει να βεβαιώνονται στο έγγραφο της μεταφοράς: "Η φύσις των εμπορευμάτων, και η συσκευασία, συμφωνούν με τις διατάξεις της ADR".

2Ι85-
2Ι89

Γ.- Κενά Είδη Συσκευασίας

Καμμία διάταξη 2Ι90

2Ι9Ι-
2Ι99

ΚΛΑΣΗ 2.- ΑΕΡΙΑ: ΠΕΠΙΕΣΜΕΝΑ, ΥΓΡΟΠΟΙΗΜΕΝΑ Η ΔΙΑΛΥΟΜΕΝΑ ΥΠΟ ΠΙΕΣΗ

I.- Κατάλογος υλών

(I) Μεταξύ των υλών και ειδών που καλύπτονται από τον τίτλον της Κλάσεως 2, μόνον τα απαριθμούμενα στό περιθώριο 2201 θα γίνονται δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και των διατάξεων του Παραρτήματος Β. Οι ύλες και είδη που γίνονται δεκτά για μεταφορά υπό ορισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR. 2200

(2) Οι ύλες που έχουν κριτικήν θερμοκρασίαν κατωτέραν των 50°C ή, εις 50°C, πίεση ατμού μεγαλύτεραν των 3 KG/CM^2 θεωρούνται ως ύλες της Κλάσεως 2.

(3) Οι ύλες και τα είδη της Κλάσεως 2 ταξινομούνται ως κάτωθι:-

Α : Πεπιεσμένα αέρια έχοντα κριτικήν θερμοκρασίαν κάτω των -10°C.

Β : Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν -10°C ή άνω:

(α) Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν 70°C ή άνω.

(β) Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν -10°C ή άνω, αλλά κάτω των 70°C.

Γ : Βαθειά-κατεψυγμένα (DEEPLY-REFRIGIRATED) υγροποιημένα αέρια.

Δ : Αέρια διαλυόμενα υπό πίεση.

Ε : Διανεμητές Αεροζόλ και μη-ξαναγεμιζόμενα δοχεία

(CONTAINERS) αερίου υπό πίεση· 2200 (Συνεχίζεται)

ΣΤ : Αέρια υποκείμενα σε ειδικούς δρους· και

Ζ : Κενά δοχεία και κενές δεξαμενές.

Οι ύλες και τα είδη της Κλάσεως 2 υποδιαιρούνται συμφώνως προς τις χημικές τους ιδιότητες, ως κάτωθι:-

(α) άφλεκτα·

(α Τ) άφλεκτα, τοξικά·

(β) εύφλεκτα·

(β Τ) εύφλεκτα, τοξικά·

(γ) χημικώς ασταθή·

(γ Τ) Χημικώς ασταθή, τοξικά.

Εκτός εάν άλλως ορίζεται, οι χημικώς ασταθείς ύλες θα θεωρούνται ότι είναι εύφλεκτες.

Τις ονομασίες των διαβρωτικών αερίων και ειδών που περιέχουν τέτοια αέρια θα ακολουθεί η λέξη "διαβρωτικόν" σε εισαγωγικά.

(4) Οι ύλες της Κλάσεως 2 που απαριθμούνται μεταξύ των χημικών ασταθών αερίων θα φέρονται δεκτές για μεταφορά μόνον εάν τα απαραίτητα μέτρα έχουν παρθεί ώστε να αποφεύγεται η επικίνδυνη αποσύνθεσή τους, αυτοξειδοαναγωγή ή πολυμερισμός διαρκούσης της μεταφοράς.

Προς τον σκοπόν αυτόν, πρέπει να λαμβάνεται ειδική μέριμνα να εξασφαλίζεται ότι τα δοχεία και οι δεξαμενές δεν περιέχουν ύλες που θα μπορούσαν να προαγάγουν αυτές τις αντιδράσεις.

Α.- Πεπιεσμένα αέρια (βλέπε επίσης περιθώριο 2201α υπό 2201 στοιχείο (α). Για αέρια της $1^{ο}$(α) και (β) και $2^{ο}$(α) μέσα σε

διανεμητές αεροζόλ ή σε μη-ξαναγεμιζόμενα δοχεία CONTAIN- 2201
ERS) για αέρια υπό πίεση, βλέπε υπό στοιχεία IO° και II°). (Συνεχίζεται)

Αέρια έχοντα κριτικήν θερμοκρασίαν κάτω των -IO°C θεωρούνται ότι είναι πεπιεσμένα αέρια για τους σκοπούς της ADR.

I° Καθαρά αέρια και τεχνικώς-καθαρά αέρια

(α) Άφλεκτα

ΑΡΓΟΝ· ήλιον· κρυπτόν· νέον· άζωτον· οξυγόνον· τετραφθοροομεθάνιο (R I4).

(α Τ) Άφλεκτα, τοξικά

Τριφθοριούχο βόριο· φθόριο (διαβρωτικόν)· τετραφθοριούχο πυρίτιο (διαβρωτικόν).

(β) Εύφλεκτα

Δευτέριο· υδρογόνο· μεθάνιο.

(β Τ) Εύφλεκτα, τοξικά

Μονοξείδιο του άνθρακος

(γ Τ) Χημικώς ασταθή, τοξικά

Μονοξείδιο τού αζώτου NO (άφλεκτο).

2° Μίγματα αερίων

(α) Άφλεκτα

Μίγματα δύο ή περισσοτέρων των παρακάτω αερίων: σπάνια αέρια (περιέχοντα όχι περισσότερο του IO°/o Ξένον (XENON) κατ'όγκον)), άζωτον, οξυγόνον, διοξείδιο του άνθρακος (όχι περισσότερο του 30°/o κατ' όγκον)· άφλεκτα μίγματα των δύο ή περισσοτέρων των

παρακάτω αερίων: υδρογόνου, μεθανίου, αζώτου, σπα- 2201
νίων αερίων (περιεχόντων όχι περισσότερον του (Συνεχίζεται)
10°/ο Ξένον κατ'όγκον), όχι περισσότερον του 30°/ο
διοξειδίου του άνθρακος κατ'όγκον· άζωτον περιέχον
όχι άνω του 6°/ο αιθυλενίου κατ'όγκον· αήρ.

(β) Εύφλεκτα

Μίγματα όχι λιγώτερο του 90°/ο μεθανίου κατ'όγκον με υδρογονάνθρακες των 3°(β) και 5°(β)· εύφλεκτα μίγματα δύο ή περισσοτέρων των παρακάτω αερίων: υδρογόνου, μεθανίου, αζώτου, σπανίων αερίων (περιεχόντων όχι άνω του 10°/ο Ξένον κατ'όγκον), όχι άνω του 30°/ο διοξειδίου του άνθρακος κατ'όγκον· φυσικόν αέριον.

(β Τ) Εύφλεκτα, τοξικά

Αέριο Πόλεως (Δήμου): μίγματα υδρογόνου με όχι άνω του 10°/ο σεληνιούχου υδρογόνου (HYDROGEN SELENIDE) ή φωσφίνην ή σιλάνιον ή γερμανομεθάνιο κατ'όγκον ή με όχι άνω του 15°/ο αρσίνην κατ'όγκον· μίγματα αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω του 10°/ο Ξένον κατ'όγκον) με όχι άνω του 10°/ο σεληνιούχου υδρογόνου ή φωσφίνην ή σιλάνιον ή γερμανομεθάνιον κατ'όγκον ή με όχι άνω του 15°/ο αρσίνην κατ'όγκον· υδραέριο· αέριο χημικής συνθέσεως (π.χ. εκ της μεθόδου FISCHER-TROPSCH)· μίγματα μονοξειδίου του άνθρακος με υδρογόνο ή με μεθάνιο.

(γ Τ) Χημικώς ασταθή, τοξικά

Μίγματα υδρογόνου με όχι άνω του 10°/ο διβοράνιο κατ'

όγκον· μίγματα αζώτου ή σπανίων αερίων (περιεχόντων 220Ι
όχι άνω του 10°/ο Ξένον κατ'όγκον) με όχι άνω του (Συνεχί-
10°/ο διβοράνιο κατ'όγκον. ζεται)

Β.- Υγροποιημένα αέρια (βλέπε επίσης περιθώριο 220Ια υπό στοιχεία (β) και (ε). Για αέρια των 3° έως 6° μέσα σε διανεμητές αεροζόλ ή μέσα σε μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) για αέρια υπό πίεση, βλέπε υπό στοιχεία 10° και 11°):

Αέρια έχοντα κριτικήν θερμοκρασίαν -10°C ή άνω θεωρούνται ότι είνα υγροποιημένα αέρια για τους σκοπούς της ADR.

(α) Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν 70°(ή άνω:

3° Καθαρά αέρια και τεχνικώς-καθαρά αέρια

(α) Άφλεκτα

Βρωμοχλωριοδιφθοριομεθάνιον (R 12 B 1)· χλωριοδιφθοριομεθάνιο (R 22)· χλωριοπενταφθοριοαιθάνιο (R 115)· 1-χλωριο-2,2,2-τριφθοριοαιθάνιο (R 133α) διχλωριοδιφθοριομεθάνιο (R 12)· διχλωριοφθοριομεθάνιο (R 21)· 1,2-διχλωριο-1,1,2,2-τετραφθοριοαιθάνιο (R 114)· οκτωφθοριοκυκλοβουτάνιο (RC 318).

(α Τ) Άφλεκτα, τοξικά

Αμμωνία: χλωριούχο βόριον (διαβρωτικόν)· χλώριον (διαβρωτικόν)· τριφθοριούχον χλώριον (διαβρωτικόν)· εξαφθοριοπροπυλένιον (R 216)· υδροβρώμιο (διαβρωτικόν)· μεθυλοβρωμίδιο· νιτροζυχλωρίδιο (διαβρωτικόν)· διοξείδιον του αζώτου NO_2 (υπεροξείδιον αζώτου, τετροξείδιο του αζώτου N_2O_4) (διαβρωτικόν)· φωσγένιον (διαβρωτικόν)· διοξείδιον του θείου·

φθοριούχο SULPHURYL· εξαφθοριούχο βολφράμιο. 2201 (Συνεχίζεται)

(β) Εύφλεκτα

Βουτάνιο· I-Βουτυλένιο (I-βουτένιο)· I-χλωρο-I,I-διφθοριοαιθάνιο (R I42β)· CIS-2-βουτυλένιο (CIS-2-βουτένιο)· κυκλοπροπάνιο· I,I-διφθοριοαιθάνιο (R I52α)· ισοβουτάνιο· ισοβουτυλένιο (ισοβουτένιο)· μεθυλσιλάνιο· προπάνιο· προπυλένιο· TRANS-2-βουτυλένιο (TRANS-2-βουτένιο)· I,I I-τριφθοριοαιθάνιο.

(β Τ) Εύφλεκτα, τοξικά

Αρσίνη· διχλωροσιλάνιο· διμεθυλαμίνη· διμεθυλαιθέρας· διμεθυλσιλάνιο· αιθυλαμίνη· αιθυλοχλωρίδιο· σεληνιούχο υδρογόνο· υδρόθειο· μεθυλαμίνη· μεθυλοχλωρίδιο· μεθυλική μερκαπτάνη· τριμεθυλαμίνη· τριμεθυλσιλάνιο.

(γ) Χημικώς ασταθή

I,3-βουταδιένιο· χλωριούχο βινύλιο.

(γ-Τ) Χημικώς ασταθή, τοξικά

Κυανογόνο· χλωροκυανίδιο (άφλεκτον) (διαβρωτικόν)· οξεδόο αιθυλενίου· μεθυλοβινυλαιθέρας· τριφθοριοχλωροαιθυλένιο (R III3)· βινυλοβρωμίδιο.

Σημείωσις:- Στη περίπτωση των αλογόνων υδραγονανθράκων, η χρήση ονομασιών συνήθων στο εμπόριο, όπως οι παρακάτω, επιτρέπεται: ALGOFRENE, ARCTON, EDIFREN, FLUGENE, FORANE, FREON, FRESANE, FRIGEN, ISCEON, KALTRON, ακολουθούμενες από τον αριθμόν αναγνωρίσεως της ύλης χωρίς το γράμμα R.

4° Μίγματα αερίων 2201 (Συνεχίζεται)

(α) Άφλεκτα

Μίγματα υλών της 3°(α) μετά ή άνευ εξαφθοριοπροπυλενίου της 3°(α Τ), τα οποία ως:

μίγμα F I έχουν πίεση ατμού εις 70°C μη υπερβαίνουσαν τα 13 KG/CM^2 και πυκνότητα εις 50°C όχι μικροτέραν της πυκνότητας του διχλωροφθοριομεθανίου (I.30)·

μίγμα F 2 έχουν πίεση ατμού εις 70°C μη υπερβαίνουσαν τα 19 KG/CM^2 και πυκνότητα εις 50°C όχι μικροτέραν της πυκνότητας του διχλωροδιφθοριομεθανίου (I.21)·

μίγμα F 3 έχουν πίεση ατμού εις 70°C μη υπερβαίνουσαν τα 30 KG/CM^2 και πυκνότητα εις 50°C όχι μικροτέραν της πυκνότητας του χλωροδιφθοριομεθανίου (I.09)·

Σημείωσις:- I.- Τριχλωροφθοριομεθάνιον (R II), τριχλωροτριφθοριομεθάνιον (R II3) και χλωροτριφθοριομεθάνιον (R I33) δεν είναι υγροποιημένα αέρια εντός της εννοίας της ADR και επομένως δεν υπόκεινται στους όρους της ADR. Μπορούν εν τούτοις να συμπεριληφθούν εις την σύνθεση των μιγμάτων F I έως F 3.

2.- Βλέπε Σημείωσιν υπό στοιχείον 3°.

Το αζεοτροπικόν μίγμα του διχλωροδιφθοριομεθανίου (R I2) και I,I-διφθοριοαιθανίου (R I52α), γνωστόν ως R 500·

Το αζεοτροπικόν μίγμα του χλωροπενταφθοριομεθανίου (R II5) και χλωροδιφθοριομεθανίου (R 22), γνωστόν

ως R 502·

220Ι (Συνεχίζεται)

Το μίγμα του Ι9 έως 2Ι τοις εκατόν κατά βάρος διχλωροδιφθοριομεθανίου (R Ι2) και 79 έως 8Ι τα εκατόν κατά βάρος βρωμοχλωροδιφθοριομεθανίου (R Ι2 ΒΙ).

(α Τ) Άφλεκτα, τοξικά

Μίγματα μεθυλοβρωμιδίου και χλωροπικρίνης έχοντα πίεση ατμού άνω των 3 KG/CM^2 εις 50°C.

(β) Εύφλεκτα

Μίγματα υδρογονανθράκων της 3°(β) και αιθανίου και αιθυλενίου της 5°(β), τα οποία ως:

μίγμα Α έχουν πίεση ατμού εις 70°C μη υπερβαίνουσαν τα ΙΙ KG/CM^2 και πυκνότητα εις 50°C όχι κάτω των 0.525·

μίγμα Α Ο έχουν πίεση ατμού εις τους 70°C μη υπερβαίνουσαν τα Ι6 KG/CM^2 και πυκνότητα εις 50°C όχι κάτω των 0.495·

μίγμα Α Ι έχουν πίεση ατμού εις 70°C μη υπερβαίνουσαν τα 2Ι KG/CM^2 και πυκνότητα εις 50°C όχι κάτω των 0.485·

μίγμα Β έχουν πίεση ατμού εις 70°C μη υπερβαίνουσαν τα 26 KG/CM^2 και πυκνότητα εις 50°C όχι κάτω των 0.450·

μίγμα Γ έχουν πίεση ατμού εις 70°C μη υπερβαίνουσαν τα 3Ι KG/CM^2 και πυκνότητα εις 50°C όχι κάτω των 0.440.

Σημείωσις:- Στη περίπτωση των ανωτέρω μιγμάτων επιτρέπεται η χρήση των παρακάτω συνήθων στο εμπόριο ονομασιών για τη περιγραφή των υλών αυτών:

Ονομασία υπό στοιχείον 4°(β)	Ονομασία συνήθης στο εμπόριο
Μίγμα Α, μίγμα Α Ο	βουτάνιον
Μίγμα Γ	προπάνιον

Μίγματα υδρογονανθράκων των 3°(β) και 5°(β) περιέχοντα μεθάνιον.

(β Τ) Εύφλεκτα, τοξικά

220Ι (Συνεχίζεται)

Μίγματα δύο ή περισσοτέρων των παρακάτω αερίων:- μεθυλσιλανίου, διμεθυλσιλανίου, τριμεθυλσιλανίου· μεθυλοχλωριδίου και μεθυλενοχλωριδίου σε μίγματα έχοντα πίεση ατμού άνω των 3KG/CM^2 εις 50°C· μίγματα μεθυλοχλωριδίου και χλωροπικρίνης και μίγματα μεθυλοβρωμιδίου και αιθυλενιοβρωμιδίου έχοντα σε εκατέρα περίπτωση πίεση ατμού άνω των 3 KG/CM^2 εις 50°C.

(γ) Χημικώς ασταθή

Μίγματα μεθυλακετυλίνης και προπαδιένης (PROPADIENE) με υδρογονάνθρακες της 3°(β), τα οποία ως:

μίγμα P I περιέχουν όχι άνω του 63°/ο μεθυλακετυλενίου και προπαδιένης κατ'όγκον και όχι άνω του 24°/ο προπανίου και προπυλενίου κατ'όγκον, του ποσοστού των C_4-κεκορεσμένων υδρογονανθράκων όντος όχι κάτω των 14°/ο κατ'όγκον· και ως

μίγμα P 2 περιέχουν όχι άνω του 48°/ο μεθυλακετυλενίου και προπαδιένης κατ'όγκον και όχι άνω του 50°/ο προπανίου και προπυλενίου κατ'όγκον, του ποσοστού των C_4-κεκορεσμένων υδρογονανθράκων όντος όχι κάτω του 5°/ο κατ'όγκον.

(γ Τ) Χημικώς ασταθή, τοξικά

Αιθυλενοξείδιο περιέχον όχι άνω του 10°/ο διοξειδίου του άνθρακος κατ'όγκον· αιθυλενοξείδιο περιέχον όχι άνω του 50 τοις εκατόν μεθυλικού άλατος μυρμηκικού οξέος κατ'όγκον, με άζωτο μέχρι συνολική πίεση 10KG/CM^2 εις 50°C· διχλωροδιφθοριομεθάνιο περιέχον 12°/ο

αιθυλενοξείδιο κατά βάρος. 220Ι

(β) Υγροποιημένα αέρια έχοντα κριτικήν θερμοκρασίαν -10°C ως άνω, αλλά κάτω των 70°C: (Συνεχίζεται)

5° Καθαρά αέρια και τεχνικώς-καθαρά αέρια

(α) Άφλεκτα

Βρωμοτριφθοριομεθάνιο (R 13 B 1)· διοξείδιο του άνθρακος· χλωροτριφθοριομεθάνιο (R 13)· εξαφθοριοαιθάνιο (R 116)· νιτρώδες οξύ N_2O· εξαφθοριούχο θείον· τριφθοριομεθάνιο (R 23)· ξένον.

Αναφορικά με το διοξείδιο του άνθρακος, βλέπε επίσης περιθώριο 220Ια υπό στοιχείον (γ).

Σημειώσεις:- 1.- Το νιτρώδες οξύ θα γίνεται δεκτό για μεταφορά μόνον εάν δεν είναι κάτω του 99°/ο καθαρόν.

2.- Βλέπε Σημείωσιν υπό στοιχείον 3°.

(α Τ) Άφλεκτα, τοξικά

Υδροχλώριο (διαβρωτικόν).

(β) Εύφλεκτα

Αιθάνιο· αιθυλένιο· σιλάνιο.

(β Τ) Εύφλεκτα, τοξικά

Γερμανομεθάνιο· φωσφίνη.

(γ) Χημικώς ασταθή

1,1-διφθοριοαιθυλένιο· φθοριούχο βινύλιο.

(γ Τ) Χημικώς ασταθή, τοξικά

Διβοράνιο.

6° Μίγματα αερίων

(α) Άφλεκτα

Διοξείδιο του άνθρακος περιέχον όχι κάτω του 1°/ο και

και όχι άνω του 10°/ο άζωτον, οξυγόνον, αέρα ή σπάνια αέρια κατά βάρος· το αζεοτροποιικόν μίγμα του χλωροτριφθοριομεθανίου (R 13) και τριφθοριομεθανίου (R 23), γνωστόν ως R 503. 2201 (Συνεχίζεται)

Σημείωσις:- Διοξείδιο του άνθρακος περιέχον όχι κάτω του 1°/ο άζωτον, οξυγόνον, αέρα ή σπάνια αέρια κατά βάρος είναι ύλη της 5°(α).

(γ) Χημικώς ασταθή

Διοξείδιο του άνθρακος περιέχον όχι άνω του 35°/ο αιθυλενοξειδίου κατά βάρος.

(γ Τ) Χημικώς ασταθή, τοξικά

Αιθυλενοξείδιο περιέχον άνω του 10°/ο αλλά όχι άνω του 50°/ο διοξείδιο του άνθρακος κατά βάρος.

Γ.- Βαθειά-κατεψυγμένα (DEEPLY-REFRIGERATED) υγροποιημένα αέρια

7° Καθαρά αέρια και τεχνικώς-καθαρά αέρια

(α) Άφλεκτα

Αργόν· διοξείδιο του άνθρακος· ήλιον· κρυπτόν· νέον· άζωτον· νιτρώδες οξύ N_2O· οξυγόνον· ξένον.

(β) Εύφλεκτα

αιθάνιο· αιθυλένιο· υδρογόνο· μεθάνιο.

8° Μίγματα αερίων

(α) Άφλεκτα

Αήρ· μίγματα υλών της 7°(α)

(β) Εύφλεκτα

Μίγματα υλών της 7°(β)· φυσικόν αέριον.

Δ.- Αέρια διαλυόμενα υπό πίεση

Καθαρά αέρια και τεχνικώς-καθαρά αέρια 220Ι (Συνεχίζεται)

(α Τ) Άφλεκτα, τοξικά

Αμμωνία διαλυομένη στο νερό με άνω του 35°/ο αλλά όχι άνω του 40°/ο αμμωνία κατά βάρος· αμμωνία διαλυομένη στο νερό με άνω του 40°/ο αλλά όχι άνω του 50°/ο αμμωνία κατά βάρος.

Σημείωσις:- Διάλυμα αμμωνίας με περιεχόμενο σε αμμωνία μη υπερβαίνον το 35°/ο κατά βάρος δεν υπόκειται στους όρους της ADR.

(γ) Χημικώς ασταθή

Ακετυλένιο διαλυόμενο σε διαλύτη (π.χ. ακετόνη) απορροφούμενο από πορώδεις ύλες.

Ε.- Διανεμητές αεροζόλ και μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση (βλέπε επίσης περιθώριο 220Ιά υπό στοιχείο (δ)):

Σημείωσις:- Ι.- Οι διανεμητές αεροζόλ είναι δοχεία που μπορούν να χρησιμοποιηθούν μία μόνο φορά, είναι εφοδιασμένα με βαλβίδα αφέσεως ή μηχανισμόν διασποράς, και περιέχουν, υπό πίεση, αέριον ή μίγμα αερίων του περιθωρίου 2208(2) ή περιέχουν ενεργόν ύλην (εντομοκτόνον, κοσμητικήν (καλλυντικήν)κλπ.)) μαζί με αέριο ή μίγμα αερίων σάν προωθητική γόμωση.

2.- Μη-ξαναγεμιζόμενα δοχεία (ONTAINERS) αερίων υπό πίεση είναι δοχεία που μπορούν να χρησιμοποιηθούν μόνο μιά φορά και περιέχουν αέριο ή μίγμα αερίων του περιθωρίου 2208(2) και (3) (π.χ. βουτάνιο για μαγειρεία-καταυλισμών, ψυκτικά αέρια· κλπ.), αλλά δεν είναι εφοδιασμένα με βαλβίδα αφέσεως.

3.- Ο όρος "εύφλεκτες ύλες" σημαίνει: 220Ι (Συνεχίζεται)

(Ι) αέρια (προωθητική γόμωση διανεμητών αεροζόλ· περιεχόμενο μη-ξαναγεμιζομένων δοχείων (CONTAINERS) αερίου υπό πίεση)) των οποίων τα μίγματα με αέρα μπορούν να αναφλεγούν και έχουν κατώτερο και ανώτερο όριο εκρήξεως·

(ΙΙ) υγρά (ενεργείς ύλες διανεμητών αεροζόλ) της Κλάσεως 3.

4.- Ο όρος "χημικώς ασταθή" εφαρμόζεται σε περιεχόμενο το οποίο ελλείψει ειδικών προφυλάξεων υφίσταται επικίνδυνον αποσύνθεση ή αυτο-πολυμερισμόν εις θερμοκρασίαν όχι άνω των 70°C.

10° Διανεμητές Αεροζόλ

(α) Άφλεκτοι

Με όχι εύφλεκτον περιεχόμενον.

(α Τ) Άφλεκτοι, τοξικοί

Με άφλεκτο τοξικό περιεχόμενο.

(β) Εύφλεκτοι

1.- Με όχι άνω του 45°/ο εύφλεκτο περιεχόμενο κατά βάρος.

2.- Με άνω του 45°/ο εύφλεκτο περιεχόμενο κατά βάρος.

(β Τ) Εύφλεκτες, τοξικές

Τ.- Με τοξικό περιεχόμενο και όχι άνω του 45°/ο εύφλεκτο περιεχόμενο κατά βάρος.

2.- Με τοξικό περιεχόμενο και άνω του 45°/ο εύφλεκτο περιεχόμενο κατά βάρος.

(γ) Χημικώς ασταθείς

Με χημικώς-ασταθές περιεχόμενο.

220Ι (Συνεχίζεται)

(γ Τ) Χημικώς ασταθείς, τοξικοί

Με χημικώς-ασταθές τοξικό περιεχόμενο.

ΙΙ° Μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση

(α) Άφλεκτα

Με άφλεκτο περιεχόμενο.

(β) Εύφλεκτα

Με εύφλεκτο **παθητικό** περιεχόμενο.

(β Τ) Εύφλεκτα, τοξικά

Με εύφλεκτο τοξικό περιεχόμενο.

(γ) Χημικώς ασταθή

Με χημικώς-ασταθές περιεχόμενο.

(γ Τ) Χημικώς ασταθή, τοξικά

Με χημικώς-ασταθές τοξικό περιεχόμενο.

ΣΤ.- Αέρια υποκείμενα σε ειδικούς όρους

Ι2° Διάφορα μίγματα αερίων

Μίγματα περιέχοντα αέρια αναφερόμενα σε άλλους αριθμούς είδους της παρούσης Κλάσεως, και μίγματα ενός ή περισσοτέρων αερίων αναφερομένων υπό άλλους αριθμούς είδους της παρούσης Κλάσεως με έναν η περισσότερους ατμούς υλών δεν εξαιρούνται της μεταφοράς συμφώνως προς της ADR, υπό τον όρον ότι κατά την μεταφορά:

Ι.- το μίγμα παραμένει εξ ολοκλήρου αεριώδες· και

2.- αποκλείεται κάθε δυνατότης επικινδύνου αντιδράσεως.

Ι3° Αέρια Δοκιμών

Αέρια και μίγματα αερίων μη αναφερόμενα υπό άλλους αριθ-

220Ι (Συνεχίζεται)

μούς της παρούσης Κλάσεως και χρησιμοποιούμενα μόνον για εργαστηριακές δοκιμές, υπό τον όρον ότι κατά τη μεταφορά:-

(α) το αέριο ή μίγμα αερίων παραμένει εξ ολοκλήρου αεριώδες· και

(β) αποκλείεται κάθε δυνατότης επικινδύνου αντιδράσεως.

Ζ.- Άδεια δοχεία και άδειες δεξαμενές

Ι4° Κενά δοχεία και κενές δεξαμενές, ακαθάριστα, που περιείχαν τετραφθοριομεθάνιο της Ι°(α), ύλες της Ι°, (Α Τ) - (γ Τ)· 2°, (β) - (γ Τ)· 3° - 6°· διοξείδιο του άνθρακος και νιτρώδες οξύ της 7°(α)· ή ύλες των 7°(β), 8°(β), 9°, Ι2° ή Ι3°.

Σημείωσις:- Ι.- Δοχεία και δεξαμενές που μετά το άδειασμα των υλών της Ι4° εξακολουθούν να περιέχουν μικρά κατάλοιπα θεωρούνται ως κενά ακαθάριστα δοχεία ή δεξαμενές.

2.- Ακαθάριστα κενά δοχεία ή κενές δεξαμενές που περιείχαν αέρια της Ι°(α) πλην του τετραφθοριομεθανίου (R Ι4), ή αέρια της 2°(α), 7°(α) πλήν του διοξειδίου του άνθρακος και νιτρώδους οξέος, ή της 8°(αα), δεν υπόκεινται στους όρους της ADR.

Αέρια και είδη παραδιδόμενα για μεταφορά σύμφωνα προς τις παρακάτω διατάξεις δεν υπόκεινται σ' ούς όρους ή τις διατάξεις τις σχετικές με τη παρούσα Κλάση που διαλαμβάνονται αλλού στο παρόν Παράρτημα ή το Παράρτημα Β: 220Ια

(α) πεπιεσμένα αέρια τα οποία δεν είναι ούτε εύφλεκτα ούτε τοξικά ούτε διαβρωτικά και η πίεση των οποίων στο δοχείο, αναφερομένη σε θερμοκρασία Ι5°C, δεν υπερβαίνει

τα 2 KG/CM^2. ο αυτός κανόνας ισχύει για μίγματα αερίων περιέχοντα όχι άνω του 2°/ο εύφλεκτα συστατικά μέρη. 2201α (Συνεχίζεται)

(β) υγροποιημένα αέρια περιεχόμενα σε ποσότητες μη υπερβαίνουσες τα 60 L, ή σε ποσότητες μικρότερες των 5 L με όχι άνω των 25 γραμμαρίων υδρογόνου, μέσα σε φυητικές συσκευές (ψυγεία, μηχανές πάγου, κλπ.) και απαραίτητα για τη λειτουργία τους.

(γ) διοξείδιο άνθρακος (5°(α)) σε μεταλλικά καψύλλια (SODORS, SPARKLETS) εάν το διοξείδιο του άνθρακος σε αεριώδη κατάσταση δεν περιέχει άνω του 0.5°/ο αέρα και τα καψύλλια περιέχουν όχι άνω των 25 γραμμαρίων διοξειδίου του άνθρακος και όχι άνω των 0.75 γραμμαρίων ανά CM^3 χωρητικότητος.

(δ) είδη των IO° και II° χωρητικότητος μη υπερβαινούσης τα 50 CM^3. Κόλον με τέτοια είδη δεν θα ζυγίζει άνω των IO KG.

(ε) υγροποιημένα αέρια πετρελαίου περιεχόμενα σε δεξαμενές αυτοκινήτων σταθερά στερεωμένες στα οχήματα. η στρόφιγγα του καυσίμου μεταξύ της δεξαμενής και της μηχανής πρέπει να είναι κλειστή και η ηλεκτρική επαφή ανοικτή.

2.- Διατάξεις

Α.- Κόλα

Ι.- Γενικοί όροι συσκευασίας 2202

(Ι) Τα υλικά από τα οποία τα δοχεία και τα κλεισίματά τους κατασκευάζονται δεν πρέπει να κινδυνεύουν να προσ-

βληθούν από το περιεχόμενο ή να σχηματίζουν επιβλαβείς ή επικινδύνους συνθέσεις (ενώσεις). 2202 (Συνεχίζεται)

Σημείωσις:- Μέριμνα πρέπει να λαμβάνεται ώστε να μην επιτραπεί οποιαδήποτε υγρασία να εισέλθει στα δοχεία όταν γεμίζονται, και να ξηραίνονται τα δοχεία πλήρως μετά τις δοκιμές υδραυλικής πιέσεως (βλέπε περιθώριο 2218)τις διεξαγόμενες με νερό ή με υδατώδη διαλύματα.

(2) Οι συσκευασίες, συμπεριλαμβανομένων των κλεισιμάτων των, θα είναι επαρκώς άκαμπτες και γερές σε όλα τα μέρη τους ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να τηρούνται οι κανονικοί όροι της μεταφοράς. Όταν προβλέπονται εξωτερικές συσκευασίες, τα δοχεία θα στερεώνονται στερεά σ'αυτές. Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού είδους", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται στις εξωτερικές συσκευασίες, είτε μιά-μία είτε ομαδικά.

(3) Μεταλλικά δοχεία προοριζόμενα για τη μεταφορά αερίων των 1^{o} έως 6^{o} και 9^{o} θα περιέχουν μόνον το αέριο για το οποίο δοκιμάσθηκαν και του οποίου η ονομασία έχει γραφεί πάνω στο δοχείο (βλέπε περιθώριο 2218(1)(α)).

Ανακλήσεις επιτρέπονται:-

(1) για μεταλλικά δοχεία δοκιμασθέντα για μία των υλών των 3^{o}(α) ή 4^{o}(α) ή για βρωμοτριφθοριομεθάνιο, χλωροτριή τριφθοριομεθάνιο της 5^{o}(α). Τα δοχεία αυτά μπορούν επίσης να γεμισθούν με κάποια άλλη ύλη των προαναφερθέντων

ειδών υπό τον όρον ότι η προβλεπομένη για την ύλη αυτή κατωτάτη πίεση δοκιμής δεν υπερβαίνει τη πίεση δοκιμής του δοχείου και ότι η ονομασία της ύλης και το επιτρεπτόν ανώτατο βάρος γεμίσματος αναγράφονται επί του δοχείου· 2202 (Συνεχίζεται)

2.- για μεταλλικά δοχεία δοκιμασθέντα για υδρογονάνθρακες των 3°(β) ή 4°(β). Τα δοχεία αυτά μπορούν επίσης να γεμισθούν με κάποιον άλλον υδρογονάνθρακα υπό τον όρον ότι η προβλεπομένη για την ύλη αυτή κατωτάτη πίεση δοκιμής δεν υπερβαίνει τη πίεση δοκιμής του δοχείου και ότι η ονομασία της ύλης και το επιτρεπτόν ανώτατο βάρος γεμίσματος αναγράφονται επί του δοχείου.

Για 1 και 2, βλέπε επίσης περιθώρια 2215, 2218 (I)(α) και 2220, (I) έως (3).

(4) Αλλαγή της οριοθέτησης για ένα δοχείο χρήσεως επιτρέπεται κατ'αρχήν εάν δεν αντιβαίνει στους εθνικούς κανονισμούς· χρειάζεται όμως η έγκριση της αρμόδιας αρχής και η αντικατάσταση των αρχικών ενδείξεων (μαρκαρισμάτων) με τις ενδείξεις (μαρκαρίσματα) τις σχετικές με τη νέα χρήση.

2.- Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού είδους

Σημείωσις:- Το διοξείδιο του άνθρακος και νιτρώδες οξύ (7°(α)) και μίγματα των δύο αυτών αερίων (8°(α)) δεν μπορούν να μεταφέρονται άλλως παρά μόνο σε ειδικά εξοπλισμένες δεξαμενές (βλέπε Παράρτημα Β, περιθώριο 2I 400).

α.- Φύσις δοχείων

(I) Τα δοχεία τα προοριζόμενα για τη μεταφορά αε-

αερίων των Ι° έως 6°, 9°, Ι2° και Ι3° θα είναι έτσι κλεισμένα και στεγανά ώστε να αποφεύγεται οποιαδήποτε διαρροή των αερίων. 2203 (Συνεχίζεται)

(2) Τα δοχεία αυτά θα είναι κατασκευασμένα από ανθρακούχο χάλυβα ή κράμα χάλυβος (ειδικοί χάλυβες).

Τα κατωτέρω μπορούν εν τούτοις να χρησιμοποιούνται:-

(α) χάλκινα δοχεία για:-

Ι.- πεπιεσμένα αέρια της Ι°, (α), (β) και (β Τ), και 2°, (α) και (β), των οποίων η πίεση πληρώσεως (γεμίσματος) η αναφερομένη σε θερμοκρασία Ι5°C δεν υπερβαίνει τα 20 KG/CM^2· και

2.- πεπιεσμένα αέρια της 3°(α)· διοξείδιο του θείου της 3°(α Τ)· δυμεθυλαιθέρας, αιθυλοχλωρίδιο και μεθυλενοχλωρίδιο της 3°(β Τ)· βινυχλωρίδιο της 3°(γ)· βινυβρωμίδιο της 3°(γ Τ)· μίγματα F Ι, F 2 και F 3 της 4°(α)· και αιθυλενοξείδιο περιέχον όχι άνω του Ι0°/ο διοξείδιο του άνθρακος κατά βάρος, της 4°(γ Τ)·

(β) δοχεία από κράμα-αλουμινίου (βλέπε Προσθήκην Α.2) για:-

Ι.- πεπιεσμένα αέρια της Ι°, (α), (β) και (β Τ)· νιτρώδες οξύ (μονοξείδιο αζώτου) ΝΟ της Ι°(γ Τ)· και πεπιεσμένα αέρια της 2°, (α), (β) και (β Τ)·

2.- υγροποιημένα αέρια της 3°(α)· διοξείδιο του θείου της 3°(α Τ)· υγροποιημένα αέρια της 3°(β) πλην μεθυλσιλανίου· διμεθυλαιθέρας, σεληνούχο υδρογόνο, και μεθυλική μερκαπτάνη της 3°(β Τ)·

αιθυλενοξείδιο της 3^{o}(γ Τ)· υγροποιημένα αέρια της 4^{o}, (α) και (β)· αιθυλενοξείδιο περιέχον όχι άνω του 10^{o}/ο διοξειδίου του άνθρακος κατά βάρος, της 4^{o}(γ Τ)· και υγροποιημένα αέρια της 5^{o}, (α) και (β), και 6^{o}, (α) και (γ). Διοξείδιο του θείου της 3^{o}(α Τ) και ύλες της 3^{o}(α) και 4^{o}(α) θα είναι ξηρές· και 2203 (Συνεχίζεται)

3.- διαλυόμενο ακετυλένιο της 9^{o}(γ).

Όλα τα αέρια τα οποία πρόκειται να μεταφερθούν μέσα σε δοχεία από κράμα αλουμινίου θα είναι απαλλαγμένα από αλκαλικές ακαθαρσίες.

(Ι) Τα δοχεία για διαλυόμενο ακετυλένιο (9^{o}(γ)) θα πληρούνται εξ ολοκλήρου με πορώδες υλικό, ομοιόμορφα κατανεμημένο, τύπου εγκεκριμένου από την αρμόδια αρχή και το οποίο 2204

(α) δεν προσβάλλει τα δοχεία ή σχηματίζει επιβλαβείς ή επικίνδυνες ενώσεις είτε με το ακετυλένιο είτε με τον διαλύτη·

(β) δεν εκτινάσσεται, ακόμη και μετά από παρατεταμένη χρήση ή από τράνταγμα , σε θερμοκρασίες μέχρι 60^{o}C·

(γ) είναι ικανό να εμποδίσει την εξάπλωση της αποσυνθέσεως του ακετυλενίου στη μάζα.

(2) Το διαλυτικό δεν πρέπει να προσβάλει τα δοχεία.

(Ι) Τα παρακάτω υγροποιημένα αέρια μπορούν, επιπροσθέτως, να μεταφέρονται μέσα σε γυάλινους σωλήνες με χονδρά τοιχώματα υπό τον όρον ότι η ποσότης της ύλης σε κάθε σωλήνα και ο βαθμός πληρώσεως των σωλήνων δεν υπερβαίνουν τους παρακάτω σημειουμένους αριθμούς: 2205

2205
(Συνεχίζεται)

Ονομασία Αερίων	Ποσότης Ύλης	Βαθμός πληρώσεως του σωλήνος
Διοξείδιο του άνθρακος, υποξείδιο του αζώτου N_2O (5°(α)), αιθάνιο, αιθυλένιο (5°(β))	3 Γραμμ.	ήμισυ της χωρητικότητος
Αμμωνία, χλώριον, μεθυλοβρωμίδιο (3°(α Τ)), κυκλοπροπάνιο (3°(β)), αιθυλενοχλωρίδιο (3°(β Τ)	20 Γραμμ.	δύο-τρίτα της χωρητικότητας
Φωσγένιο, διοξείδιο του θείου (3°(α Τ)	100 Γραμμ.	τρία-τέταρτα της χωρητικότητας

(2) Οι γυάλινοι σωλήνες στεγανοί κατά της φλόγας και ασφαλισμένοι χωριστά με γη-διατόμων σε κλειστά καψύλλια από έλασμα τα οποία θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία κατάλληλης αντοχής (βλέπε επίσης περιθώριο 2222).

(3) Για διοξείδιο του θείου της 3°(α Τ) γερά γυάλινα σιφόνια περιέχοντα όχι άνω των 1.5 KG ύλης και γεμάτα όχι άνω του 88 τοις εκατόν της χωρητικότητός των επιτρέπονται επίσης. Τα σιφόνια θα ασφαλίζονται με γή-διατόμων, πριονίδιο ή κονιοποιημένο ανθρακικό ασβέστιο, ή με μίγμα από τα δύο τελευταία, μέσα σε ξύλινα κιβώτια ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Το κόλον δεν θα ζυγίζει άνω των 100 KG. Εάν ζυγίζει άνω των 30 KG θα είναι εφοδιασμένο με χειρολαβές.

(1) Αέρια της 3°(α)· 3°(β) πλήν μεθυλοβιλανίου· 2206

2206
(Συνεχίζεται)

3°(β Τ) πλήν αρσίνης, διχλωροσιλανίου, διμεθυλοσιλανίου, σεληνούχου υδρογόνου και τριμεθυλοσιλανίου· 3°(γ)· 3°(γ Τ) πλήν χλωροκυανιδίου· και μίγματα της 4°(α) και 4°(β), μπορούν επίσης, υπό τον όρον ότι το βάρος του περιεχομένου ανά λίτραν υγρού δεν υπερβαίνει είτε το ανώτατο βάρος του περιεχομένου του οριζομένου στο περιθώριο 2220 είτε 150 γραμμ. ανά σωλήνα, να περιληφθούν σε γυάλινους σωλήνες με χονδρό τοίχωμα, ή σε μεταλλικούς σωλήνες με χονδρό τοίχωμα κατασκευασμένους από μέταλλο επιτρεπόμενο υπό του περιθωρίου 2203(2). Οι σωλήνες θα είναι απαλλαγμένοι από βλάβες δυνάμενες να εξασθενήσουν την αντοχήν τους· ειδικώτερα, οι εσωτερικές τάσεις των γυάλινων σωλήνων θα έχουν καταλλήλως ελαττωθεί και το πάχος των τοιχωμάτων του σωλήνος δεν θα είναι μικρότερο των 2 ΜΜ (χιλ.). Η στεγανότητα του συστήματος κλεισίματος θα εξασφαλίζεται με πρόσθετο μηχανισμό (κάλυμμα, κορώνα, σφραγίδα, δέσιμο, κλπ.) ικανόν να εμποδίζει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς. Οι σωλήνες θα ασφαλίζονται με αποσβεστικό υλικό σε μικρά κυτία κατασκευασμένα από ξύλο ή ινώδη σανίδα, του αριθμού των σωλήνων ανά κυτίον όντος τοιούτου ώστε το βάρος του υγρού του περιεχομένου στο κυτίο να μήν υπερβαίνει τα 600 γραμμάρια. Τα μικρά αυτά κυτία θα τοποθετούνται σε ξύλινα κιβώτια ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής· εάν το εις υγρόν περιεχόμενον του κιβωτίου ζυγίζει περισσότερον των 5 KG το κιβώτιο θα επενδύεται με έλασμα μαλακής συγκολλήσεως.

(2) Το κόλον δεν θα ζυγίζει άνω των 75 KG.

(Ι) Τα αέρια της 7°(α) πλήν του διοξειδίου του 2207
άνθρακος και του υποξειδίου του αζώτου, και της 8°(α) πλήν των μιγμάτων των περιεχόντων διοξείδιο του άνθρακος και υποξείδιο του αζώτου, θα εγκλείονται σε κλειστά, μεταλλικά με διπλό τοίχωμα δοχεία που είναι έτσι μονωμένα ώστε να μή μπορούν να επικαλυφθούν από δρόσον ή παγετόν και τα οποία είναι εφοδιασμένα με βαλβίδες ασφαλείας.

(2) Τα αέρια της 7°(α) πλήν του διοξειδίου του άνθρακος και του υποξειδίου του αζώτου, και της 8°(α) πλην των μιγμάτων των περιεχόντων διοξείδιο του άνθρακος και υποξειδίου του αζώτου, μπορούν επίσης να εγκλείονται σε δοχεία τα οποία είναι ερμητικώς κλεισμένα και τα οποία:

(α) είναι γυάλινα δοχεία διπλού τοιχώματος περιβεβλημένα δια κενού (VACUUM-JACKETED) ως και δια μιάς απορροφητικής μονωτικής ύλης· τα δοχεία αυτά θα προστατεύονται μέ συρμάτινους κάλαθους και θα τοποθετούνται σε μεταλλικά κιβώτια· ή

(β) είναι μεταλλικά δοχεία προστατευόμενα κατά της μεταδόσεως της θερμότητας κατά τέτοιο τρόπο ώστε να μη μπορούν να επικαλυφθούν με δρόσον ή παγετόν· η χωρητικότητα των δοχείων αυτών δεν θα υπερβαίνει τα 100 λίτρα.

(3) Τα μεταλλικά κιβώτια τα αναφερόμενα στο εδάφιο (2)(α) και τα δοχεία τα αναφερόμενα στο εδάφιο (2)(β) ανωτέρω θα είναι εφοδιασμένα με χειρολαβές. Τα ανοίγματα των δοχείων των αναφερομένων στα εδάφια (2)(α) και (β) θα

είναι εφοδιασμένα με μηχανισμούς επιτρέποντας τα αέρια να διαφεύγουν, εμποδίζοντας πιτσίλισμα του υγρού, και έτσι στερεωμένους ώστε να μη πέσουν. Στη περίπτωση του οξυγόνου 7^{o}(α) και μιγμάτων περιεχόντων οξυγόνον της 8^{o}(α), οι ανωτέρω αναφερόμενοι μηχανισμοί και η απορροφητική μονωτική ύλη η περιβάλλουσα τα δοχεία η αναφερομένη στο εδάφιο (2)(α) θα είναι από άκαυστο υλικό. 2207 (Συνεχίζεται)

(Ι) Οι διανεμητές αεροζόλ (10^{o}) και τα μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) για αέριο υπό πίεση (11^{o}) θα πληρούν τους παρακάτω όρους:- 2208

(α) οι διανεμητές αεροζόλ που περιέχουν μόνον αέριον ή μίγμα αερίων, και τα μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) για αέριο υπό πίεση, θα είναι από μέταλλο. Ο όρος αυτός δεν θα ισχύει για μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) για αέριο υπό πίεση με ανώτατη χωρητικότητα 100 ML για βουτάνιο. Άλλοι διανεμητές αεροζόλ θα είναι κατασκευασμένοι από μέταλλο, πλαστική ύλη ή αέριο. Δοχεία κατασκευασμένα από μέταλλο και έχοντα εξωτερική διάμετρο όχι μικρότερη των 40 MM (χιλ.) θα έχουν κοίλο πυθμένα·

(β) δοχεία κατασκευασμένα από υλικά υποκείμενα σε θρυμματισμό, όπως το γυαλί ή ωρισμένες πλαστικές ύλες, θα εγκλείονται σε συσκευή (στενά-πλεγμένο συρμάτινο δίκτυ, εύκαμπτο κάλυμμα κατασκευασμένο από πλαστική ύλη, κλπ.) παρέχουσα προστασίαν για θραύσματα και διασποράν αυτών. Δοχεία των οποίων η χωρητικότητα δεν υπερβαίνει τα 150 CM^{3} και των οποίων η εσωτερική πίεση στους 20^{o}C

είναι κάτω των I.5 KG/CM^2 εξαιρούνται από τον όρον 2208 αυτόν.

(γ) η χωρητικότητα των δοχείων των κατασκευασμένων από μέταλλο δεν θα υπερβαίνει τα I.000 CM^3. των δοχείων των κατασκευασμένων από πλαστικήν ύλην ή ύαλον δεν θα υπερβαίνει τα 500 CM^3.

(δ) κάθε μοντέλο δοχείου, προτού τεθεί σε υπηρεσία, θα ικανοποιεί δοκιμήν υδραυλικής πιέσεως διεξαγομένην συμφώνως προς την Προσθήκην Α.2, περιθώριο 329I. Η εσωτερική πίεση που πρόκειται να εφαρμοσθεί (πίεση δοκιμής)θα είναι I.5 φορά την εσωτερική πίεση στους 50°(, με κατωτάτη πίεση IO KG/CM^2.

(ε) οι βαλβίδες αφέσεως των διανεμητών αεροζόλ, και οι μηχανισμοί διασποράς (διανομής) αυτών, θα εξασφαλίζουν οι διανεμητές να είναι έτσι κλεισμένοι ώστε να είναι στεγανοί και θα προστατεύονται από τυχαίο άνοιγμα. Οι βαλβίδες και οι μηχανισμοί διασποράς (διανομής) που κλείνουν μόνον δι'εσωτερικής πιέσεως δεν θα γίνονται δεκτοί.

(2) Τα παρακάτω αέρια θα γίνονται δεκτά ως προωθηταί, ή ως αέρια πληρώσεως, για διενεμητές αεροζόλ:- αέρια της I°, (α) και (β)· 2°, (α) και (β)· 3°, (α) και (β) πλην μεθυλοσιλανίου· αιθυλοχλωρίδιο και διμεθυλαιθέρας της 3°(β Τ)· I,3-βουταδιένιο της 3°(γ)· τριφθοριοχλωροαιθυλένιο της 3°(γ Τ)· αέρια της 4°, (α) και (β)· αέρια της 5°, (α) και (β) πλην του σιλανίου· αέρια της 5°(γ) και 6°(α) και (γ).

(3) Όλα τα αέρια της (2) και, επιπροσθέτως, τα παρακάτω αέρια θα γίνονται δεκτά ως αέρια πληρώσεως (γεμίσματος) για μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) για αέριο υπό πίεση· μεθυλοβρωμίδιο της 3°(α Τ)· διμεθυλαμίνη, αιθυλαμίνη, μεθυλαμίνη, μεθυλική μερκαπτάνη και τριμεθυλαμίνη της 3°(β Τ)· αιθυλενοξείδιο, μεθυλοβινυλαιθέρας και βινυβρωμίδιο της 3°(γ Τ)· αιθυλενοξείδιο περιέχον όχι άνω του 10°/ο διοξείδιον του άνθρακος κατά βάρος, της 4°(γ Τ). 2208 (Συνεχίζεται)

(Ι) Η εσωτερική πίεση στους 50°C των διανεμητών αεροζόλ και των μη-ξαναγεμιζομένων δοχείων αερίου υπό πίεση/θα δεν υπερβαίνει ούτε τα δύο-τρίτα της πιέσεως δοκιμής του δοχείου ούτε τα 12 KG/CM^2. 2209

(2) Οι διανεμητές αερίου και τα μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση θα είναι έτσι γεμισμένα ώστε στους 50°C η φάση του υγρού να μην υπερβαίνει το 95°/ο της χωρητικότητάς των. Η χωρητικότητα των διανεμητών αεροζόλ είναι ο διαθέσιμος όγκος σε κλειστό διανεμητή εφοδιασμένο με το υποστήριγμα της βαλβίδας, την βαλβίδα και τον σωλήνα εμβυθίσεως.

(3) Όλοι οι διανεμητές αεροζόλ και τα μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) για αέριο υπό πίεση θα ικανοποιούν δοκιμήν στεγανότητας σύμφωνα με τη Προσθήκη Α.2, περιθώριο 3292.

(Ι) Οι διανεμητές αεροζόλ και τα μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση θα τοποθετούνται σε ξύλινα κιβώτια ή γερά από ινώδη σανίδα ή μέταλλο κυτία·

οι διανεμητές αεροζόλ οι κατασκευασμένοι από γυαλί ή πλαστική ύλη και υποκείμενοι σε θρυμματισμό θα διαχωρίζονται ο ένας από τον άλλον δι ενδιαμέσου τοποθετήσεως φύλλων από ινώδη σανίδα ή άλλη κατάλληλη ύλη. 2210 (Συνεχίζεται)

(2) Το κόλον δεν θα ζυγίζει άνω των 50 KG εάν χρησιμοποιούνται κυτία από ινώδη σανίδα ή άνω των 75 KG εάν χρησιμοποιούνται άλλα μέσα συσκευασίας.

(3) Ο τόν η μεταφορά είναι μεταφορά πλήρους φορτίου, εκάστου φορτίου περιλαμβάνοντος μόνον διανεμητάς αεροζόλ κατασκευασμένους από μέταλλο, οι διανεμητές μπορούν να ομαδοποιηθούν και στερεωθούν σε δίσκους με τη βοήθεια κατάλληλης πλαστικής ύλης, μέσω μεθόδου συρρικνώσεως και θερμο-στεγανότητας, υπό τον όρον ότι ότι οι ομάδες των διανεμητών θα στοιβαχθούν και καταλλήλως ασφαλισθούν πάνω σε παλλέτες.

β.- Όροι διέποντες τα μεταλλικά δοχεία

(Οι όροι αυτοί δεν έχουν εφαρμογή για μεταλλικούς σωλήνες αναφερόμενους στο περιθώριο 2206, για δοχεία αναφερόμενα στο περιθώριο 2207(2)(β), ή για διανεμητές αεροζόλ ή μη-ξαναγεμιζόμενα μεταλλικά δοχεία (CONTAINERS) για αέριο υπό πίεση, αναφερόμενα στο περιθώριο 2208).

I.- Κατασκευή και εφαρμογές (βλέπε επίσης περιθώριο 2238).

(1) Στη πίεση δοκιμής, η τάση του μετάλλου στο σημείο της μεγαλύτερης τάσεως του δοχείου (περιθώρια 2215, 2219 και 2220) δεν πρέπει να υπερβαίνει τα τρία-τέταρτα της εγγυημένης κατωτάτης τάσεως αποδόσεως (Re). Με τον όρο "τάσις αποδόσεως" νοείται η τάση που παρήχθη

η μόνιμη επιμήκυνση εκ $2^{o}/oo$ (τ.έ. 0.2 τοις εκατόν) ή, για χάλυβες μετά ωστενίτου, $1^{o}/o$ του μήκους του πιεζομέτρου επί του τεμαχίου-δοκιμής. 22II (Συνεχίζεται)

Σημείωσις:- Στη περίπτωση φύλλου-μετάλλου (ελάσματος) ο άξων του τεμαχίου-δοκιμής αντοχής εις εφελκυσμόν θα είναι σε ορθές γωνίες προς τη κατεύθυνση της ελάσεως. Η μόνιμη επιμήκυνση του θραύσματος ($L = 5\ \delta$) θα μετράται επί τεμαχίου-δοκιμής κυκλικής διατομής ένθα το μήκος του πιεζομέτρου L ισούται προς πέντε φορές τη διάμετρο δ· εάν τεμάχια-δοκιμής ορθογωνίου διατομής χρησιμοποιηθούν, το μήκος του πιεζομέτρου θα υπολογίζεται με τον τύπο $L = 5.65\sqrt{F_0}$, όπου F_0 δεικνύει την αρχική περιοχή (εμβαδόν) διατομής του δοχείου-δοκιμής.

(2) (α) Χαλύβδινα δοχεία των οποίων η πίεση δοκιμής υπερβαίνει τα 60 KG/CM^2 πρέπει να είναι κατασκευής άνευ ραφών ή συγκολλημένα. Για συγκολλημένα δοχεία, χάλυβες (ανθρακούχοι ή κράματα) πλήρως ικανοποιητικής ικανότητας συγκολλήσεως πρέπει να χρησιμοποιούνται.

(β) Δοχεία των οποίων η πίεση-δοκιμής δεν υπερβαίνει τα 60 KG/CM^2 είτε θα είνα σύμφωνα προς τις διατάξεις του ανωτέρω εδαφίου (α), είτε θα είναι πριτσινωμένα είτε θα υποστούν σκληρή συγκόλληση υπό τον όρον ότι ο κατασκευαστής εγγυάται την εργασία του πριτσινώματος και της σκληρής συγκολλήσεως και ότι οι αρμόδιες αρχές της χώρας προελεύσεως έχουν δώσει την έγκρισή τους.

(3) Τα εκ κράματος αργυλλίου (αλουμινίου) δοχεία πρέπει να είναι χωρίς ραφές ή συγκολλημένα.

(4) Συγκολλημένα δοχεία γίνονται δεκτά μόνον υπό τον όρον ότι ο κατασκευαστής εγγυάται την ποιότητα της εργασίας της συγκολλήσεως και ότι οι αρμόδιες αρχές της χώρας προελεύσεως έχουν δώσει την έγκρισή τους. 22ΠΙ (Συνεχίζεται)

(Ι) Διάκριση γίνεται μεταξύ των παρακάτω τύπων δοχείων:- 22Ι2

(α) κύλινδροι με χωρητικότητα μη υπερβαίνουσα τις 150 λίτρες·

(β) δοχεία με χωρητικότητα όχι μικρότερη των 100 λιτρών (εξαιρέσει κυλίνδρων συμμορφουμένων προς το εδάφιο (α)) και όχι μεγαλύτερη των 1.000 λιτρών (π.χ. κυλινδρικά δοχεία εφοδιασμένα με τσέρκια (στεφάνες) σπειροειδείς, και δοχεία επί πελμάτων (SKIDS)·

(γ) δεξαμενές (βλέπε Παράρτημα Β)·

(δ) συγκροτήματα, γνωστά ως "πλαίσια", κυλίνδρων, συμμορφούμενα προς προς το εδάφιο (Ι)(α), των κυλίνδρων συνδεομένων μεταξύ των δια σωληνώσεως και συγκρατουμένων σταθερά μεταξύ των δια μεταλλικού εξαρτήματος·

(2) (α) Εάν, συμφώνως προς τους κανονισμούς της χώρας αναχωρήσεως, οι κύλινδροι οι αναφερόμενοι στο εδάφιο (Ι)(α) υποχρεούνται να είναι εφοδιασμένοι με μηχανισμό προλήψεως του κυλίσματος, ο μηχανισμός αυτός δεν θα πρέπει να είναι τμήμα του πώματος της βαλβίδας (περιθώριο 22Ι3 (2)).

(β) Δοχεία συμφώνως προς το εδάφιο (Ι)(β) τα οποία είναι ικανά να κυλισθούν πρέπει να είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) ή άλλως να

προστατεύονται από ζημιές οφειλόμενες στο κύλισμα (π.χ. 2212 δια μετάλλου ανθεκτικού στη διάβρωση ψεκασμένου επί της εξωτερικής επιφανείας του δοχείου). (Συνεχίζεται)

Δοχεία συμφώνως προς το εδάφιο (Ι)(β) και (Ι)(γ) που είναι ικανά να κυλισθούν πρέπει να είναι εφοδιασμένα με μηχανισμούς (πέλματα, δακτύλιοι, ταινίες) που να εξασφαλίζουν ότι μπορούν ασφαλώς να χειρισθούν δια μηχανικού μέσου και να είναι έτσι διευθετημένοι ώστε να μήν εξασθενείται η αντοχή και να μη προκαλούνται αδικαιολόγητοι τάσεις στο τοίχωμα του δοχείου.

(γ) Πλαίσια κυλίνδρων, συμφώνως προς το εδάφιο (Ι) (δ) πρέπει να είναι εφοδιασμένα με μηχανισμούς εξασφαλίζοντας ότι μπορούν να χειρισθούν ασφαλώς. Η σωλήνωσις και ο κύριος κρουνός πρέπει να ευρίσκονται εντός του πλαισίου και να είναι έτσι στερεωμένα ώστε να προστατεύονται κατά οποιασδήποτε ζημίας.

(3) (α) Εξαιρέσει των αερίων των 7° και 8°, τα αέρια της Κλάσεως 2 μπορούν να μεταφέρονται σε κυλίνδρους συμφώνως προς το εδάφιο (Ι)(α).

Σημείωσις:- Για πιθανούς περιορισμούς αναφορικά με τη χωρητικότητα κυλίνδρων για ωρισμένα αέρια, βλέπε περιθώριο 2219.

(β) Εξαιρέσει των φθορίου και τετραφθοριούχου πυριτίου (Ι°(α Τ))· μονοξειδίου του αζώτου (ΝΟ) (Ι°(γ Τ)· μιγμάτων υδρογόνου με όχι άνω του 10°/ο σεληνούχου υδρογόνου ή/φωσφίνης ή σιλανίου ή γερμανομεθανίου κατ'όγκον ή με όχι άνω του 15°/ο αρσίνης κατ'όγκον· μιγμάτων αζώτου ή σπανίων αε-

ρίων (περιεχόντων όχι άνω του IO°/o Ξένον κατ'όγκον) 2212
με όχι άνω του IO°/o σεληνούχο υδρογόνο ή φωσφίνη (Συνεχίζεται)
ή σιλάνιο ή γερμανομεθάνιο κατ'όγκον ή με όχι άνω
του I5°/o αρσίνην κατ'όγκον (2°(β Τ))· μιγμάτων υδρο-
γόνου με όχι άνω του IO°/o διβοράνιο κατ'όγκον· μιγ-
μάτων αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω
του IO°/o Ξένον κατ'όγκον) με όχι άνω του IO°/o διβο-
ράνιο κατ'όγκον (2°(γ Τ))· χλωριούχου βορίου, τριφθο-
ριούχου χλωρίου, χλωριούχου νιτριζύλ (NITROSYL), φθο-
ριούχου SULPHURYL και εξαφθοριούχου βολφραμίου (3°
(α Τ))· μεθυλοσιλανίου (3°(β)), αρσίνης, διχλωροσιλα-
νίου, διμεθυλοσιλανίου, σεληνούχου υδρογόνου και τρι-
μεθυλοσιλανίου (3°(β Τ))· χλωροκυανιδίου, κυανογόνου
και αιθυλενοξειδίου (3°(γ Τ))· μιγμάτων μεθυλοσιλανίων
(4°(β Τ))· υλών της 4°(γ) και 4°(γ Τ) πλην διχλωροδι-
φθοριομεθανίου περιέχοντος I2°/o αιθυλενοξείδιο κατ'
όγκον· υποξειδίου του αζώτου (5°(α))· σιλανίου (5°(β))·
και υλών της 5°(β Τ), 5°(γ Τ), 7°, 8°, I2° και I3°,
αέρια της Κλάσεως 2 μπορούν να να μεταφέρονται σε δο-
χεία συμφώνως προς το εδάφιον (I) (β).

(γ) Εξαιρέσει των τετραφθοριούχου πυριτίου
(I°(α Τ))· μονοξειδίου του αζώτου (I°(γ Τ))· μιγμάτων
υδρογόνου με όχι άνω του IO°/o σεληνούχο υδρογόνο ή
φωσφίνη ή σιλάνιο ή γερμανομεθάνιο κατ'όγκον ή με όχι
άνω του I5°/o αρσίνη κατ'όγκον· μιγμάτων αζώτου ή σπα-
νίων αερίων (περιεχόντων όχι άνω του IO°/o Ξένον κατ'
όγκον) με όχι άνω του IO°/o σεληνούχο υδρογόνο ή φωσφίνη

ή σιλάνιο ή γερμανομεθάνιο κατ'όγκον ή με όχι άνω του 22I2
I5°/ο αρσίνη κατ'όγκον (2°(β Τ))· μιγμάτων υδρογόνου (Συνεχίζεται)
με όχι άνω του I0°/ο διβοράνιο κατ'όγκον· μιγμάτων αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω του I0°/ο Ξένον κατ'όγκον) με όχι άνω του I0°/ο διβοράνιο κατ'όγκον (2°(γ Τ))· χλωριούχου βορίου, τριφθοριούχου χλωρίου, χλωριούχου NITROSYL, φθοριούχου SULPHURYL και εξαφθοριούχου βολφραμίου (3°(α Τ))· μεθυλοσιλανίου, σεληνούχου υδρογόνου και τριμεθυλοσιλανίου (3°(β Τ))· χλωροκυανιδίου, κυανογόνου και αιθυλενοξειδίου (3°(γ Τ))· μιγμάτων μεθυλοσιλανίων (4°(β Τ))· υλών της 4°(γ) και 4°(γ Τ)) πλην διχλωροδιφθοριομεθανίου περιέχοντος I2°/ο αιθυλενοξείδιο κατ'όγκον· υποξειδίου του αζώτου (5°(α))· σιλανίου (5°(β))· και υλών της 5°(β Τ), 5°(γ Τ), 7°, 8°, I2° και I3°; αέρια της Κλάσεως 2 μπορούν να μεταφέρονται σε πλαίσια κυλίνδρων συμφώνως προς το εδάφιο (I)(δ). Ο καθένας των κυλίνδρων σε πλαίσιο κυλίνδρων θα περιέχει μόνο ένα και το αυτό πεπιεσμένο αέριο, υγροποιημένο αέριο ή αέριο διαλυμένο υπό πίεση. Κάθε κύλινδρος σε πλαίσιο κυλίνδρων για φθόριο (I°(α Τ)) ή διαλυμένο ακετυλένιο (9°(γ)) θα είναι εν τούτοις εφοδιασμένος με κρουνόν. Οι κύλινδροι σε πλαίσιο κυλίνδρων για ακετυλένιο πρέπει όλοι να περιέχουν το αυτό πορρώδες υλικό (περιθώριο 2204).

(I) Τα ανοίγματα για γέμισμα και άδειασμα δο- 22I3
χείων θα είναι εφοδιασμένα με βαλβίδες τύπου θυρίδας ή βελονειδείς βαλβίδες. Βαλβίδες άλλων τύπων μπορούν

να γίνουν, όρως , δεκτές εάν παρέχουν ίδιες εγγυήσεις 2213
ασφαλείας και έχουν την έγκριση της χώρας προελεύσεως.
Παρ'όλο τούτο, οποιοσδήποτε τύπος βαλβίδος υιοθετηθεί,
το σύστημα προσαρτήσεώς της πρέπει να είναι γερό και τέ-
τοιο ώστε η ικανοποιητική της κατάσταση να επαληθεύεται
εύκολα προτού από κάθε γέμισμα.

Εκτός από ανθρωποθυρίδα, η οποία εάν παρέχεται
θα είναι κλειστή με αποτελεσματικό κλείσιμο (κάλυμμα),
και από τις απαραίτητες οπές για την αφαίρεση των ιζημά-
των, τα δοχεία και οι δεξαμενές συμφώνως προς το περιθώριο
2212 (I)(β) και (γ) θα είναι εφοδιασμένα με άνω των δύο
ανοιγμάτων, για γέμισμα και άνοιγμα αντιστοίχως. Εν τού-
τοις, χωρητικότητας όχι μικροτέρας των 100 L προοριζόμενα
για τη μεταφορά διαλυμένου ακετυλενίου (9°(γ)) μπορούν
να έχουν άνω των δύο ανοιγμάτων (οπών) για γέμισμα και
άδειασμα.

Ομοίως, δοχεία και δεξαμενές συμφώνως προς
περιθώριον 2212 (I), (β) και (γ), προοριζόμενα για τη με-
ταφορά των υλών της 3°(β) και 4°(β) μπορούν να διαθέτουν
και άλλα ανοίγματα (οπάς, στόμια) προοριζόμενα ειδικότε-
ρα για την επαλήθευση της στάθμης του υγρού και της πιέ-
σεως του πιεζομέτρου.

(2) Οι βαλβίδες (κρουνοί) θα προστατεύονται
αποτελεσματικά με πώματα ή μόνιμες φλάντζες. Τα πώματα θα
διαθέτουν οπάς αερισμού καταλλήλου διατομής για να εκκενώ-
νουν τα αέρια εάν προκύψει διαρροή στις βαλβίδες. Τα πώμα-
τα ή οι φλάντζες θα προστατεύουν καταλλήλως την βαλβίδα
εάν ο κύλινδρος πέσει και διαρκούσης της μεταφοράς και

στοιβασίας. Βαλβίδες τοποθετημένες εσωτερικά του λαιμού των δοχείων και προστατευόμενες από κοχλιωτό πώμα, και δοχεία που μεταφέρονται συσκευασμένα σε προστατευτικά κιβώτια, δεν θα χρειάζονται πώμα. Ομοίως, προστατευτικό πώμα δεν θα χρειασθεί για βαλβίδες (κρουνούς) επί πλαισίων κυλίνδρων. 2213 (Συνεχίζεται)

(3) Δοχεία περιέχοντα φθόριο ($I^{0}(\alpha\ T)$)· τριφθοριούχο χλώριο ($3^{0}(\alpha\ T)$)· ή χλωροκυανίδιο ($3^{0}(\gamma\ T)$, ανεξαρτήτως εάν μεταφέρονται ή όχι συσκευασμένα σε προστατευτικά κιβώτια, θα είναι εφοδιασμένα με πώματα από χάλυβα. Τα πώματα αυτά δεν θα έχουν ανοίγματα και, καθ'όλη τη μεταφορά, θα είναι εφοδιασμένα με παρέμβυσμα εξασφαλίζον αεριο-στεγανότητα και κατασκευασμένο από υλικό που δεν κινδυνεύει να προσβληθεί από το περιεχόμενο του δοχείου.

(1) Προκειμένου περί δοχείων περιεχόντων τριφθοριούχο βόριον ή φθόριον ($I^{0}(\alpha\ T)$)· τριφθοριούχο χλώριο ή υγροποιημένη αμμωνία ($3^{0}(\alpha\ T)$)· αμμωνία διαλυμένη στο νερό ($9^{0}(\alpha\ T)$)· χλωριούχο NITROSYL ($3^{0}(\alpha\ T)$)· ή διμεθυλαμίνη, αιθυλαμίνη, μεθυλαμίνη ή τριμεθυλαμίνη ($3^{0}(\beta\ T)$), βαλβίδες κατασκευασμένες από χαλκό ή οποιοδήποτε άλλο μέταλλο κινδυνεύον να προσβληθεί από τα αέρια αυτά δεν θα γίνονται δεκτές. 2214

(2) Η χρήση υλικών περιεχόντων λίπος ή έλαιον προς εξασφάλιση της στεγανότητας των ενώσεων (ραφών) ή προς συντήρηση των μηχανισμών κλεισίματος των δοχείων των χρησιμοποιημένων για οξυγόνο ($I^{0}(\alpha)$)· φθόριο ($I^{0}(\alpha\ T)$)· μίγματα με οξυγόνο ($2^{0}(\alpha)$)· διοξείδιο του αζώτου, τριφθοριούχο

χλώριο (3^{o}(α Π))· υποξείδιο του αζώτου (5^{o}(α))· ή μίγμα- 2214
τα της 12^{o} περιέχοντα άνω του 10^{o}/ο οξυγόνον κατ'όγκον (Συνεχίζεται)
απαγορεύεται.

(3) Οι παρακάτω όροι θα ισχύουν για τη κατασκευή των δοχείων των αναφερομένων στο περιθώριο 2207(Ι):-

(α) Τα υλικά και η κατασκευή των δοχείων θα είναι σύμφωνα προς τους όρους της Προσθήκης Α.2, Β, περιθώρια 3250 έως 3254. Όλα τα μηχανικά και τεχνολογικά χαρακτηριστικά του χρησιμοποιηθέντος υλικού θα καθιερούνται γιά κάθε δοχείο κατά τη πρώτη δοκιμή· αναφορικά με την αντοχή εις κρούσιν και τον συντελεστήν κάμψεως, βλέπε Προσθήκην Α.2, Β, περιθώρια 3265 έως 3285.

(β) Τα δοχεία θα είναι εφοδιασμένα με βαλβίδα ασφαλείας η ποία θα είναι ικανή να ανοίγει στη καθωρισμένη πίεση που εικονίζεται στο δοχείο. Οι βαλβίδες θα είναι έτσι κατασκευασμένες ώστε να λειτουργούν άριστα ακόμη και στη πολύ χαμηλή πίεση λειτουργίας. Το ασφαλές της λειτουργίας των στη θερμοκρασία αυτή θα καθιερούται και ελέγχεται με δοκιμή κάθε βαλβίδας ή δείγματος βαλβίδων του αυτού τύπου κατασκευής.

(γ) Οι οπές αερισμού και βαλβίδες ασφαλείας των δοχείων θα έχουν έτσι σχεδιασθεί ώστε να εμποδίζουν το πιτσίλισμα του υγρού.

(δ) Οι μηχανισμοί κλεισίματος θα είναι έτσι ρυθμισμένοι ώστε να μη μπορούν να ανοίγουν από αναρμόδια πρόσωπα.

(ε) Δοχεία των οποίων το γέμισμα μετράται κατ'όγκον θα διαθέτουν δείκτην στάθμης.

(στ) Τα δοχεία θα είναι θερμικώς μονωμένα. Η θερμική μόνωση θα προστατεύεται κατά της κρούσεως δια συνεχούς μεταλλικής επενδύσεως. Εάν ο χώρος μεταξύ του δοχείου και της μεταλλικής επενδύσεως είναι χωρίς αέρα (μόνωση δια κενού), η προστατευτική επένδυση θα σχεδιάζεται να αντέχει χωρίς παραμόρφωση σε εξωτερική πίεση τουλάχιστον I KG/CM^2. Εάν η επένδυση έχει έτσι κλεισθεί ώστε να είναι αεριο-στεγής (π.χ. στη περίπτωση της μονώσεως δια κενού), θα διατίθεται μηχανισμός εμποδίζων οποιαδήποτε επικίνδυνη πίεση να αναπτυχθεί στο μονωτικό στρώμα στη περίπτωση ακαταλλήλου αεριο-στεγανότητας του δοχείου ή των εξαρτημάτων του. Ο μηχανισμός θα εμποδίζει την υγρασία να εισχωρήσει στη μόνωση. 2214 (Συνεχίζεται)

(4) Στη περίπτωση δοχείων περιεχόντων μίγματα της 4^o(γ) ή διαλυμένο ακετυλένιο (9^o(γ)), τα μεταλλικά τμήματα των μηχανισμών κλεισίματος τα ερχόμενα σε επαφή με το περιεχόμενο δεν πρέπει να περιέχουν χαλκόν άνω του 70 τοις εκατόν. Δοχεία για διαλυμένο ακετυλένιο (9^o(γ)) μπορούν επίσης να διαθέτουν ατμοφράκτες.

(5) Δοχεία περιέχοντα οξυγόνο της I^o(α) έως 7^o(α) και εφαρμοσμένα σε ιχθυοειδεξαμενές γίνονται ομοίως δεκτά εάν διαθέτουν συσκευές παρέχουσες τη δυνατότητα στο οξυγόνο να διαφεύγει βαθμιαία.

2.- Επίσημος έλεγχος δοχείων (για δοχεία από κράμα αλουμινίου, βλέπε επίσης Προσθήκην Α.2)

(I) Τα μεταλλικά δοχεία πρέπει να υποβάλονται σε

αρχικούς και περιοδικούς ελέγχους υπό την επίβλεψη εμπει- 2215
ρογνώμονα αναγνωρισμένου υπό της αρμοδίας αρχής. Η φύ-
ση των ελέγχων αυτών καθορίζεται στα περιθώρια 2216 και
2217.

(2) Για να εξασφαλισθεί ότι τηρούνται οι διατάξεις των περιθωρίων 2204 και 2221 (2), οι έλεγχοι των δοχείων των προοριζομένων να περιλάβουν διαλυμένο ακετυλένιο (9^{o}(γ)) θα περιλαμβάνουν, επιπροσθέτως, έλεγχον της φύσεως του πορώδους υλικού και της ποσότητος του διαλυτικού μέσου.

(1) Ο <u>αρχικός έλεγχος</u> καινουργών ή μη-μεταχειρι- 2216
σμένων δοχείων θα περιλαμβάνει:-

Α.- Επί καταλλήλου δείγματος δοχείων:-

(α) έλεγχον του υλικού κατασκευής για τουλάχιστον την τάση αποδόσεως, την αντοχήν εις εφελκυσμόν, και την μόνιμην επιμήκυνσιν του θραύσματος· οι εκ των ελέγχων αυτών προκύπτουσες τιμές πρέπει να συμφωνούν με τους εθνικούς κανονισμούς·

(β) μέτρηση του πάχους στο λεπτότερο σημείο του τοιχώματος και υπολογισμός της τάσεως·

(γ) έλεγχο της ομοιογένειας του υλικού για κάθε παρτίδα κατασκευής, και επιθεώρηση της εξωτερικής και εσωτερικής καταστάσεως των δοχείων·

Β.- Για όλα τα δοχεία:-

(δ) έλεγχο υδραυλικής πιέσεως συμφώνως προς τις διατάξεις των περιθωρίων 2219 έως 2221·

(ε) επιθεώρηση των ενδείξεων επί των δοχείων (βλέπε περιθώριο 2218).

Γ.- Επιπροσθέτως, για δοχεία προοριζόμενα για τη μεταμορά διαλυμένου ακετυλενίου (9°(γ)):- 2216 (Συνεχίζεται)

(στ) επιθεώρηση όπως απαιτείται εκ των εθνικών κανονισμών.

(2) Τα δοχεία πρέπει να αντέχουν στη πίεση του έλεγχου χωρίς να υφίστανται μόνιμο παραμόρφωση ή να παρουσιάζουν ρωγμές.

(3) Στις <u>περιοδικές επιθεωρήσεις</u> θα επαναλαμβάνονται τα παρακάτω:-

ο έλεγχος υδραυλικής πιέσεως· έλεγχος της εξωτερικής και εσωτερικής καταστάσεως του δοχείου (π.χ., δια ζυγίσεως, εσωτερικής επιθεωρήσεως, ελέγχων του πάχους του τοιχώματος)· επαλήθευση του εξοπλισμού και των ενδείξεων και, εάν χρειασθεί, επαλήθευση των χαρακτηριστικών του υλικού δια καταλλήλων ελέγχων.

Οι περιοδικές επιθεωρήσεις θα διεξάγονται:-

(α) κάθε 2 χρόνια προκειμένου περί δοχείων προοριζομένων για τη μεταφορά των αερίων της Ι°(α Τ) και Ι°(γ Τ)· αερίου πόλεως (δήμου) της 2°(β Τ)· αερίων της 3°(α Τ) πλήν της αμμωνίας, εξαφθοριοπροπυλενίου και μεθυλοβρωμιδίου· χλωροκυανιδίου της 3°(γ Τ)· και υλών της 5°(α Τ)·

(β) κάθε 5 χρόνια προκειμένου περί δοχείων προοριζομένων για τη μεταφορά άλλων πεπιεσμένων και υγροποιημένων αερίων (υπό την επιφύλαξη των διατάξεων του παρακάτω εδαφίου (γ)) και δοχείων για τη μεταφορά αμμωνίας διαλυμένης υπό πίεση (9°(α Τ))·

(γ) κάθε 10 χρόνια προκειμένου περί δοχείων προο- 2216
ριζομένων για τη μεταφορά αερίων της $1^{o}(\alpha)$ (Συνεχίζε-
πλην του οξυγόνου· μιγμάτων αζώτου με σπάνια ται)
αέρια, της $2^{o}(\alpha)$· αερίων της $3^{o}(\alpha)$ και $3^{o}(\beta)$
πλήν Ι,Ι-διφθοριομεθανίου, Ι-χώρο-Ι,Ι-διφθο-
ριομεθανίου, μεθυλοσιλανίου και Ι,Ι,Ι-τριφθο-
ριομεθανίου, και μιγμάτων αερίων της $4^{o}(\alpha)$ και
$4^{o}(\beta)$, εάν τα δοχεία έχουν χωρητικότητα όχι
άνω των 150 λιτρών και η χώρα προελεύσεως δεν
προβλέπει βραχύτερο χρονικό διάστημα.

(δ) προκειμένου περί δοχείων προοριζομένων για τη μεταφορά διαλυμένου ακετυλενίου ($9^{o}(\gamma)$), το περιθώριο 2217(1) θα ισχύει, και προκειμένου περί των συμφώνως προς το περιθώριο 2207(1) δοχείων, το περιθώριο 2217(2) θα ισχύει.

(1) Η εξωτερική κατάσταση (διάβρωση, παραμόρφωση) και η κατάσταση (χαλάρωση, καθίζηση) του πορώδους υλικού σε δοχεία προοριζόμενα για τη μεταφορά διαλυμένου ακετυλενίου ($9^{o}(\gamma)$) θα ελέγχονται κάθε 5 χρόνια. Η δειγματοληψία θα εκτελείται δια της κοπής, εάν θεωρηθεί απαραίτητο, καταλλήλου αριθμού δοχείων και επιθεωρήσεως αυτών εσωτερικώς για διάβρωση και για οποιεσδήποτε αλλαγές που ενδέχεται να προέκυψαν στα συστατικά υλικά και το πορώδες υλικό.

(2) Τα συμφώνως προς το περιθώριο 2207(1) δοχεία θα υποβάλονται κάθε 5 χρόνια σε εξωτερική επιθεώρηση και σε έλεγχο της στεγανότητας. Ο έλεγχος στεγανότητας θα διε-

ξάγεται με το αέριο περιλαμβανόμενο στο δοχείο ή με α- 2217
δρανές αέριο σε πίεση 2 KG/CM^2. Ο έλεγχος θα εκτελείται (Συνεχίζε-
δια πιεζομέτρου ή μετρήσεως δια κενού. Η θερμική μόνωση ται)
δεν θα αφαιρείται. Η πίεση δεν θα υποχωρεί διαρκούσης της
8-ώρου περιόδου ελέγχου. Αλλαγές απορρέουσες εκ της φύσεως
του αερίου δοκιμής (ελέγχου) ή εκ διακυμάνσεων της θερμοκρα-
σίας θα λαμβάνονται υπ'όψει.

(3)-Ενδείξεις επί των δοχείων

(Ι) Τα μεταλλικά δοχεία θα φέρουν τα παρακάτω 2218
στοιχεία με γράμματα καθαρώς ευανάγνωστα και διαρκείας:-

(α) μία των ονομασιών του αερίου ή του μίγματος αερίων, πλήρη, όπως δίδεται στο περιθώριο 2201, Ι^o έως 9^o· την επωνυμία ή το σήμα του κατασκευαστού ή ιδιοκτήτου· και τον αριθμό του δοχείου (βλέπε επίσης περιθώριο 2202 (3)). Προκειμένου περί αλογόνων υδρογονανθράκων των Ι^o(α), 3^o(α), 3^o(α Τ), 3^o(β), 3^o(γ Τ), 4^o(α), 5^o(α) και 6^o(α), η χρήση του γράμματος R ακολουθουμένου υπό του αριθμού αναγνωρίσεως της ύλης επιτρέπεται επίσης·

(β) προκειμένου περί δοχείων προοριζομένων για υγροποιημένα αέρια, το απόβαρον του δοχείου συμπεριλαμβανομένων των τοιούτων εξαρτημάτων και παρακολουθημάτων ως βαλβίδων, κρουνών, μεταλλικών πωμάτων, κλπ., αλλά εξαιρουμένου του προστατευτικού καλύμματος·

(γ) προκειμένου περί δοχείων προοριζομένων για πεπιεσμένα αέρια, το απόβαρο του κανονικού δοχείου·

(δ) τη πίεση δοκιμής (βλέπε περιθώρια 2219 έως 2221) και την ημερομηνία (μήνα, έτος) της γενομένης τελευταίας

δοκιμής (ελέγχου)(βλέπε περιθώρια 22Ι6 και 22Ι7)· 22Ι8 (Συνεχίζεται)

(ε) τη σφραγίδα του εμπειρογνώμονα που διεξήγαγε τους ελέγχους και επιθεωρήσεις· και επιπροσθέτως:

(στ) προκειμένου περί πεπιεσμένων αερίων ή μιγμάτων πεπιεσμένων αερίων (Ι°, 2°, Ι2° και Ι3°): την ανωτάτη πίεση πληρώσεως στους Ι5°C την επιτρεπομένη για το εσθέμα δοχείο (βλέπε περιθώριο 22Ι9)·

(ζ) προκειμένου περί φθοριούχου βορίου (Ι°(α Τ)), υγροποιημένων αερίων (3° έως 6°) και αμμωνίας διαλυμένης στο νερό (9°(α Τ)): το επιτρεπόμενο ανώτατο γέμισμα, καθ τη χωρητικότητα. Προκειμένου για βαθειά-κατεψυγμένα αέρια (DEEPLY-REFRIGERATED GASES) των 7° και 8°: τη χωρητικότητα·

(η) προκειμένου περί ακετυλενίου διαλυμένου σε διαλυτικό μέσο (9°(γ)): την επιτρεπομένη πίεση πληρώσεως (βλέπε περιθώριο 222Ι(2)), και το βάρος του κενού δοχείου συμπεριλαμβανομένου του βάρους των εξαρτημάτων και παρακολουθημάτων, του πορώδους υλικού, και του διαλυτικού μέσου·

(θ) προκειμένου περί μιγμάτων αερίων της Ι2° και αερίων δοκιμών(ελέγχων) της Ι3°, οι λέξεις "μίγματα αερίων" ή "αέρια ελέγχων", αναλόγως της περιπτώσεως θα χαράσσονται στο δοχείο σάν γενική ένδειξη του περιεχομένου. Ακριβής περιγραφή του περιεχομένου θα εικονίζεται καθ'όλη τη μεταφορά·

(ι) προκειμένου περί μεταλλικών δοχείων τα οποία, συμφώνως προς το περιθώριο 2202(3), γίνονται δεκτά για τη μεταφορά ενός αριθμού διαφορετικών αερίων (δοχεία

πολλαπλής χρήσεως), ακριβής, διαρκείας/περιγραφή του περιεχομένου θα εικονίζεται διαρκούσης της μεταφοράς. (ανεξίτηλος) 22I8 (Συνεχίζεται)

(2) Οι ενδείξεις θα χαράσσονται είτε επί ενισχυμένου τμήματος του δοχείου, είτε επί δακτυλίου, είτε επί πλακέτας αναγράφουσας στοιχεία, τοποθετημένης χωρίς να κινείται στο δοχείο. Επιπροσθέτως, η ονομασία της ύλης μπορεί να σημειούται στο δοχείο δι'ορατής ευκρινούς επιγραφής δια βαφής ή οιασδήποτε άλλης ισοδυνάμου μεθόδου.

(γ) Πίεση δοκιμής, βαθμός πληρώσεως, και όριον χωρητικότητας, των δοχείων (βλέπε επίσης περιθώρια 2238, 2II I80 και 2I2 I80

(I) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά πεπιεσμένων αερίων των I^{o}, 2^{o} και $I2^{o}$, η εσωτερική πίεση (πίεση δοκιμής) η εφαρμοστέα για έλεγχο υδραυλικής πιέσεως πρέπει να είναι τουλάχιστον μιά-μισυ φορά η πίεση πληρώσεως στους $I5^{o}C$ η σημειουμένη στο δοχείο, αλλά όχι μικρότερη των I0 KG/CM^2. 22I9

(2) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά υλών της $I^{o}(\alpha)$ πλην του τετραφθοριομεθανίου· δευτερίου και υδρογόνου της $I^{o}(\beta)$· ή αερίων της $2^{o}(\alpha)$, η πίεση πληρώσεως δεν θα υπερβαίνει τα 300 KG/CM^2 τα αναφερόμενα για θερμοκρασία $I5^{o}C$. Στη περίπτωση των δεξαμενών, η πίεση πληρώσεως δεν θα υπερβαίνει τα 250 KG/CM^2 τα αναφερόμενα σε θερμοκρασία $I5^{o}C$.

Προκειμένου περί δοχείων και δεξαμενών προορι-

ζομένων για τη μεταφορά άλλων αερίων των I^{o} και 2^{o} η πίεση πληρώσεως δεν θα υπερβαίνει τα 200 KG/CM^2 τα αναφερόμενα σε θερμοκρασία $I5^{o}C$. 2219 (Συνεχίζεται)

(3) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά φθορίου ($I^{o}(\alpha\ T)$) η εσωτερική πίεση (πίεση ελέγχου) η εφαρμοστέα για τον έλεγχο της υδραυλικής πιέσεως θα είναι 200 KG/CM^2 και η πίεση πληρώσεως δεν θα υπερβαίνει τα 28 KG/CM^2 σε θερμοκρασία $I5^{o}C$· επιπροσθέτως, κανένα δοχείο δεν θα περιέχει περισσότερα των 5 KG φθορίου.

Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά τριφθοριούχου βορίου ($I^{o}(\alpha\ T)$) η υδραυλική πίεση η εφαρμοστέα στην πίεση δοκιμής (ελέγχου) θα είναι είτε 300 KG/CM^2, οπότε το ανώτατο βάρος του περιεχομένου ανά λίτρο χωρητικότητας δεν θα υπερβαίνει τα 0.7I5 KG.

(4) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά μονοξειδίου του αζώτου NO (I^{o} (γ T)), η χωρητικότης θα περιορίζεται στα 50 L· η υδραυλική πίεση η εφαρμοστέα κατά την δοκιμή (πίεση δοκιμής) θα είναι 200 KG/CM^2· και η πίεση πληρώσεως δεν θα υπερβαίνει τα 50 KG/CM^2 σε θερμοκρασία $I5^{o}C$.

(5) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά μιγμάτων υδρογόνουμε όχι άνω του I0 τοις εκατόν σεληνούχου υδρογόνου ή φωσφίνης ή σιλανίου ή γερμανομεθανίου κατ'όγκον ή με όχι άνω των I5 τοις εκατόν αρσίνης κατ'όγκον· μιγμάτων αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω του I0 τοις εκατόν Ξένον κατ'όγκον) με όχι

άνω του 10% εκατόν σεληνούχου υδρογόνου ή φωσφίνης ή σιλανίου ή γερμανομεθανίου κατ'όγκον ή με όχι άνω του 15% εκατόν αρσίνης κατ'όγκον (2°(β Τ))· μιγμάτων υδρογόνου με όχι άνω του 10% εκατόν διβορανίου κατ'όγκον· ή μιγμάτων αζώτου ή σπανίων αερίων (περιεχόντων όχι άνω του 10% εκατόν Ξένον κατ'όγκον) με όχι άνω του 10% εκατόν διβορανίου κατ'όγκον (2°(γ Τ)), η χωρητικότητα θα περιορίζεται σε 50 L· η υδραυλική πίεση η εφαρμοστέα στη δοκιμή (πίεση δοκιμής) δεν θα είναι μικρότερη των 200 KG/CM^2· και η πίεση πλήρωσεως δεν θα υπερβαίνει τα 50 KG/CM^2 σε θερμοκρασία 15°C. 2219 (Συνεχίζεται)

(6)- Δοχεία συμφώνως με το περιθώριο 2207(I), στη θερμοκρασία πλήρωσεως και σε πίεση I KG/CM^2, δεν θα γεμίζονται πέραν του 98% εκατόν της χωρητικότητός των.

Οσάκις μεταφέρεται οξυγόνον της 7°(α), θα λαμβάνονται μέτρα αποφυγής οιουδήποτε χυσίματος της υγράς φάσεως (LIQUID PHASE).

(7) Οσάκις διαλυμένο ακετυλένιο (9°(γ)) μεταφέρεται σε δοχεία συμφώνως προς το περιθώριο 2212(I)(β), η χωρητικότητα των δοχείων δεν θα υπερβαίνει τα 150 L.

(8) Η χωρητικότης των δοχείων των προοριζομένων για τη μεταφορά μιγμάτων αερίων της 12° δεν θα υπερβαίνει τα 50 L. Η πίεση του μίγματος δεν θα υπερβαίνει τα 150 KG/CM^2 σε θερμοκρασία 15°C.

(9) Η χωρητικότητα των δοχείων των προοριζομένων για τη μεταφορά αερίων δοκιμής (ελέγχου) της 13° δεν θα υπερβαίνει τα 50 L. Η πίεση πληρώσεως σε θερμοκρασία 15°C δεν θα υπερβαίνει το 76% εκατόν της πιέσεως δοκιμής (ελέγχου) του δοχείου. 2219 (Συνεχίζεται)

(10) Στη περίπτωση του εξαφθοριούχου βολφραμίου (3°(α Τ)) η χωρητικότητα των δοχείων θα περιορίζεται στα 60 L.

Η χωρητικότητα δοχείων για τετραφθοριούχο πυρίτιο (1°(α Τ))· χλωριούχο βόριο, χλωριούχο NITROSYL και φθοριούχο SULPHURYL (3°(α Τ))· μεθυλοσιλανίου (3°(β))· αρσίνης, διχλωροσιλανίου, διμεθυλοσικανίου, σεληνούχου υδρογόνου και τριμεθυλοσιλανίου (3°(β Τ))· χλωροκυανιδίου και κυανιδίου (3°(γ Τ))· μιγμάτων μεθυλοσιλανίου (4°(β Τ))· υλών της 4°(γ Τ) πλην διχλωροδιφθοριομεθανίου περιεχουσών 12 τοις εκατόν αιθυλενοξειδίου κατά βάρος· σιλανίου (5°(β))· και υλών της 5°(β Τ)) και (γ Τ), θα περιορίζεται στα 50.

(11) Προκειμένου περί δοχείων προοριζομένων για τριφθοριούχον χλώριον (3°(α Τ)) η χωρητικότητα θα περιορίζεται στα 40 L. Μετά το γέμισμα, δοχείον περιέχον τριφθοριούχον χλώριον (3°(α Τ)), προτού παραδοθεί για μεταφορά, θα κρατείται επί όχι ολιγωτέρων των 7 ημερών προς επαλήθευσιν της στεγανότητάς του.

(1) Προκειμένου περί δοχείων προοριζομένων για τη μεταφορά υγροποιημένων αερίων των 3° έως 6°, και δοχείων προοριζομένων για τη μεταφορά αερίων διαλυθέντων υπό πίεση της 9°, η εφαρμοστέα υδραυλική πίεση 2220

κατά την δοκιμήν (πίεση δοκιμής)δεν θα είναι μικροτέρα των IO KG/CM^2. (Συνεχίζεται)

(2) Προκειμένου περί υγροποιημένων αερίων των 3° και 4° θα τηρούνται αι κατωτέρω τιμαί για την υδραυλική πίεση την εφαρμοστέα κατά την δοκιμήν (πίεση δοκιμής) και για τον επιτρεπόμενον ανώτατον βαθμόν πληρώσεως: ±

Βλέπε στο τέλος του πίνακα της παραγράφου (2).

Περιγραφή Ύλης	Αριθμός Είδους	Κατωτάτη Πίεση Δοκιμής/ Ελέγχου. KG/CM^2	Ανώτατο Βάρος Περιεχομένου ανά λίτρο χωρητικότητας KG
Βρωμοχλωροδιφθοριομεθάνιο (R I2 B I)	3°(α)	IO	I.6I
Χλωροδιφθοριομεθάνιο (R 22)	3°(α)	29	I.03
Χλωροπενταφθοριομεθάνιο(R II5)	3°(α)	25	I.06
I-χλωρο-2,2,2-τριφθοριομεθάμιο (R I33α)	3°(α)	IO	I.I8
Διχλωροδιφθοριομεθάνιο (R I2)	3°(α)	I8	I.I5
Διχλωροφθοριομεθάνιο (R 2I)	3°(α)	IO	I.23
I,2-Διχλωρο-I,I,2,2-τετραφθοριομεθάνιο (R II4)	3°(α)	IO	I.30
Οκτωφθοριοκυκλοβουτλάνιο(RC 3I8)	3°(α)	II	I.34
Αμμωνία	3°(α T)	33	0.53
Χλωριούχο Βόριο	3°(α T)	IO	I.I9
Χλώριο	3°(α T)	22	I.25
Τριφθοριούχο Χλώριο	3°(α T)	30	I.40

2220

(Συνεχίζεται)

Περιγραφή Ύλης	Αριθμός Είδους	Κατωτάτη Πίεση Δοκιμής/ Ελέγχου. KG/CM^2	Ανώτατο Βάρος Περιεχομένου ανά λίτρο χωρητικότητας KG
(Συνέχεια)			
Εξαφθοριοπροπυλένιο (R 2I6)	3°(α Τ)	22	I.II
Υδροβρώμιο	3°(α Τ)	60	I.20
Μεθυλοβρωμίδιο	3°(α Τ)	IO	I.5I
Διοξείδιο Αζώτου	3°(α Τ)	IO	I.30
Χλωριούχο NITROSYL	3°(α Τ)	I3	I.IO
Φωσγένιο	3°(α Τ)	20	I.23
Διοξείδιο Θείου	3°(α Τ)	I4	I.23
Φθοριούχο SULPHURYL	3°(α Τ)	50	I.IO
Εξαφθοριούχο Βολφράμιο	3°(α Τ)	IO	2.70
Βουτάνιο	3°(β)	IO	0.5I
I-Βουτένιο	3°(β)	IO	0.53
I-Χλωρο-I,I-διφθοριομεθάνιο (R I42β)	3°(β)	IO	0.99
CIS-2-βουτένιο	3°(β)	IO	0.55
Κυκλοπροπάνιο	3°(β)	20	0.53
I,I-Διφθοριομεθάνιο (R I52α)	3°(β)	I8	0.79
Ισοβουτάνιο	3°(β)	IO	0.49
Ισοβουτένιο	3°(β)	IO	0.52
Μεθυλοακυλάνιο	3°(β)	225	0.39
Προπάνιο	3°(β)	25	0.42
Προπυλένιο	3°(β)	30	0.43
TRANS-2-βουτένιο	3°(β)	IO	0.54

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(Συνεχίζεται)

Περιγραφή Ύλης	Αριθμός Είδους	Κατωτάτη Πίεση Δοκιμής/ Ελέγχου. KG/CM^2	Ανώτατο Βάρος Περιεχομένου ανά λίτρο χωρητικότητας KG
(Συνέχεια)			
Ι,Ι,Ι-Τριφθοριομεθάνιο	3°(β)	35	0.75
Αρσίνη	3°(β Τ)	42	Ι.ΙΟ
Διχλωροσιλάνιο	3°(β Τ)	ΙΟ	0.90
Διμεθυλαμίνη	3°(β Τ)	ΙΟ	0.59
Διμεθυλαιθέρας	3°(β Τ)	Ι8	0.58
Διμεθυλοσιλάνιο	3°(β Τ)	225	0.39
Αιθυλαμίνη	3°(β Τ)	ΙΟ	0.6Ι
Αιθυλοχλωρίδιο	3°(β Τ)	ΙΟ	0.80
Σεληνούχο Υδρογόνο	3°(β Τ)	3Ι	Ι.60
Υδροσουλφίδιο	3°(β Τ)	55	0.67
Μεθυλαμίνη	3°(β Τ)	Ι3	0.58
Μεθυλοχλωρίδιο	3°(β Τ)	Ι7	0.8Ι
Μεθυλική Μερκαπτάνη	3°(β Τ)	ΙΟ	0.78
Τριμεθυλαμίνη	3°(β Τ)	ΙΟ	0.56
Τριμεθυλοσιλάνιο	3°(β Τ)	225	0.39
Ι,3-Βουταδιένιο	3°(γ)	ΙΟ	0.55
Βινυχλωρίδιο	3°(γ)	Ι2	0.8Ι
Κυανογόνο	3°(γ Τ)	ΙΟΟ	0.70
Χλωροκυανίδιο	3°(γ Τ)	20	Ι.03
Αιθυλενοξείδιο	3°(γ Τ)	ΙΟ	0.78
Μεθυλοβινυλαιθέρας	3°(γ Τ)	ΙΟ	0.67

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(Συνεχίζεται)

Περιγραφή Ύλης	Αριθμός Είδους	Κατωτάτη Πίεση Δοκιμής/ Ελέγχου. KG/CM^2	Ανώτατο Βάρος Περιεχομένου ανά λίτρο χωρητικότητας KG
(Σ υ ν έ χ ε ι α)			
Τριφθοριοχλωροαιθυλένιο (R III3)	3°(γ Τ)	I9	I.I3
Βινυβρωμίδιο	3°(γ Τ)	I0	I.37
Μίγμα F I	4°(α)	I2	I.23
Μίγμα F 2	4°(α)	I8	I.I5
Μίγμα F 3	4°(α)	29	I.03
Μίγμα αερίων R 500	4°(α)	22	I.0I
Μίγμα αερίων R 502	4°(α)	3I	I.05
Μίγμα I9 έως 2I ετών εκατόν κατά βάρος διχλωροδιφθοριομεθανίου (R I2) και 79 έως 8I ετών εκατόν κατά βάρος βρωμοχλωροδιφθοριομεθανίου (R I2 BI)	4°(α)	I2	I.50
Μίγματα μεθυλοβρωμιδίου και χλωροπικρίνης	4°(α Τ)	I0	I.5I
Μίγμα A (εμπορική ονομασία: βουτάνιο)	4°(β)	I0	0.50
Μίγμα A 0 (εμπορική ονομασία: βουτάνιο)	4°(β)	I5	0.47
Μίγμα A I	4°(β)	20	0.46
Μίγμα B	4°(β)	25	0.43
Μίγμα Γ (εμπορική ονομασία: προπάνιο)	4°(β)	30	0.42
Μίγματα υδρογονανθράκων περιέχοντα μεθάνιο	4°(β)	225 300	0.I87 0.244

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(Συνεχίζεται)

Περιγραφή Ύλης	Αριθμός Είδους	Κατωτάτη Πίεση Δοκιμής/ Ελέγχου KG/CM^2	Ανώτατο Βάρος περιεχομένου ανά λίτρο χωρητικότητος KG
(Σ υ ν ε χ ί ζ ε τ α ι)			
Μίγματα μεθυλοσιλανίων	4^o(β Τ)	225	0.39
Μίγματα μεθυλοχλωριδίου και μεθυλενοχλωριδίου	4^o(Β Τ)	I7	0.8I
Μίγματα μεθυλοχλωριδίου και χλωροπικρίνης	4^o(β Τ)	I7	0.8I
Μίγματα μεθυλοβρωμιδίου και αιθυλενοβρωμιδίου	4^o(β Τ)	I0	I.5I
Μίγματα μεθυλακετυλενίου/προπαδιένης και υδρογονανθράκων			
Μίγμα P I	4^o(γ)	30	0.49
Μίγμα P 2	4^o(γ)	24	0.47
Αιθυλενοξείδιο περιέχον όχι άνω του I0 τοις εκατόν διοξειδίου του άνθρακος κατά βάρος	4^o(γ Τ)	28	0.73
Αιθυλενοξείδιο περιέχον όχι άνω του 50 τοις εκατόν μεθυλικού άλατος μυρμηκικοπού οξέος κατά βάρος με άζωτο μέχρι ανωτάτης ολικής πιέσεως I0 KG/CM^2 στούς 50^{o}C.	4^o(γ Τ)	25	0.80
Αιθυλενοξείδιο με άζωτο μέχρι ολικής πιέσεως I0 KG/CM^2 στούς 50^{o}C	4^o(γ Τ)	I5	0.78
Διχλωροδιφθοριομεθάνιο περιέχον I2 τοις εκατόν αιθυλενοξείδιο κατά βάρος	4^o(γ Τ)	I8	I.09

2220
(συνεχίζεται)

Ι.- Οι προβλεπόμενες πιέσεις δοκιμής/ελέγχου είναι τουλάχιστον ίσες προς τις πιέσεις ατμού των υγρών στούς 70°C, μειωμένες κατά Ι KG/CM^2, της απαιτουμένης κατωτάτης πιέσεως δοκιμής/ελέγχου ούσης, εν τοιούτοις, ΙΟ KG/CM^2.

2.- Ενόψει του υψηλού βαθμού τοξικότητος του φωσγενίου (χλωριούχο καρβονύλιο) (3°(α Τ)) και του χλωροκυανιδίου (3°(γ Τ)), η κατωτάτη πίεση δοκιμής/ελέγχου για τα αέρια αυτά έχει οριοθεί στα 20 KG/CM^2.

3.- Οι ανώτατες προβλεπόμενες τιμές για τον βαθμόν πληρώσεως σε KG/LITRE έχουν καθορισθεί ως κάτωθι:- ανώτατο βάρος περιεχομένου ανά λίτρο χωρητικότητας = 0.95 φορές τη πυκνότητα της υγράς φάσεως στούς 50°C· επιπροσθέτως, η φάσις ατμού δεν πρέπει να εξαφανίζεται κάτω των 60°C.

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(3) Προκειμένου περί δοχείων προοριζομένων να περιέχουν υγροποιημένα αέρια των 5° και 6° ο βαθμός πληρώσεως θα είναι τέτοιος ώστε η εσωτερική πίεση στους 65°C μην υπερβαίνει τη πίεση δοκιμής/ελέγχου των δοχείων. Θα τηρούνται οι παρακάτω τιμές (βλέπε επίσης παράγραφον (4)):-

2220

(Συνεχίζεται)

Περιγραφή Ύλης	Αριθμός Είδους	Κατωτάτη Πίεση Δοκιμής/ Ελέγχου KG/CM^2	Ανώτατο Βάρος Περιεχομένου ανα λίτρο χωρητικότητας. KG
Βρωμοτριφθοριομεθάνιο (R I3 B I)	5°(α)	42	I.I3
		I20	I.44
		250	I.60
Διοξείδιο Άνθρακος	5°(α)	I90	0.66
		250	0.75
Χλωροτριφθοριομεθάνιο (R I3)	5°(α)	I00	0.83
		I20	0.90
		I90	I.04
		250	I.I0
Εξαφθοριοαιθάνιο (R II6)	5°(α)	200	I.I0
Υποξείδιο του Αζώτου N_2O	5°(α)	I80	0.68
		225	0.74
		250	0.75
Εξαφθοριούχο Θείο	5°(α)	70	I.04
		I40	I.37
Τριφθοριομεθάνιο (R 23)	5°(α)	I90	0.87
		250	0.95
Ξένον	5°(α)	I30	I.24
Υδροχλωρίδιο	5°(α Τ)	I00	0.30
		I20	0.56
		I50	0.67
		200	0.74
Αιθάνιο	5°(β)	95	0.25
		I20	0.29
		300	0.39
Σιλάνιο	5°(β)	225	0.32
		250	0.4I
Αιθυλένιο	5°(β)	225	0.34
		300	0.37

2220
(Συνεχίζεται

Περιγραφή Ύλης	Αριθμός Είδους	Κατωτάτη Πίεση Δοκιμής/ Ελέγχου KG/CM^2	Ανώτατο Βάρος Περιεχομένου ανά λίτρο χωρητικότητας KG
(Σ υ ν έ χ ε ι α)			
Γερμανομεθάνιο	5°(β Τ)	250	I.02
Φωσφίνη	5°(β Τ)	225 250	0.30 0.5I
I.I-Διφθοριοαιθυλένιο	5°(γ)	250	0.77
Φθοριούχο βινύλιο	5°(γ)	250	0.64
Διβοράνιο	5°(γ Τ)	250	0.072
		Συστατικά (βάρος τοις εκατόν)	
Διοξείδιο του άνθρακος περιέχον I-I0 τοις εκατόν άζωτον, οξυγόνον, αέρα ή σπάνια αέρια κατά βάρος	6°(α)	I90 I I90 I-I0 250 I 250 I-I0	0.64 0.48 0.73 0.59
Μίγμα αερίων R 503	6°(α)	3I 42 I00	0.II 0.20 0.66
Διοξείδιο του άνθρακος περιέχον όχι άνω του 35 τοις εκατόν αιθυλενοξείδιο κατά βάρος	6°(γ)	I90 250	0.66 0.75
Αιθυλενοξείδιο περιέχον άνω του I0 τοις εκατόν αλλά όχι άνω του 50 τοις εκατόν διοξειδίου του άνθρακος κατά βάρος	6°(γ Τ)	I90 250	0.66 0.75

(4) Για όλες της 5° πλην υδροχλωριδίου (5°(α Τ)· γερμανομεθανίου και φωσφίνης (5°(β Τ)· και

διβορανίου (5°(γ Τ), και για ύλες της 6°, η χρήση ελεγ- 2220
χθέντων δοχείων σε κατώτερη πίεση της οριζομένης στη (Συνεχίζε-
παράγραφο (3) για την σχετική ύλη επιτρέπεται, αλλά ται)
η ποσότητα της ύλης ανά δοχείο δεν θα υπερβαίνει εκείνην
η οποία στους 65°C θα παρήγαγε εσωτερικώς του δοχείου
πίεσην ίση με τη πίεση δοκιμής/ελέγχου. Στη περίπτωση
αυτή το επιτρεπόμενο ανώτατο φορτίο θα καθορίζεται υπό
του εμπειρογνώμονος του αναγνωριζομένου υπό της αρμοδίας
αρχής.

(Ι) Προκειμένου περί αερίων διαλυομένων υπό 222Ι
πίεση, της 9°, οι παρακάτω τιμές θα τηρούνται για την
υδραυλική πίεση την εφαρμοστέα επί των δοχείων κατά την
δοκιμήν/έλεγχον (πίεση δοκιμής/ελέγχου), και για τον
επιτρεπόμενον ανώτατον βαθμόν πληρώσεως:-

Περιγραφή Ύλης	Αριθμός Είδους	Κατωτάτη Πίεση Δοκιμής/ Ελέγχου KG/CM^2	Ανώτατο Βάρος Περιεχομένου ανά λίτρο χωρητικότητος KG
Αμμωνία διαλυμένη υπό πίεση στο νερό με άνω του 35°/ο αλλά όχι άνω του 40°/ο αμμωνία κατά βάρος	9°(α Τ)	Ι0	0.80
με άνω του 40°/ο αλλά όχι άνω του 50°/ο αμμωνία κατά βάρος	9°(α Τ)	Ι2	0.77
Διαλυμένο Ακετυλένιο	9°(γ)	60	βλέπε υπό στοιχείον (2)

(2) Προκειμένου περί διαλυμένου ακετυλενίου (9°(γ)), άπαξ και η ισορροπία επετεύχθη στους Ι5°C

η πίεση πληρώσεως του κυλίνδρου δεν θα υπερβαίνει την 222Ι
τιμήν την προβλεπομένην υπό της αρμοφίας αρχής για (Συνεχίζεται)
τη πορώδη μάζα, η οποία τιμή θα είναι χαραγμένη στον
κύλινδρο. Η ποσότης του διαλυτικού μέσου και η ποσότης
του ακετυλενίου θα αντιστοιχούν κι' αυτές στους αριθμούς
τους οριζομένους στην έγκριση.

3.- Μικτή Συσκευασία

Οι ύλες της Κλάσεως αυτής πλην των υλών των 2222
7° και 8° μπορούν να εγκλεισθούν στο ίδιο κόλον μεταξύ των εάν περιέχονται:-

(α) σε μεταλλικής πιέσεως δοχεία όγκου μη υπερβαίνοντος τα 10 λίτρα·

(β) σε γυάλινους σωλήνες χονδρού-τοιχώματος ή γυάλινα σιφόνια συμφώνως προς τα περιθώρια 2205 και 2206, υπό τον όρον ότι τα εύθραυστα αυτά δοχεία (υποδοχείς) ασφαλίζονται (στερεώνονται) συμφώνως προς τος διατάξεις του περιθωρίου 2001(5). Το αποσβεστικό υλικό θα ταιριάζει στις ιδιότητες του περιεχομένου. Οι εσωτερικές συσκευασίες θα τοποθετούνται σε εξωτερική συσκευασία στην οποία θα θα τηρούνται αποτελεσματικά χωριστά η μία από την άλλη.

(2) Είδη των 10° και 11° μπορούν να εγκλείονται στο ίδιο κόλον η μία με την άλλη υπό τους όρους τους προβλεπομένους στο περιθώριο 2210.

(3) Επιπροσθέτως, ύλες συσκευασμένες συμφώνως προς τα περιθώρια 2205 και 2206 μπορούν να εγκλείονται στο ίδιο κόλον η μία με την άλλη υπό τους παρακάτω ειδικούς όρους.

(4) Κόλον το οποίον θα πληροί τους όρους των (Ι) και (3) δεν θα ζυγίζει πάνω από 100 KG, ή πάνω από 75 KG εάν περιέχει εύθραυστα δοχεία. 2222 (Συνεχίζεται)

Ειδικοί Όροι:-

Αρ. ή Γράμμα Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	ανά κόλον	Ειδικές Διατάξεις
	Αέρια συσκευασμένα συμφώνως προς το περιθώριο 2205			
	Όλα τα αέρια τα αναγραφόμενα στο περιθώριο αυτό	στις ποσότητες τις προβλεπόμενες στο περιθώριο 2205	6KG	Χλώριον (3° (α Τ)) δεν θα συσκευάζεται με διοξείδιο του θείου (3° (α Τ))
(α)	Άφλεκτα Αέρια			Δεν θα συσκευάζονται με ύλες των Κλάσεων Ια, Ιβ, Ιγ, 3, 4.2, 5.2 ή 7
(α Τ)	Άφλεκτα Τοξικά Αέρια			
(β)	Εύφλεκτα Αέρια			Δεν θα συσκευάζονται με ύλες των Κλάσεων Ια, Ιβ, Ιγ, 3, 4.1, 4.2, 4.3, 5.1. 5.2, 7 ή 8
	Αέρια συσκευασμένα συμφώνως προς το περιθώριο 2206			
	Όλα τα αέρια τα αναγραφόμενα στο περιθώριο πλην αμμωνίας και κυκλοπροπανίου			

2222

(Συνεχίζεται)

Αρ. ή Γράμμα Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	Ποσότητα ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			
(α)	Άφλεκτα Αέρια			Δεν θα συσκευάζονται με ύλες των Κλάσεων Ια, Ιβ, Ιγ, 3, 4.2, 5.2 ή 7
(α Τ)	Άφλεκτα Τοξικά Αέρια	150 G	6 KG	
(β)	Εύφλεκτα Αέρια			Δεν θα συσκευάζονται με ύλες των Κλάσεων Ια, Ιβ, Ιγ, 3, 4.1, 4.2, 4.3, 5.1, 5.2 ή 7
(β Τ)	Εύφλεκτα Τοξικά Αέρια			
(γ)	Χημικώς Ασταθή Αέρια			
(γ Τ)	Χημικώς Ασταθή Τοξικά Αέρια			
3° (α Τ)	Αμμωνία	20 G	6 KG	
3° (β)	Κυκλοπροπάνιο			

4.- Ενδείξεις και ετικέτες στα κόλα (βλέπε Προσθήκην Α.9)

(Ι) Κάθε κόλον περιέχον δοχεία με αέρια των 2223
Ι° έως 9°, Ι2° ή Ι3° ή μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση της ΙΙ° θα μαρκάρονται ευανάγνωστα και ανεξίτηλα με την ένδειξη του περιεχομένου, προσθέτοντας "Κλάση 2". Το μαρκάρισμα αυτό θα είναι στην επίσημη γλώσσα της χώρας της αναχωρήσεως, και επί-

σης, εάν η γλώσσα αυτή δεν είναι η Αγγλική, ή Γαλλική, ή Γερμανική, στην Αγγλική, Γαλλική ή Γερμανική, εκτός εάν, τυχόν, συμφωνίες συνήφθησαν μεταξύ των ενδιαφερομένων χωρών προβλέπουσες άλλως αναφορικώς με την επιχείρηση της μεταφοράς. 2223 (Συνεχίζεται)

Η παρούσα διάταξη δεν χρειάζεται να τηρηθεί εάν τα δοχεία και οι ενδείξεις τους είναι σαφώς ορατά.

(2) Κάλα περιέχοντα διανεμητές αεροζόλ της IO° θα μαρκάρονται με τη λέξη "ΑΕΡΟΖΟΛ" με γράμματα ευανάγνωστα και ανεξίτηλα.

(3) Οσάκις η αποστολή είναι αποστολή πλήρους φορτίου, οι ενδείξεις οι αναφερόμενες στην παράγραφο (I) δεν είναι υποχρεωτικές.

(I) Κάλα τα οποία περιέχουν δοχεία κατασκευασμένα από υλικά κινδυνεύοντα να θρυμματισθούν, όπως η ύαλος ή ωρισμένες πλαστικές ύλες, θα φέρουν ετικέτα συμφώνως προς το μοντέλο No.9. 2224

(2) Κάθε κάλον περιέχον αέρια της 8°(α) ή 8°(α) θα φέρει, σε δύο αντίθετες πλευρές, ετικέτες συμφώνως προς το μοντέλο No.8, και εάν οι ύλες τις οποίες περιέχει εγκλείονται σε γυάλινα δοχεία (περιθώριο 2207(2)(α)), πρέπει, επιπροσθέτως, να φέρει ετικέτα συμφώνως προς το μοντέλο No.9.

Κάθε κάλον περιέχον διανεμητές αεροζόλ των IO°(β) 2., IO° (β T) 2., IO°(γ) ή IO°(γ T), ή μη-ξαναγεμιζόμενα δοχεία (CONTAINERS) αερίου υπό πίεση των 2225

ΙΙ° (β), ΙΙ°(β Τ), ΙΙ°(γ) ή ΙΙ°(γ Τ), θα φέρει ετι- 2225
κέτα συμφώνως προς το μοντέλο No. 2Α. (Συνεχίζεται)

Β.- Λεπτομέρειες (στοιχεία) εγγράφου μεταφοράς

(Ι) Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφο- 2226
ράς πρέπει να υπάρχει:-

(α) στη περίπτωση των καθαρών και τεχνικώς-καθαρών αερίων των Ι°, 3°, 5°, 7° ή 9°, των διανεμητών αεροζόλ της ΙΟ°, των μη-ξαναγεμιζομένων δοχείων (CONTAINERS) αερίου υπό πίεση της ΙΙ°, και να είναι: μία των ονομασιών των υπογραμμιζομένων στο περιθώριο 2201·

(β) στη περίπτωση των μιγμάτων των αερίων των 2°, 4°, 6°, 8°, Ι2° ή Ι3°: "μίγμα αερίων". Η περιγραφή αυτή πρέπει να συμπληρούται με την ένδειξη της συνθέσεως του μίγματος αερίων κατ'όγκον στους εκατόν ή βάρος στους εκατόν. Συστατικά μέρη κάτω του ενός στους εκατόν δεν χρειάζεται να αναφέρονται. Στην περίπτωση των μιγμάτων αερίων των 2°(α), 2°(β), 2°(β Τ), 4°(α), 4°(β), 4°(γ), 6°(α), 8°(α) ή 8°(β) οι περιγραφές ή οι ονομασίες οι συνήθεις στο εμπόριο που υπογραμμίζονται στο περιθώριο 2201 μπορούν ομοίως να χρησιμοποιούνται, χωρίς τον καθορισμόν της συνθέσεως.

Οι περιγραφές αυτές πρέπει να υπογραμμίζονται με κόκκινο και να ακολουθούνται από στοιχεία της Κλάσεως, τον αριθμό του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ., 2, 5°(α Τ), ADR).

(2) Προκειμένου περί αποστολών αερίων αναφερομένων μεταξύ των χημικώς ασταθών αερίων, ο αποστολέας οφείλει να πιστοποιεί τα κάτωθι στο έγγραφο μεταφοράς: "Πάρθηκαν τα απαραίτητα μέτρα προς εκπλήρωση των όρων του περιθωρίου 2200(2) της ADR". Στη περίπτωση αποστολών μιγμάτων αερίων της I2° ή αερίων δοκιμής/ελέγχου της I3°, ο αποστολέας οφείλει να πιστοποιεί τα παρακάτω στο έγγραφο μεταφοράς: "Έχουν τηρηθεί οι όροι οι διαλαμβανόμενοι στα I2° ή I3° του περιθωρίου 220I της ADR". 2226 (Συνεχίζεται)

(3) Προκειμένου περί αποστολών τριφθοριούχου χλωρίου (3°(α T)) ο αποστολέας οφείλει να πιστοποιεί τα κάτωθι στο έγγραφο μεταφοράς:- "Μετά το γέμισμα με τριφθοριούχο χλώριο, το δοχείο ετηρήθη υπό παρατήρηση επί χρονικό διάστημα όχι μικρότερο των επτά ημερών και η στεγανότητά του επαληθεύθηκε".

(4) Προκειμένου περί δεξαμενών περιεχουσών αέρια της 7°(α) ή 8°(α) πλην διοξειδίου του άνθρακος και υποξειδίου του αζώτου, στο έγγραφο μεταφοράς θα αναγράφεται: "Η δεξαμενή είναι σε μόνιμη επικοινωνία με την ατμοσφαίρα".

2227-2236

Γ.- Κενά Είδη Συσκευασίας

(I) Τα δοχεία και οι δεξαμενές της I4° θα κλείνουν με τον ίδιο τρόπο σάν να επρόκειτο για πλήρη δοχεία και δεξαμενές. 2237

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι:- "Κενό δοχείο ή ("Κενή δεξαμενή"), ακαθάριστο, 2, I4°, ADR (ή Είδος I4, RID)". Το κείμενο αυτό πρέπει να

φέρει πόκκινη υπογράμμιση. 2237

(Συνεχίζεται)

Δ.- Μεταβατικές διατάξεις

Οι παρακάτω μεταβατικές διατάξεις θα εφαρμοσθούν σε δοχεία για πεπιεσμένα ή υγροποιημένα αέρια ή αέρια διαλυμένα υπό πίεση:-

(α) δοχεία ήδη σε υπηρεσία, υπό την επιφύλαξη των παρακάτω εξαιρέσεων, θα γίνονται δεκτά για διεθνή μεταφορά εφ'όσον το επιτρέπουν οι διατάξεις της συμβαλλομένης χώρας στην οποία διεξήχθησαν οι έλεγχοι συμφώνως προς το περιθώριο 2216 και εφ'όσον ετηρήθησαν οι προθεσμίες οι προβλεπόμενες υπό των περιθωρίων 2216(3) και 2217 για τις περιοδικές επιθεωρήσεις·

(β) προκειμένου περί δοχείων κατασκευασθέντων συμφώνως προς το προηγούμενον σύστημα (επιτρεπτή τάσις δύο-τρίτα, αντί τριών-τετάρτων, της τάσεως αποδόσεως), δεν θα επιτρέπεται καμμία αύξηση είτε στη πίεση δοκιμής/ελέγχου είτε στη πίεση πληρώσεως (βλέπε περιθώριο 2211(1))·

(γ) μεταβατικά μέτρα για δεξαμενές: βλέπε περιθώριο 211 180·

(δ) μεταβατικά μέτρα για δεξαμενές-δοχεία (TANK-CONTAINERS): βλέπε περιθώριο 212 180.

ΚΛΑΣΗ 3.- ΕΥΦΛΕΚΤΑ ΥΓΡΑ

I.- Κατάλογος Υλών

(I) Μεταξύ των ευφλέκτων υγρών και μιγμάτων αυτών, είτε σε υγρά κατάσταση είτε ακόμη υπό μορφήν ζύμης σε θερμοκρασία μη υπερβαίνουσα τους I5°C, οι ύλες οι αναγραφόμενες στο περιθώριο 230I υπόκεινται στις διατάξεις του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές οι γενόμενες δεκτές για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ύλες της ADR. 2300

(2) Εύφλεκτα υγρά των οποίων η πίεση ατμού σε θερμοκρασία 50°C δεν υπερβαίνει τα 3 KG/CM^2, πλην των αναφερομένων στις λοιπές Κλάσεις, θεωρούνται ως εύφλεκτα υγρά εντός της εννοίας της ADR.

(3) Υγρά της Κλάσεως 3 τα οποία κινδυνεύουν ευκόλως να σχηματίσουν υπεροξείδια (όπως συμβαίνει με αιθέρες ή με ωρισμένες ετεροκυκλικές οξυγονοποιημένες ύλες) περιεχόμενόν τους, γνωστόν ως υπεροξείδιο του υδρογόνου H_2O_2, δεν υπερβαίνει το 0.3 τοις εκατόν.

(4) Το ανωτέρω αναφερόμενον περιεχόμενον εις υπεροξείδιο και το σημείον αναφλέξεως το αναφερόμενον παρακάτω θα καθορίζονται όπως εικονίζονται στη Προσθήκη Α.3 (περιθώρια 3300 - 3303).

(5) Ύλες της Κλάσεως 3 που πολυμεροποιούνται εύκολα θα γίνονται δεκτές για μεταφορά μόνον εάν έχουν παρθεί οι απαραίτητες προφυλάξεις προς αποφυγήν του πολυμερισμού των κατά τη διάρκεια της μεταφοράς.

(6) Στερεές ύλες διαλυτές σε υγρά θα θεωρούνται

ότι περιλαμβάνουν ξηραντικά (DRIERS), σταθεροποιημένα έλαια (βρασμένα ή καθαρμένα λινέλαια, κλπ.) ή παρεμφερείς ύλες (εξαιρουμένης της νιτροκυτταρίνης) των οποίων το σημείον αναφλέξεως είναι άνω των 100°C. 2300 (Συνεχίζεται)

Ι° (α) Υγρά μη επιδεκτικά αναμίξεως, ή μόνον εν μέρει επιδεκτικά αναμίξεως, με νερό, τα οποία έχουν σημείον αναφλέξεως κάτω των 21°C, επίσης όταν δεν περιέχουν περισσότερο από 30 τοις εκατόν στερεά (εξαιρουμένης της νιτροκυτταρίνης) είτε διαλυμένα, είτε αιωρήσιμα μέσα στα υγρά, ή αμφότερα, π.χ. ακάθαρτα πετρέλαια και άλλα αργά πετρέλαια· πτητικά προϊόντα από τη διύλιση του πετρελαίου και άλλων αργών πετρελαίων ή από άνθρακα, λιγνίτη, σχιστόλιθο και πίσσες από ξύλο ή τύρφη, π.χ.: πετρελαϊκός αιθέρας, πεντάνια, βενζίνη, βενζόλιο και τολουόλη· προϊόντα συμπυκνώσεως φυσικού αερίου· οξικόν αιθύλιον (οξικός εστέρας), οξικόν βινύλιον, διαιθυλικός αιθέρας (θειϊκός αιθέρας), μεθυλικόν άλας μυρμηκικού οξέος και λοιποί αιθέρες και εστέρες· διθειούχος άνθραξ· αλδεΰδη του αλκοολικού πνεύματος (ακρολεΐνη)· ωρισμένοι χλωριωμένοι υδρογονάνθρακες (π.χ. 1,2-διχλωροαιθάνιο και χλωροπρένιο (χλωροβουταδιένιο))· 2301

(β) μίγματα υγρών έχοντα σημείον αναφλέξεως κάτω των 21°C και περιέχοντα όχι άνω των 55 τοις εκατόν νιτροκυτταρίνην με περιεχόμενον αζώτου

μη υπερβαίνον το 12.6 τοις εκατόν (κολλόδια, ημι-κολλόδια και λοιπά διαλύματα νιτροκυτταρίνης). (Συνεχίζεται) 2301

Για (α), βλέπε επίσης περιθώριο 2301α (α), (β) και (δ)· για (β), βλέπε επίσης περιθώριο 2301α (α).

Σημείωσις:- Για μίγματα υγρών έχοντα σημείον αναφλέξεως κάτω των 21°C και

- περιέχοντα άνω του 55 τοις εκατόν νιτροκυτταρίνην ανεξαρτήτως του είς άζωτον περιεχομένου των, ή
- περιέχοντα όχι περισσότερο του 55 τοις εκατόν νιτροκυτταρίνην με περιεχόμενον εις άζωτον άνω του 12.6 τοις εκατόν,

βλέπε Κλάσιν Ια, περιθώριο 2101, 1° και Κλάσιν 4.1, περιθώριο 2401 7°(α).

2° Υγρά μη επιδεκτικά αναμίξεως, ή μόνον εν μέρει επιδεκτικά αναμίξεως, με νερό, τα οποία έχουν σημείον αναφλέξεως κάτω των 21°C και περιέχουν άνω του 30 τοις εκατόν στερεά (εξαιρουμένης της νιτροκυτταρίνης) είτε διαλυμένα, είτε αιώρησιν στα υγρά, ή αμφότερα, π.χ.: ωρισμένα χρώματα για ροτοχαρακτική (φωτοτυπίες) και για δέρματα, ωρισμένα βερνίκια, ωρισμένα βερνικοχρώματα, και διαλύματα ελαστικού (καουτσούκ). Βλέπε επίσης περιθώριο 2301α, (γ).

3° Υγρά μη επιδεκτικά αναμίξεως, ή εν μέρει επιδεκτικά αναμίξεως, με νερό, που έχουν σημείον αναφλέξεως μεταξύ 21°C και 55°C συμπεριλαμβανομένων, επίσης

όταν περιέχουν όχι άνω του 30 τοις εκατόν στερεά είτε διαλυμένα, είτε εν αιωρήσει ατα υγρά, ή αμφότερα, π.χ.: τερεβινθίνη (νέφτι)· ημι-βαρέα προϊόντα εκ της διϋλίσεως πετρελαίου ή άλλων αργών πετρελαίων, ή εξ άνθρακος, λιγνίτου, σχιστολίθου ή από πίσσες ξύλου και τύρφης, π.χ. λευκό πνεύμα (υποκατάστατο της τερεβινθίνης), βαρέα βενζόλια, πετρέλαια (για φωρισμό, θέρμανση ή μηχανές), ξυλένιο, στυρένιο (στυρόλη), κουμένιο (CUMENE), διαλύτης νάφθα· βουτανόλη· οξικό βουτύλιο· οξικό πεντύλιο (οξικός αμυλεστέρας)· νιτρομεθάνιο (μονονιτρομεθάνιο) και ωρισμένες μονονιτροπαραφίνες· ωρισμένοι χλωριωμένοι υδρογονάνθρακες (π.χ. χλωροβενζόλιο). Βλέπε επίσης περιθώριο 2301α, υπό τα στοιχεία (γ) και (δ). 2301 (Συνεχίζεται)

4° Υγρά μη επιδεκτικά αναμίξεως, ή εν μέρει επιδεκτικά αναμίξεως, με νερό που έχουν σημείον αναφλέξεως άνω των 55°C αλλά μη υπερβαίνον τους 100°C, επίσης όταν περιέχουν όχι άνω του 30 τοις εκατόν στερεά είτε διαλυμένα, είτε εν αιωρήσει σε υγρά, ή αμφότερα, π.χ.: ωρισμένες πίσσες και τα προϊόντα διϋλίσεώς των: πετρέλαια θερμάνσεως, πετρέλαια ντήζελ, ωρισμένα αερικέλαια· τετραυδροναφθαλίνιο (τετραλίνη)· νιτροβενζόλιο· ωρισμένοι χλωριωμένοι υδρογονάνθρακες (π.χ. 1-χλωρο-2-αιθυλεξάνιο). Βλέπε επίσης περιθώριο 2301α, υπό τα στοιχεία (γ) και (δ).

5° Υγρά επιδεκτικά αναμίξεως σε όλες τις αναλογίες

με νερό που έχουν σημείον αναφλέξεως κάτω των 21°C, επίσης όταν περιέχουν άνω του 30 τοις εκατόν στερεά είτε διαλυμένα, είτε αιωρήσιμα στα υγρά, ή αμφότερα, π.χ.: μεθανόλη (μεθυλική αλκοόλη, ξυλόπνευμα), μετουσιωμένη ή όχι· αιθανόλη (αιθυλική αλκοόλη, συνήθης αλκοόλη), μετουσιωμένη ή όχι· οξική αλδεΰδη· ακετόνη και μίγματα ακετόνης· πυριδίνη. Βλέπε επίσης περιθώριο 230Ιά, υπό τα στοιχεία (α) και (γ). 230Ι (Συνεχίζεται)

6° Κενά δοχεία, καθαρίστα, και νενές δεξαμενές, καθαρίστες, που περιείχαν εύφλεκτα υγρά της Κλάσεως 3. 230Ιά

Ύλες παραδοθείσες για μεταφορά συμφώνως προς στις παρακάτω διατάξεις δεν υπόκεινται ούτε στις διατάξεις της παρούσης Κλάσεως τις περιεχόμενες στο παρόν Παράρτημα ούτε σε εκείνες που περιέχονται στο Παράρτημα Β:

(α) υγρά της I° (εκτός των αναφερομένων υπό (β) κατωτέρω), και ακετόνη και μίγματα ακετόνης (5°): σε ποσότητες μη υπερβαίνουσες τα 200 γραμμ. ανά δοχείο, σε δοχεία κατασκευασμένα από φύλλο-μετάλλου, ύαλο, πορσελάνη, είδη κεραμουργικά ή κατάλληλο πλαστική ύλη, τα δοχεία αυτά, με ολικό περιεχόμενον μη υπερβαίνον το I KG, τοποθετούμενα μαζί σε εξωτερικό είδος συσκευασίας κατασκευασμένο από φύλλο-μετάλλου, ξύλο ή ινώδη σανίδα και εύθραυστα δοχεία καταλλήλως ασφαλιζόμενα στο είδος της συσκευασίας προς αποφυγήν της θραύσεώς των·

(β) διθειούχος άνθραξ, διαιθυλαιθέρας, πετρελαϊκός αιθέρας, πεντάνια, μεθυλικόν άλας μυρμηκικού οξέος (METHYL FORMATE): 50 γραμμ. ανά δοχείο και 250 γραμμ.

ανά κόλον, οι ύλες αυτές συσκευασμένες κατά τον ίδιο τρόπο με τις ύλες της (α). 2301α (Συνεχίζεται)

(δ) η καύσιμος ύλη η περιεχομένη στις δεξαμενές αυτοκινήτων ή σε κλειστές βοηθητικές δεξαμενές σταθερά στερεωμένες στα οχήματα. Εάν υπάρχει στρόφιγγα μεταξύ της δεξαμενής και του κινητήρα πρέπει να είναι κλεισμένη· το ηλεκτρικό ρεύμα πρέπει επίσης να αποσυνδεθεί. Μοτοσυκλέτες και μοτοποδήλατα των οποίων οι δεξαμενές περιέχουν καύσιμο-ύλη πρέπει να φορτώνονται απ'ευθείας επί των τροχών των, ασφαλιζόμενα (στερεούμενα) για να μη πέσουν.

2.- Διατάξεις

Α.- Κόλα

Ι.- Γενικοί Όροι Συσκευασίας

(1) Τα δοχεία θα είναι έτσι κλεισμένα και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου, και ειδικώτερα οποιαδήποτε εξάτμιση.

(2) Τα υλικά από τα οποία τα δοχεία και τα κλεισίματά των είναι κατασκευασμένα δεν θα πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ούτε να σχηματίζουν επιβλαβείς ή επικινδύνους ενώσεις με αυτό.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη των για να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους συνήθεις όρους μεταφοράς. Ειδικώτερα, τα δοχεία και τα κλεισίματά των πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο

"Συσκευασία μιας ύλης" προβλέπει άλλως, να μπορούν να ανθίστανται σε οποιαδήποτε πίεση την οποίαν, λαμβανομένης επίσης υπόψη της παρουσίας του αέρος, ενδέχεται εσωτερικώς να υποστούν τα δοχεία κατά τη συνήθη μεταφορά. Για τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά τον χρόνον της πληρώσεως και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μεταφοράς (βλέπε επίσης περιθώριο 2305). Οι εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιας ύλης", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται στις εξωτερικές συσκευασίες, είτε μία-μία είτε ομαδικά. 2302 (Συνεχίζεται)

(4) Φιάλες και λοιπά γυάλινα δοχεία πρέπει να είναι απηλλαγμένα από βλάβες που κινδυνεύουν να εξασθενήσουν την αντοχή των· ειδικώτερα, πρέπει να έχουν καταλλήλως αρθεί οι εσωτερικές τάσεις. Τα τοιχώματα δεν πρέπει να έχουν πάχος μικρότερο των 3 MM (χιλ.) προκειμένου περί δοχείων που ζυγίζουν, μαζί με το περιεχόμενό των, άνω των 35 KG, και όχι μικρότερο των 2 MM (χιλ.) προκειμένου περί άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος πρέπει να εξασφαλίζεται από πρόσθετο μηχανισμό (πώμα, στέμμα (κορώνα), σφραγίδα, δέσιμο, κλπ.)) ικανό να εμποδίσει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος κατά την μεταφορά.

(5) Το αποσβεστικό υλικό θα είναι κατάλληλο προς τη φύση του περιεχομένου και, ειδικότερα, θα είναι απορροφητικό. Κατάλληλα υλικά πρέπει να χρησιμοποιούνται προς στερέωση των δοχείων και ασφάλισή των στο προστατευτικό είδος συσκευασίας· η εξασφάλιση αυτή πρέπει να εκτελείται με φροντίδα και να ελέγχεται περιοδικά (πιθανόν προ κάθε νέας πληρώσεως του δοχείου). 2302 (Συνεχίζεται)

2.- Συσκευασία μιας ύλης

(1) Οι ύλες των I^{o} - 5^{o} πρέπει να συσκευάζονται σε κατάλληλα δοχεία κατασκευασμένα από μέταλλο ή γυαλί, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά. Οι ύλες της 4^{o} και τα διαβρωτικά υγρά των I^{o}(α), 3^{o} και 5^{o} μπορούν επίσης να συσκευάζονται σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη. (Για τις ειδικές διατάξεις τις σχετικές με το χλωροπρένιο και το νιτρομεθάνιο, βλέπε κατωτέρω υπό τα στοιχεία (8) και (9), αντιστοίχως.) 2303

(2) Εύθραυστα δοχεία (γυάλινα, από πορσελάνη, είδη κεραμεικής ή παρεμφερή υλικά) μπορούν να μη περιέχουν περισσότερες των παρακάτω ποσοτήτων υλών της I^{o}:-

διθειούχος άνθραξ ..... I λίτρα

διαιθυλαιθέρας, πετρελαϊκός αιθέρας, πεντάνια 2λίτρες

άλλες ύλες της I^{o} ..... 5 λίτρες.

(3) Δοχεία από πλάκες κασσιτέρου χωρητικότητας μη υπερβαίνουσας τις 10 λίτρες πρέπει να έχουν πάχος τοιχώματος όχι μικρότερο των 0.25 MM (χιλ.)· τα έχοντα χωρητικότητα υπερβαίνουσα τις 60 λίτρες πρέπει να έχουν

πάχος τοιχώματος όχι μικρότερο των 0.3 ΜΜ (χιλ.) και οι ενώσεις τους να έχουν διπλο-ραφεί δια συγκολλήσεως, ή με μαλακή συγκόλληση, ή να έχουν παραχθεί με κατεργασίας εξασφαλίζούσης παρόμοιον βαθμόν αντοχής και στεγανότητας. 2303 (Συνεχίζεται)

(4) Δοχεία κατασκευασμένα από φύλλο-χάλυβος (για δοχεία από πλάκες κασσιτέρου έχοντα χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, βλέπε επίσης (3)) πρέπει να συγκολλούνται ή υπόκεινται σε σκληρή συγκόλληση, και οι ποσότητες των υλών των I^{o} - 5^{o} τας οποίας μπορούν να περιέχουν, συμφώνως προς το πάχος των τοιχωμάτων των, έχουν ως κάτωθι:-

εάν το πάχος του τοιχώματος είναι μικρότερο των 0.5ΜΜ (χιλ.: όχι περισσότερες από 30 λίτρες,

εάν το πάχος του τοιχώματος δεν είναι μικρότερο των 0.7 ΜΜ (χιλ.): όχι περισσότερας από 60 λίτρες,

εάν το πάχος του τοιχώματος δεν είναι μικρότερο των I.5 ΜΜ (χιλ.): περισσότερες από 60 λίτρες.

(5) Είδη συσκευασίας κατασκευασμένα από φύλλο-μετάλλου πλήν χάλυβος πρέπει να σχεδιάζονται και κατασκευάζονται κατά τοιούτο τρόπο ώστε να διαθέτουν την αυτήν αντοχήν όπως τα δοχεία εκ φύλλου-χάλυβος τα αναφερθέντα εις (4).

(6) Υγρά των οποίων η πίεση ατμού στους 50^{o}C δεν υπερβαίνει τα I.5 KG/CM^{2}, με εξαίρεση τον διθειούχο άνθρακα, μπορούν επίσης να μεταφέρονται σε μεταλλικά βαρέλια συμμορφούμενα προς τις παρακάτω διατάξεις:-

Οι ενώσεις του κορμού των βαρελιών πρέπει να συγκολλούνται και τα άκρα των ενώσεων επίσης με διπλή ραφή. Τα βαρέλια πρέπει να είναι εφοδιασμένα με κυλιόμενες στεφάνες (τσέρκια) ή ενισχυτικές δοκίδες. Κάθε βαρέλι πρέπει να έχει υποστεί τον έλεγχο διαρροής τον προβλεπόμενο στο περιθώριο 3502 της Προσθήκης Α.5. Τα βαρέλια πρέπει να είναι τύπου κατασκευής ο οποίος ικανοποίησε τους άλλους ελέγχους τους προβλεπομένους στη προρρηθείσα Προσθήκη Α.5 και πρέπει να φέρει τη σχετική ένδειξιν κατά την έγκριση του τύπου. 2303 (Συνεχίζεται)

(7) Για τη μεταφορά μέσα σε μή-επιστρεπτέα μεταλλικά είδη συσκευασίας προοριζόμενα να χρησιμοποιηθούν μόνο μία φορά) ευφλέκτων προϊόντων των οποίων η πίεση ατμού δεν υπερβαίνει, στους 50°C, τα I.I KG/CM^2 δεν είναι απαραίτητο, προκειμένου περί κάδου του οποίου το βάρος μονάδος δεν υπερβαίνει τα 225 KG, όπως το άκρο του δοχείου συγκολληθεί στο κορμό και το πάχος του τοιχώματος να είναι μεγαλύτερο των I.25 MM (χιλ.), αλλά το δοχείο πρέπει να είναι σε θέση να ανθέξει, άνευ διαρροής, υδραυλικήν πίεσιν 0.3 KG/CM^2 τουλάχιστον, και ο κορμός και τα άκρα του πρέπει να είναι εφοδιασμένα με μηχανισμούς (όπως δοκίδες ή κυλιόμενες στεφάνες (ROLLING HOOPS)) που μπορούν ή δεν μπορούν να αποσυνδεθούν, εξασφαλίζοντες αναμφίαν.

(8) Το Χλωροπρένιο (I°(α)) θα συσκευάζεται:-

(α) σε ερμητικώς-κλεισμένα μεταλλικά δοχεία, καταλλήλως επενδεδυμένα εάν χρειασθεί, έχοντα χωρητικότητα μη

υπερβαίνουσα τις Ι5 λίτρες. Τα δοχεία αυτά θα ασφα- 2303
λίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλι- (Συνεχίζε-
νο κιβώτιο ή άλλη εξωτερική συσκευασία καταλλήλου ται)
αντοχής· ή

(β) σε κάνιστρα από φύλλο-μετάλλου, συγκολλημένα ή σκληρά-συγκολλημένα, έχοντα χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, ερμητικώς κλεισμένα και εφοδιασμένα με χειρολαβήν.

(9) Το νιτρομεθάνιο (3°) πρέπει να περιέχεται:-

(α) σε εύθραυστα δοχεία περιέχοντα όχι περισσότερο της Ι λίτρας· ή

(β) σε δοχεία από φύλλο-μετάλλου συμφώνως προς την (4) ανωτέρω έχοντα χωρητικότητα μη υπερβαίνουσα τις Ι0 λίτρες· ή

(γ) σε μεταλλικά βαρέλια έχοντα το καθένα δύο ερμητικά κλείσιματα, το ένα από αυτά με σπείρωμα, και το καθένα βαρέλι εφοδιασμένο με κυλιόμενες στεφάνες (ROLLING HOOPS) και έχον χωρητικότητα μη υπερβαίνουσαν τις 200 λίτρες.

(Ι) Εύθραυστα δοχεία περιέχοντα ύλες της Ι° 2304
έως 5°, δοχεία κατασκευασμένα από πλαστική ύλη και περιέχοντα διαβρωτικά υγρά των Ι°(α), 3° και 5°, δοχεία από πλάκες κασσιτέρου περιέχοντα ύλες της Ι° και 5°, δοχεία από πλάκες κασσιτέρου έχοντα πάχος τοιχώματος μικρότερο των 0.5 ΜΜ (χιλ.) και περιέχοντα ύλες των 2° έως 4°, και δοχεία από φύλλο-μετάλλου περιέχοντα νιτρομεθάνιο συμφώνως προς το περιθώριο 2303(9)(β), θα ασφα-

λίζονται με αποσβεστικό υλικό σε προστατευτικές συσκευασίες. Εάν δοχεία κατασκευασμένα από πλαστικήν ύλην ασφαλίζονται χωριστά σε προστατευτικές συσκευασίες, το αποσβεστικό υλικό δεν είναι απαραίτητο. 2306 (Συνεχίζεται)

Προστατευτικές συσκευασίες εγκλείουσες εύθραυστα δοχεία περιέχοντα ύλες των I^{o} και 5^{o} και προστατευτικές συσκευασίες εγκλείουσες δοχεία περιέχοντα νιτρομεθάνιο (3^{o}) πρέπει να έχουν πλήρεις πλευρές και να είναι κατασκευασμένες από ξύλο, φύλλο-μετάλλου ή παρόμοιο υλικό.

Το κλείσιμο ευθραύστων δοχείων τοποθετημένων σε ανοικτές προστατευτικές συσκευασίες πρέπει να διαθέτει προστατευτικό κάλυμμα προφυλάσσοντας αυτά από ζημιά. Εάν τα κόλα φορτωθούν σε ανοικτό όχημα, το προστατευτικό κάλυμμα πρέπει να μην είναι ικανό να αναφλεγεί σε επαφή με φλόγα.

(2) Τα παρακάτω είναι δεκτά για μεταφορά χωρίς προστατευτική συσκευασία:-

(α) δοχεία κατασκευασμένα από πλαστική ύλη συμφώνως προς το περιθώριο 2304(I), περιέχοντα ύλες της 4^{o}.

(β) δοχεία κατασκευασμένα από πλάκες-κασσιτέρου, πάχους όχι μικροτέρου των 0.5 MM (χιλ.), περιέχοντα ύλες των 2^{o} - 4^{o}.

(γ) δοχεία από φύλλο-μετάλλου συμφώνως προς το περιθώριο 2303 (4) έως (7).

(δ) μεταλλικά κάνιστρα συμφώνως προς το περιθώριο 2303 (8)(β), περιέχοντα χλωροπρένιο (I^{o}(α)).

(ε) μεταλλικά βαρέλια συμφώνως προς το περιθώριο 2303 (9)(γ), περιέχοντα νιτρομεθάνιο (3°). 2304 (Συνεχίζεται)

(3) Τα παρακάτω κόλα δεν πρέπει να υπερβαίνουν τα κατωτέρω οριζόμενα ανώτατα βάρη:-

(α) κόλα από εύθραυστα δοχεία περιέχοντα ύλες της Ι° ..... 30 KG,

(β) κόλα από εύθραυστα δοχεία περιέχοντα ύλες των 2° - 5° ..... 75 KG,

(γ) κόλλα από δοχεία κατασκευασμένα από πλαστική ύλη και περιέχοντα ύλες της Ι°(α) και των 3° έως 5°, και δοχεία από πλάκες κασσιτέρου περιέχοντα ύλες των Ι° - 5° ..... 75 KG,

(δ) κόλα από δοχεία περιέχοντα χλωροπρένιον συμφώνως προς το περιθώριο 2308(8) ..... 75 KG,

(ε) κόλα από δοχεία από φύλλο-μετάλλου περιέχοντα νιτρομεθάνιο συμφώνως προς το περιθώριο 2303 (9)(β) ..... 75 KG,

(στ) βαρέλια ελεγχθέντα συμφώνως προς το περιθώριο 2303(6) .....250 KG,

(ζ) δοχεία συμφώνως προς το περιθώριο 2303(7) ...226 KG,

(η) βαρέλια περιέχοντα νιτρομεθάνιο συμφώνως προς το περιθώριο 2303(9)(γ) .....275 KG.

(4) Κόλα πλην νιβωτίων και μεταλλικών βαρελίων, θα είναι εφοδιασμένα με χειρολαβήν.

Μεταλλικά δοχεία προοριζόμενα να περιέχουν υγρά της Ι°, νιτρομεθάνιο (3°), ή οξική αλδεΰδη, ακετόνη ή μίγματα ακετόνης (5°), δεν θα πληρούνται πέραν του 93 2305

εκατόν της χωρητικότητός των. Εν τούτοις, δοχεία περιέχοντα υδρογονάνθρακες πλην πετρελαϊκού αιθέρος, πεντανίων, βενζολίου και τολουόλης μπορούν να πληρούνται μέχρι του 95 τοις εκατόν της χωρητικότητός των. 2305 (Συνεχίζεται)

3.- Μικτή Συσκευασία

(1) Υλες ομαδοποιημένες υπό τον αυτόν αριθμόν είδους μπορούν να συμπεριληφθούν στο ίδιο κόλον. Οι εσωτερικές συσκευασίες θα συμφωνούν με το τι προβλέπεται για κάθε ύλη, και η εξωτερική συσκευασία θα είναι η αναφερομένη για τις ύλες του θέματος αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιας ύλης", οι ύλες της παρούσης Κλάσεως μπορούν να εγκλείονται στο ίδιο κόλον είτε με επικινδύνους ύλες άλλων Κλάσεων (εάν μικτή συσκευασία επιτρέπεται προκειμένου περί τοιούτων υλών) ή με άλλα εμπορεύματα, ως ορίζεται κατωτέρω.

Οι εσωτερικές συσκευασίες πρέπει να ικανοποιούν τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως, οι γενικές διατάξεις οι περιεχόμενες στα περιθώρια 2001(5) και 2002(6) και (7) πρέπει να τηρούνται.

Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 150 KG, ή περισσότερο από 75 KG, εάν περιέχει εύθραυστα δοχεία.

2306
(Συνεχίζεται)

Αριθμός Είδους	Περιγραφή Υλών	Ανωτάτη Ποσότης ανά εύθραυστο δοχείο	ανά άλλο δοχείο	ανά κόλον	Ειδικαί Διατάξεις
I°(α)	Διθειούχος Άνθραξ	0.3 Λίτρες	I λίτρα	I λίτρα	Υγρά της Κλάσεως 3 δεν πρέπει να συσκευάζονται μαζί με ύλες της Κλάσεως 4.2, υπεροξείδιο του υδρογόνου ή υπερχλωρικό οξύ της Κλάσεως 5.I, ή ύλες της Κλάσεως 8, 2°(α), 3°(α), 4°, 7° και 4I°.
I°(α) και I°(β)	Όλες οι ύλες εκτός διθειούχου άνθρακος	I λίτρα	5 λίτρες	5 λίτρες	
2°	Όλες οι ύλες	I λίτρα	5 λίτρες	I0 λίτρες	
3°	Όλες οι ύλες	3 λίτρες	5 λίτρες	I0 λίτρες	
4°	Όλες οι ύλες	5 λίτρες	5 λίτρες	I0 λίτρες	
5°	Υγρά έχοντα σημείο βρασμού / 50°C	I λίτρα	5 λίτρες	I0 λίτρες	
	Άλλες Ύλες	3 λίτρες	5 λίτρες	I0 λίτρες	

2307

4.- Ενδείξεις (Μαρκάρισμα) και ετικέτες κινδύνου στα κόλα (βλέπε Προσθήκην Α.9)

(I) Κόλα περιέχοντα υγρά της I° έως 3° και 5° θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No.2A.

Εν τούτοις, εάν ύλες των 2°, 3° ή 5° συσκευασθούν σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη,

είδη κεραμευτικής ή παρόμοιο υλικό, χωρητικότητας υπερ- 2307
βαίνουσας τις 5 λίτρες, τα κόλα θα φέρουν δύο ετικέ- (Συνεχίζε-
τες συμφώνως προς το μοντέλο No. 2Α. ται)

Κόλα περιέχοντα ακρολεΐνη (αλδεΰδη του αλκοολικού πνεύματος) ή χώροπρένιο (χλωροβουταδιένιο) (I°(α)), ή μεθανόλη (μεθυλική αλκοόλη) (5°), θα φέρουν ετικέτα συμφώνως προς το μοντέλο No.4.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορατά από έξω θα φέρουν ετικέτα συμφώνως προς το μοντέλο No.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα οφείλουν επιπροσθέτως, πλην της περιπτώσεως των σφραγισμένων αμπουλών, να φέρουν ετικέτες συμφώνως προς το Μοντέλο No.8· οι ετικέτες αυτές θα τοποθετούνται ψηλά στις δύο αντίθετες πλευρές των κιβωτίων ή κατά ισοδύναμον τρόπον όταν άλλα είδη συσκευασίας χρησιμοποιούνται.

(3) Προκειμένου περί αποστολών μεταφερομένων ως πλήρη φορτία, οι ετικέτες No. 2Α και 4, ως προβλέπονται υπό τα στοιχεία (I) και (2), δεν χρειάζονται να τεθούν στα κόλα εάν το όχημα φέρει την ένδειξιν την προβλεπομένην στο Παράρτημα Β, περιθώριο IO 500.

2308

Β.- Στοιχεία (Λεπτομέρειες) του εγγράφου μεταφοράς

(I) Η περιγραφή των εμπορευμάτων στο έγγραφο 2309
μεταφοράς πρέπει να είναι σύμφωνη με μία των ονομασιών των υπογραμμισμένων στο περιθώριο 230I. Εάν το τελευταίο δεν περιέχει την ονομασία της ύλης, θα χρησιμοποιείται η εμπορική ονομασία. Η περιγραφή των εμπορευμάτων πρέπει

να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμό του είδους (μαζί με το γράμμα, εάν υπάρχει), και τα αρχικά "ADR" ή "RID" (π.χ. 3, I°(α), ADR). 2309 (Συνεχίζεται

(2) Προκειμένου περί όλων των αποστολών υλών οι οποίες χρησιμοποιούνται ευχερώς, τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς:- "Πάρθηκαν τα απαραίτητα μέτρα για την αποφυγή του πολυμερισμού διαρκούσης της μεταφοράς".

2310-2315

Γ.- Κενά είδη συσκευασίας

(I) Τα δοχεία και οι δεξαμενές της 6° πρέπει να κλείνουν κατά τον ίδιο τρόπο και πρέπει να είναι του αυτού βαθμού στεγανά ως εάν ήσαν πλήρη.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι: "Κενόν δοχείο (ή κενή δεξαμενή), 3μ 6° ADR (η RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

(3) Κενά δοχεία, ακαθάριστα, της 6°, που περιείχαν ύλες των I° έως 3° και 5° θα φέρουν ετικέτα σύμφωνα με το μοντέλο No. 2A. Εκείνα που περιείχαν ακρολεΐνη ή χλωροπρένιο (χλωροβουταδιένιο (I°)(α)) ή μεθανόλην (μεθυλικήν αλκοόλην) (5°) θα φέρουν επιπρόσθετα ετικέτα σύμφωνα με το μοντέλο No.4.

ΚΛΑΣΗ 4.Ι.- ΕΥΦΛΕΚΤΑ ΣΤΕΡΕΑ

Ι.- Κατάλογος υλών

Μεταξύ των υλών των καλυπτομένων υπό τον τίτλον Κλάσιν 4.Ι, οι αναγραφόμενες στο περιθώριο 2401 υπόκεινται στις διατάξεις του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες που γίνονται δεκτές για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες της ADR. 2400

Ι° Ύλες οι οποίες μπορούν εύκολα να αναφλεγούν από σπινθήρες, όπως ξυλάλευρο, πριονίδι, ροκανίδια, ξηρή ίνα (στο ξύλο), ξυλάνθρακας, παληόχαρτα και άχρηστα χαρτιά, ξυλοκυτταρίνη, χαρτοίνα, καλάμια (εκτός σπάρτου), αγριοκάλαμο, σανός, άχυρο, καθώς και όταν υγρές (συμπεριλαμβανομένων του καλαμποκιού, ρυζιού, και λιναριού), φυτικές υφάνσιμες ύλες και υπολείμματα φυτικών υφανσίμων υλών, φελλός σε σχήμα κόνης ή κόκκων, εκταθείς ή όχι, μετά ή άνευ προσμίξεως τύρφης (πίσσας) ή άλλων υλών μη υποκειμένων σε στιγμιαίαν οξείδωση, και υπολείμματα φελλού σε μικρούς βώλους. Βλέπε επίσης Κλάσιν 4.2, περιθώριον 243Ι, 8° έως Ι0°, και περιθώριο 243Ια, υπό στοιχείον (β). 2401

Σημείωσις:- Ι.- Οι ύλες αυτές συμπεριλαμβάνονται στον κατάλογο μόνον για λόγους απαγορεύσεως μικτής φορτώσεως. Για τον σκοπόν αυτόν οι διατάξεις του περιθωρίου 2416(Ι) ισχύουν. Κανένα άλλο άρθρο, είτε του παρόντος Παραρτήματος είτε του Παραρτήματος Β, έχει γι'αυτές εφαρμογή.

2.- Ο σανός οοποίος εξακολουθεί να έχει βαθμόν 240Ι υγρασίας ο οποίος είναι ενδεχόμενο να οδηγήσει σε ζύμωση δεν γίνεται δεκτός για μεταφορά. (Συνεχίζεται)

3.- Περιτυλίγματα και πλάκες (φύλλα) εκ παθέντος φελλού, κατασκευασμένα υπό πίεση, μετά ή άνευ προσμίξεως τύρφης (πίσσας) ή άλλων υλών μη υποκειμένων εθς στιγμιαίαν οξείδωση, σε ουδεμία των διατάξεων της ADR υπόκεινται.

4.- Φελλός εμπλουτισμένος με ύλες που εξακολουθούν να υπόκεινται σε στιγμιαία οξείδωση είναι ύλη της Κλάσεως 4.2 (βλέπε περιθώριο 243Ι, 9°).

2° (α) Θείον (συμπεριλαμβανομένων των ανθέων θείου)·
(β) θείον σε τετηγμένη κατάσταση.

3° Κελλοϊδίνη, παραγομένη από ατελή εξάτμιση της αλκοόλης της περιεχομένης σε κολλόδιον και αποτελουμένη κυρίως από κολλοδιοβάμβακα.

4° Κυτταρινοΐδη (σελλουλόϊδ) σε πλάκες, φύλλα, ράβδους ή σωλήνες, και υφάσματα επιχρισμένα με νιτροκυτταρίνην.

5° Κυτταρινοΐδη Ταινιών, τ.έ. η πρώτη ύλη για ταινίες (φίλμ), χωρίς εμουλσίνη (γαλακτώδες μίγμα), σε ρόλλους, και εμφανισθέντα φίλμ εκ κυτταρινοΐδης.

6° Υπολείμματα Κυτταρινοΐδης και υπολείμματα φίλμ κυτταρινοΐδης.

Σημείωσις:- Τα υπολείμματα νιτροκυτταρίνης, απηλλαγμένα από ζελατίνη, σε πηνία, φύλλα ή λωρίδες, είναι ύλη της Κλάσεως 4.2 (βλέπε περιθώριο 243Ι, 4°).

7° (α) Ασθενώς εμπλουτισμένη με άζωτο νιτροκυτταρίνη (όπως ο κολλοδιοβάμβαξ), τ.έ. με περιεχόμενο αζώτου μη υπερβαίνον το I2.6 στα εκατόν, καλώς σταθεροποιημένη και περιέχουσα επιπροσθέτως όχι λιγώτερο του 25 στα εκατόν νερό ή αλκοόλην (μεθυλική, αιθυλική, κανονική προπυλική ή ισοπροπυλική, βουτυλική ή αμυλική αλκοόλη, ή μίγματα αυτών), επίσης εάν μετουσιωμένη, διαλύτης νάφθα, βενζόλιο, τολουόλη, ξυλένιο, μίγματα μετουσιωμένης αλκοόλης και ξυλενίου, μίγματα νερού και αλκοόλης, ή αλκοόλη περιέχουσα καμφοράν σε διάλυμα· 240I (Συνεχίζεται)

Σημείωσις:- I.- Η νιτροκυτταρίνη με περιεχόμενον εις άζωτον υπερβαίνον το I2.6 στα εκατόν είναι ύλη της Κλάσεως Ια (βλέπε περιθώριο 2IOI, I°).

2.- Όταν η νιτροκυτταρίνη υγροποιηθεί με μετουσιωμένην αλκοόλην, η μετουσιωτική ύλη δεν πρέπει να έχει επιβλαβή επίδραση επί της αταθερότητος της νιτροκυτταρίνης.

(β) πλαστικοποιημένη νιτροκυτταρίνη, χωρίς χρωστικές ουσίες, περιέχουσα όχι λιγώτερο του I8 τοις εκατόν πλαστικοποιητικήν ουσίαν (φθαλικόν βουτύλιον ή πλαστικοποιητικήν ουσίαν τουλάχιστον ισοδυνάμου αποτελέσματος) και στην οποία η νιτροκυτταρίνη έχει περιεχόμενον αζώτου μη υπερβαίνον το I2.6 στα εκατόν· η νιτροκυτταρίνη μπορεί να είναι υπό μορφήν ρινισμάτων (CHIPS)·

Σημείωσις:- Πλαστικοποιημένη νιτροκυτταρίνη, χωρίς

χρωστικές ουσίες, περιέχουσα όχι λιγώτερο του Ι2 τοις εκατόν και λιγώτερο του Ι8 τοις εκατόν φθαλικό βουτύλιο ή πλαστικοποιητικήν ουσίαν τουλάχιστον ισοδυνάμου αποτελέσματος είναι ύλη της Κλάσεως Ια (βλέπε περιθώριο 2ΙΟΙ, 4°). (Συνεχίζεται)

(γ) πλαστικοποιημένη νιτροκυτταρίνη, με χρωστικές ουσίες, περιέχουσα όχι λιγώτερο του Ι8 τοις εκατόν πλαστικοποιητικήν ουσίαν (φθαλικό βουτύλιο ή πλαστικοποιητική ουσία τουλάχιστον ισοδυνάμου αποτελέσματος), στην οποία η νιτροκυτταρίνη έχει περιεχόμενο σε άζωτο μη υπερβαίνον το Ι2.6 τοις εκατόν και η οποία περιέχει όχι λιγώτερο του 40 τοις εκατόν νιτροκυτταρίνην· η νιτροκυτταρίνη μπορεί να είναι υπό μορφήν ριτινισμάτων.

Σημείωσις:- Πλαστικοποιημένη νιτροκυτταρίνη, με χρωστικές ουσίες, περιέχουσα λιγώτερο του 40 τοις εκατόν νιτροκυτταρίνην δεν υπόκειται στις διατάξεις της ADR.

Για (α), (β) και (γ):- ασθενώς εμπλουτισμένη με νίτρο νιτροκυτταρίνη και πλαστικοποιημένη νιτροκυτταρίνη, με ή χωρίς χρωστικές ουσίες, δεν γίνονται δεκτές προς μεταφοράν εκτός εάν πληρούν τους όρους της Προσθήκης Α.Ι ή τους ανωτέρω διαλαμβανομένους όρους αναφορικώς με τη φύση και τη ποσότητα των προσθέτων υλών.

Για (α), βλέπε επίσης Προσθήκην Α.Ι, περιθώριο 3ΙΟΙ· για (β) και (γ), βλέπε επίσης Προσθήκην

Α.Ι, περιθώριο 3Ι02, Ι. 240Ι

8° Κόκκινος φωσφόρος (άμορφος), υποθειούχος φωσφόρος και πενταθειούχος φωσφόρος. (Συνεχίζεται)

Σημείωσις:- Πενταθειούχος φωσφόρος όχι απηλλαγμένος από λευκόν ή κίτρινον φωσφόρον δεν γίνεται δεκτός για μεταφορά.

9° Ελαστικόν (καουτσούκ) εδάφους, κόνις ελαστικού (καουτσούκ).

Ι0° Γαιάνθραξ εις κόνιν, λιγνίτης εις κόνιν, κώκ λιγνίτου εις κόνιν, οπτάνθραξ εις κόνιν και ποάνθραξ εις κόνιν παρασκευασθέντα τεχνητώς (π.χ. δια κονιοποιήσεως ή άλλης κατεργασίας), και κώκ εξ ανθρακοποιηθέντος λιγνήτου καταστάν αδρανές (τ.έ. υποκείμενον εις στιγμιαίαν ανάφλεξιν).

Σημείωσις:- Ι.- Φυσικές κόνεις ληφθείσες ως υπολείμματα κατά την παραγωγήν άνθρακος, κώκ, λιγνίτου ή ποάνθρακος δεν υπόκεινται στις διατάξεις της ADR.

2.- Κώκ εξ ανθρακοποιηθέντος λιγνίτου μη καταστάν τελείως αδρανές δεν γίνεται δεκτόν για μεταφορά.

ΙΙ° (α) Ακάθαρτος ναφθαλίνη με σημείο τήξεως κάτω των 75°C.

(β) Καθαρή ναφθαλίνη και ακάθαρτος ναφθαλίνη με σημείο τήξεως 75°C και άνω·

(γ) Ναφθαλίνη σε τετηγμένη κατάσταση.

για (α) και (β), βλέπε επίσης περιθώριο 240Ια.

Ναφθαλίνη δε μπάλλες ή νιφάδες (FLAKES) (ΙΙ° (α) και (β)) δεν υπόκεινται στις διατάξεις της Κλάσεως αυτής που περιέχονται στο παρόν Παράρτημα ούτε σ'αυτές που περιέχονται στο Παράρτημα Β εάν είναι συσκευασμένη, όχι περισσότερο από Ι KG ανά κυτίο, σε στεγανά από ινώδη σανίδα ή ξύλινα κυτία και τα κυτία αυτά είναι κλεισμένα, όχι περισσότερα από ΙΟ ανά κιβώτιο, σε ξύλινα κιβώτια. 2401 (Συνεχίζεται)

2.- Διατάξεις

Α.- Κόλα

Ι.- Γενικοί όροι συσκευασίας

(Ι) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα και διευθετημένα ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου. 2402

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και τα κλεισίματά των είναι κατασκευασμένα δεν θα πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ή να σχηματίζουν με αυτό επιβλαβείς ή επικινδύνους ενώσεις.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά εις όλα τα μέρη των για να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους κανονικούς όρους μεταφοράς. Στερεές ύλες θα ασφαλίζονται σταθερά στις συσκευασίες τους, και εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιας ύλης", οι εσωτερικές συ-

σκευασίες μπορούν να εγκλείονται σρις εξωτερικές συ- 2402
σκευασίες, είτε μία-μία είτε ομαδικά. (Συνεχίζεται)

(4) Το αποσβεστικό υλικό θα ταιριάζει με τη φύση του περιεχομένου· ειδικώτερα, πρέπει να είναι απορροφητικό όταν το περιεχόμενον είναι υγρόν ή είναι ενδεχόμενον να εξιδρώσει υγρό.

2.- Συσκευασία μιας ύλης

(Ι) Το θείον της 2°(α) θα συσκευάζεται σε γε- 2403
ρούς σάκκους (σακκούλες) από χαρτί ή στενά-υφασμένη γιούτη.

(2) Το θείον σε τετηγμένη κατάσταση, βης 2°(β), δεν θα μεταφέρεται κατ'άλλον τρόπον ειμή σε δεξαμενές.

Η κελλοϊδίνη (3°) θα είναι έτσι συσκευασμένη 2404
ώστε να αποφεύγεται η ξήρανσή της.

(Ι) Η κυτταρινοϊδη (σελλουλόϊδ) σε πλάκες, φύλ- 2405
λα, ράβδους ή σωλήνες, και υφάσματα επιχρισμένα με νιτροκυτταρίνη, (4°), θα εγκλείονται:-

(α) σε σταθερά-κλεισμένα ξύλινα είδη συσκευασίας, ή

(β) σε γερά χάρτινα περιτυλίγματα τα οποία θα τοποθετούνται

Ι.- σε ξύλινους σκελετούς συσκευασίας, ή

2.- μεταξύ πλαισίων κατασκευασμένων από σανίδες, των άκρων των πλαισίων εκτεινομένων πέραν του χάρτινου περιτυλίγματος και των πλαισίων δεμένων ομού με σιδηροταινίες, ή

3.- σε περιτυλίγματα από στενά-υφασμένο ύφασμα.

(2) Το κόλον δεν πρέπει να ζυγίζει άνω από:-

75 KG προκειμένου περί κυτταροϊδίνης (σελλουλόϊδ) σε 2405
πλάκες, φύλλα ή σωλήνες και υφάσματα επιχρισμέ- (Συνεχίζεται)
να με νιτροκυτταρίνην, εάν το εξωτερικόν είδος
συσκευασίας είναι κατασκευασμένο από ύφασμα σύμ-
φωνα με την (I)(β)3·

I20 KG σε όλες τις άλλες περιπτώσεις.

Φίλμ κυτταροϊδίνης (σελλουλόϊδ) σε ρόλλους 2406
και εμφανισθέντα φίλμ κυτταροϊδίνης (5°) θα εγκλείονται
σε ξύλινα είδη συσκευασίας ή σε κυτία από ινώδη σανίδα.

(I) Υπολείμματα κυτταροϊδίνης (σελλουλόϊδ) 2407
και υπολείμματα φίλμ κυτταροϊδίνης (6°) θα εγκλείονται
σε ξύλινα είδη συσκευασίας ή σε δύο γερούς σάκκους κατα-
σκευασμένους από κανβά γιούτας στενώς υφασμένων, των
σάκκων όντων φλογοστεγανών ώστε να μην αναφλέγονται
ακόμη και όταν έλθουν σε επαφή με φλόγα και εχόντων γερές
και συνεχείς ραφές. Οι σάκκοι αυτοί θα τοποθετούνται ο
ένας μέσα στον άλλον· μετά το γέμισμα τα ανοίγματά τους
θα διπλωθούν χωριστά και πολλές φορές και θα ραφούν στε-
νά ώστε να αποφεύγεται οποιαδήποτε διαφυγή του περιεχο-
μένου. Εν τούτοις, τα υπολείμματα κυτταροϊδίνης μπορούν
να συσκευάζονται σε ένα σάκκον εάν τα υπολείμματα κυττα-
ροϊδίνης συσκευασθούν αρχικώς σε γερό χαρτί συσκευασίας
ή σε κατάλληλη πλαστική ύλη και βεβαιούται στο έγγραφο
μεταφοράς ότι τα υπολείμματα κυτταροϊδίνης δεν περιέχουν
οιαδήποτε υπολείμματα υπό μορφήν κόνεος.

(2) Κδλα έχοντα συσκευασίαν από ακατέργαστο
κανβά ή γιούτα δεν πρέπει να ζυγίζουν περισσότερο από

40 KG σε μονή συσκευασία ούτε περισσότερο από 80 KG σε διπλή συσκευασία. 2407 (Συνεχίζεται)

(3) Για τα στοιχεία (λεπτομέρειες) του εγγράφου μεταφοράς, βλέπε περιθώριο 2416(2).

(1) Οι ύλες της 7°(α) θα συσκευάζονται:- 2408

(α) σε ξύλινα δοχεία ή βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα· τα δοχεία αυτά και βαρέλια θα έχουν επένδυση αδιαπέραστη από τα υγρά που περιέχουν· τα κλεισίματά των πρέπει να είναι στεγανά· ή

(β) σε σάκκους αδιαπέραστους από ατμούς από τα υγρά που περιέχουν (π.χ. σάκκοι κατασκευασμένοι από ελαστικό (καουτσούκ) ή από κατάλληλη πλαστική ύλη μη ευχερώς εύφλεκτη), τοποθετημένους σε ξύλινο κιβώτιο ή σε μεταλλικό δοχείο· ή

(γ) σε επενδεδυμένα με ψευδάργυρο ή μόλυβδο σιδηρά βαρέλια, ή

(δ) σε δοχεία κατασκευασμένα από πλάκες κασσιτέρου, φύλλα ψευδαργύρου ή φύλλα αργυλλίου και ασφαλισμένα με αποσβεστικό υλικό σε ξύλινα κιβώτια.

(2) Η νιτροκυτταρίνη της 7°(α), εάν υγροποιημένη αποκλειστικώς με νερό, μπορεί να συσκευασθεί σε βαρέλια από ινώδη σανίδα· η ινώδη σανίδα αυτή πρέπει να έχει υποστεί ειδική επεξεργασία ώστε να είναι εντελώς αδιαπέραστη· τα κλεισίματα των βαρελιών θα είναι υδατο-ατμο-στεγανά.

(3) Η νιτροκυτταρίνη της 7°(α), με προστιθέμενο ξυλένιο, δεν μπορεί να συσκευασθεί άλλως ειμή σε μεταλλικά δοχεία.

(4) Οι ύλες της 7°(β) και (γ) θα συσκευάζονται: 2408 (Συνεχίζεται)

(α) σε ξύλινα είδη συσκευασίας επενδεδυμένα με γερό χαρτί ή φύλλο-ψευδαργύρου ή φύλλο αργυλλίου· ή

(β) σε γερά βαρέλια από ινώδη σανίδα ή, υπό τον όρον ότι οι ύλες είναι απηλλαγμένες από κόνιν και ότι τούτο βεβαιούται στο έγγραφο μεταφοράς, σε κιβώτια από ινώδη σανίδα τα οποία έχουν καταστεί αδιαπέραστα· ή

(γ) σε είδη συσκευασίας από φύλλο-μετάλλου.

(5) Για ύλες της 7°, τα μεταλλικά δοχεία πρέπει να είναι έτσι κατασκευασμένα ώστε, λόγω της μεθόδου συναρμολογήσεως των τοιχωμάτων των, του τρόπου του κλεισίματός των, ή της υπάρξεως μηχανισμού ασφαλείας, να αποδίδουν όταν η εσωτερική πίεση φθάσει τιμήν μεγαλυτέραν των 3 KG/CM^2· η ύπαρξη των κλεισιμάτων αυτών ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχή του δοχείου ούτε την αντοχή του κλεισίματός του.

(6) Το κόνιν δεν πρέπει να ζυγίζει περισσότερο από 75 KG ή, εάν μπορεί να ρολλαρισθεί, όχι περισσότερο από 300 KG· εν τούτοις, βαρέλι από ινώδη σανίδα δεν πρέπει να ζυγίζει περισσότερο από 75 KG και κιβώτιο από ινώδη σανίδα όχι περισσότερο από 35 KG.

(7) Για τα στοιχεία του εγγράφου μεταφοράς, βλέπε περιθώριο 2416(3).

(Ι) Ο κόκκινος φωσφόρος και ο πενταθειούχος φωσφόρος (8°) θα συσκευάζονται:- 2409

(α) σε δοχεία κατασκευασμένα από φύλλον σιδήρου ή πλάκα κασσιτέρου, τα οποία θα τοποθετούνται σε γερό ξύλινο δοχείο· το κόλον δεν πρέπει να ζυγίζει περισσό-

τερο από 100 KG· ή 2409
(β)σε δοχεία κατασκευασμένα από γυαλί ή είδη κεραμεικής πάχους όχι μικρότερου των 3 MM (χιλ.), η από κατάλληλη πλαστική ύλη, το καθένα περιέχον όχι περισσότερο από 12.5 KG ύλης. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε γερό ξύλινο κιβώτιο· το κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή (Συνεχίζεται)
(γ)σε μεταλλικά δοχεία τα οποία, εάν με το περιεχόμενό τους ζυγίζουν περισσότερο από 200 KG, θα είναι εφοδιασμένα με ενισχυτικές στεφάνες στα άκρα τους, και με κυλιόμενες στεφάνες (ROLLING HOOPS).

(2) Ο υποθειούχος φωσφόρος (8^{o}) θα συσκευάζεται σε στεγανά μεταλλικά δοχεία, τα οποία θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινα κιβώτια με πολύ εφαρμοστές πλευρές. Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

Οι ύλες της 9^{o} θα συσκευάζονται σε σταθερά- 2410
κλειόμενα στεγανά δοχεία.

(1) Οι ύλες της 10^{o} θα συσκευάζονται σε μεταλλι- 2411
κά ή ξύλινα δοχεία ή σε γερούς σάκκους.

(2) Τα ξύλινα δοχεία και σάκκοι, δεν θα γίνωνται, εν τούτοις, δεκτοί για γαιάνθρακα εις κόνιν, λιγνίτην εις κόνιν ή ποάνθρακα εις κόνιν που παρασκευάσθηκαν τεχνητώς εκτός εάν η κόνις έχει τελείως ψυχθεί μετά από ξήρανσιν δια θερμότητος.

(3) Για τα στοιχεία (λεπτομέρειες) του εγγράφου

μεταφοράς, βλέπε περιθώριο 24Ι6(4). 24ΙΙ

(Ι) Η ναφθαλίνη της ΙΙ°(α) θα συσκευάζεται σε σταθερά-κλεισμένα ξύλινα ή μεταλλικά δοχεία. (Συνεχίζεται) 24Ι2

(2) Η ναφθαλίνη της ΙΙ°(β) θα συσκευάζεται σε ξύλινα ή μεταλλικά δοχεία, ή σε γερά κιβώτια από ινώδη σανίδα, ή σε γερούς σάκκους κατασκευασμένους από ύφασμα ή τετράφυλλο χαρτί ή από κατάλληλη πλαστική ύλη.

Οσάκις χρησιμοποιούνται κιβώτια από ινώδη σανίδα, το κόλον δεν πρέπει να ζυγίζει πάνω από 30 KG.

(3) Η ναφθαλίνη σε τετηγμένη κατάσταση (ΙΙ° (γ)) δεν πρέπει να μεταφέρεται άλλως ειμή εντός δεξαμενών.

3.- Μικτή συσκευασία

(Ι) Ύλες ομαδοποιημένες υπό τον αυτόν αριθμόν 24Ι3
είδους μπορούν να συμπεριληφθούν στο αυτό κόλον. Οι εσωτερικές συσκευασίες θα συμφωνούν με ό,τι προβλέπεται για κάθε ύλην, και οι εξωτερικές συσκευασίες θα είναι οι καθορισθείσες για τις ύλες του εν θέματι αριθμού είδους. Κόλον περιέχον ράβδους και σωλήνες κυτταροϊδίνης (σελλουλοΐδ) ομού κατασκευασμένους σε περιτύλιγμα από ύφασμα δεν πρέπει να ζυγίζει πάνω από 75 KG.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται από το άρθρο το τιτλοφορούμενο "Συσκευασία μιας ύλης", οι ύλες της παρούσης Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG για όλες τις ύλες τις αναφερόμενες υπό

τον αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν 2413
να εγκλείονται ατο αυτό κόλον είτε με ύλες άλλου α- (Συνεχίζεται)
ριθμού είδους είτε άλλου γράμματος της αυτής Κλάσεως,
ή με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις
(εάν μικτή συσκευασία επιτρέπεται ομοίως προκειμένου
περί τοιούτων υλών), ή με άλλα εμπορεύματα, υπό την
επιφύλαξη των παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως, οι γενικές διατάξεις οι περιεχόμενες στα περιθώρια 2001(5) και 2002(6) και (7) πρέπει να τηρούνται.

Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 150 KG, ή περισσότερο από 75 KG εάν περιέχει εύθραυστα δοχεία.

Ειδικοί Όροι

Αριθμός Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότης ανά δοχείο	ανά κόλον	Ειδικές Διατάξεις
2°(α)	Θείον	5 KG	5 KG	Δεν πρέπει να συσκευάζεται μαζί με χλωρικά άλατα, υπερμαγγανικά, υπερχλωρικά άλατα ή υπεροξείδια (πλην διαλυμμάτων υπεροξειδίου του υδρογόνου)

24I3
(Συνεχίζεται)

Αριθμός Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότης ανά δοχείο	ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			
7°(α)	Ασθενώς εμπλουτισμένη με άζωτο νιτροκυτταρίνη (όπως κολλοδιοβάμβαξ)	100 Γραμμ.	I KG	Δεν πρέπει να συσκευάζονται μαζί με ύλες των Κλάσεων 4.2 και 5.I
8°	Κόκκινος (άνυδρος) φωσφόρος	5 KG	5 KG	
8°	Υποθειούχος Φωσφόρος	Μικτή Συσκευασία δεν επιτρέπεται		

4.- Ενδείξεις και ετικέτες κινδύνου στα κόλα 24I4

(βλέπε Προσθήκην A.9)

(I) Κόλα περιέχοντα ύλες των 4° έως 8° θα φέρουν ετικέτα συμφώνως προς το μοντέλο No. 2B.

Εν τούτοις, εάν οι ύλες των 4° έως 7° είναι συσκευασμένες σε περιτυλίγματα κατασκευασμένα από στενά υφάνσιμο ύφασμα συμφώνως προς το περιθώριο 2405(I)(β)3, σε κυτία από ινώδη σανίδα ή κιβώτια συμφώνως προς τα περιθώρια 2406(I) και 2408(4)(β), σε σάκκους από ιούτη συμφώνως προς το περιθώριο 2407(I) ή σε βαρέλια από ινώδη σανίδα συμφώνως προς το περιθώριο 2408(I) (α), (2) και 4 (β), τα κόλα θα φέρουν δύο ετικέτες συμφώνως προς το μοντέλο No. 2B.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορατά από έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα επιπροσθέτως, εκτός προκειμένου περί σφραγισμένων αμπουλών, θα φέρουν ετικέτες συμφώνως προς το μοντέλο No. 8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο απέναντι πλευρές των κιβωτίων ή κατ'ισοδύναμον τρόπον όταν χρησιμοποιούνται άλλες συσκευασίες. 24I4 (Συνεχίζεται)

(3) Προκειμένου περί αποστολών μεταφερομένων ως πλήρη φορτία, η ετικέτα No. 2B δεν χρειάζεται να τοποθετείται στα κόλα.

24I5

B.- Στοιχεία του εγγράφου μεταφοράς

(I) Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφοράς πρέπει να συμμορφούται προς μία των ονομασιών των υπογραμμισμένων στο περιθώριο 240I. Οσάκις η ονομασία της ύλης δεν ορίζεται στη περίπτωση της I°, η εμπορική ονομασία θα χρησιμοποιείται. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμό του είδους (μαζί με το, τυχόν, γράμμα, και τα αρχικά "ADR" ή "RID" (π.χ. 4.I, 7°(α), ADR). 24I6

(2) Προκειμένου περί υπολειμμάτων κυτταροϊδίνης (6°) συσκευασμένων σε γερό χαρτί συσκευασίας ή σε κατάλληλη πλαστική ύλη και τοποθετημένων, έτσι κατασκευασμένων, σε σάκκους από στενά υφασμένο ακατέργαστο κανβά ή γιούτα, τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς: "Δεν περιέχει υπολείμματα υπό μορφήν κόνεως".

(3) Προκειμένου περί υλών της 7°(β) και (γ) συσκευασμένων σε κιβώτια από ινώδη σανίδα, τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς:- "Ύλες απηλλαγμένες από κόνιν". 24I6 (Συνεχίζεται)

(4) Προκειμένου περί γαιάνθρακος εις κόνιν, λιγνίτου εις κόνιν ή ποάνθρακος εις κόνιν (IO°) τεχνητώς παρασκευασθέντων και συσκευασθέντων σε ξύλινα δοχεία ή σάκκους (βλέπε περιθώριο 24II(2)), τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο της μεταφοράς:-"Ύλες εντελώς ψυγμένες μετά ξήρανση δια θερμότητας".

24I7-2423

Γ.- Κενά Είδη Συσκευασίας

Καμμία διάταξη. 2424

2425-2429

ΚΛΑΣΗ 4.2 ΥΛΕΣ ΥΠΟΚΕΙΜΕΝΕΣ ΣΕ ΣΤΙΓΜΙΑΙΑ ΚΑΥΣΗ

I.- Κατάλογος υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2430
τον τίτλον Κλάσης 4.2, μόνον τα αναφερόμενα στο περιθώριο 243I θα γίνονται δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και Παραρτήματος Β. Οι ύλες αυτές και είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

I° Λευκός ή κίτρινος φωσφόρος 243I

2° Ενώσεις φωσφόρου με αλκαλικά μέταλλα ή μέταλλα αλκαλικών γαιών, π.χ., φωσφίδιο νατρίου, φωσφίδιο ασβεστίου, φωσφίδιο στροντίου.

Σημείωσις:- Ενώσεις φωσφόρου με τα αποκαλούμενα βαρειά μέταλλα, όπως σίδηρος, χαλκός, κασσίτερος κλπ., αλλά με εξαίρεση τον ψευδάργυρο (φωσφίδιο του ψευδαργύρου είναι ύλη της Κλάσεως 6.I - βλέπε περιθώριο 260I 33°), δεν υπόκεινται στις διατάξεις της ADR.

3° Αλκύλια ψευδαργύρου, αλκύλια μαγνησίου, αλκύλια αργυλίου (αλουμινίου) και χλωριούχον αργυλο-διαιθύλιον. Βλέπε επίσης περιθώριον 243Ια υπό στοιχείον (α).

4° Υπολείμματα φίλμ-νιτροκυτταρίνης, απηλλαγμένα από ζελατίνη, σε πηνία, φύλλα ή λωρίδες.

Σημείωσις:- Υπολείμματα φίλμ-νιτροκυτταρίνης απηλλαγμένα από ζελατίνη δεν θα γίνονται δεκτά για μεταφορά εάν περιέχουν κόνιν.

243Ι (Συνεχίζεται)

5° (α) Μεταχειρισμένα ράκη και υπολείμματα·

(β) Λιπαρά ή ελαιώδη υφάσματα, θρυαλλίδες, σχοινί ή πλωστή (νήμα)·

(γ) Οι παρακάτω λιπαρές ή ελαιώδεις ύλες:- έριο (μαλλί), τρίχα (και αλογότριχα), τεχνητό έριο, αναμορφωμένο έριο (επίσης καλούμενο WOOL SHODDY), βαμβάκι, ξαναξασμένο βαμβάκι, τεχνητές ίνες (ραιγιόν, κλπ.), μετάξι, λίνον, κάνναβις και γιούτα, επίσης υπό μορφήν υπολειμμάτων πλωστηρίου ή υφαντουργείου.

Για (α), (β) και (γ), βλέπε επίσης περιθώριο 243Ια υπό στοιχείον (β).

Σημείωσις:- Υγροποιημένες ύλες της 5°(β) και (γ) δεν γίνονται δεκτές για μεταφορά.

6° (α) Κόνις και πυρίτις αργυλίου ή ψευδαργύρου και μίγματα κόνεως ή πυρίτιδας αργυλίου και ψευδαργύρου, επίσης όταν λιπαρά ή ελαιώδη· πυρίτις ζιρκονίου και τιτανίου· κόνις από φίλτρα υφαμάνου·

(β) Κόνις, πυρίτις και λεπτά θρύμματα μαγνησίου και κράματα μαγνησίου με περιεχόμενον εις μαγνήσιον όχι περισσότερο του 80 τοις εκατόν, άπαντα απηλλαγμένα από μόρια που ενδέχεται να προαγάγουν την ανάφλεξη·

(γ) Τα παρακάτω άλατα διθειονικού οξέος (υδροθειώδους) $H_2S_2O_4$), υποθειώδη (υδροθειώδη) άλατα νατρίου, καλίου και ψευδαργύρου·

(δ) μέταλλα σε πυροφορική μορφή.

243Ι (Συνεχίζεται)

Για (α), βλέπε επίσης περιθώριο 243Ια υπό στοιχεία (β) και (γ)· για (β) και (γ) βλέπε επίσης περιθώριο 243Ια υπό στοιχείον (β).

7° Νωπή κεκαυμένη αιθάλη. Βλέπε επίσης περιθώριο 243Ια υπό στοιχείον (β).

8° Φρεσκο-σβυσμένος ξυλάνθραξ, εις κόνιν, κόκκους ή σβώλους. Βλέπε επίσης περιθώριο 243Ια υπό στοιχείον (β) και Κλάσιν 4.Ι, περιθώριον 240Ι, Ι°.

Σημείωσις:- Με τον όρον "φρεσκο-σβυσμένος γαιάνθραξ" νοείται:-

προκειμένου περί γαιάνθρακος εις σβώλους, ο γαιάνθραξ ο οποίος έχει σβεσθεί προ ολιγώτερο των τεσσάρων ημερών·

προκειμένου περί γαιάνθρακος εις κόνιν και γαιάνθρακος εως κόκκους, μεγέθους κόκκου μικροτέρου των 8 ΜΜ (χιλ.), ο γαιάνθραξ ο οποίος έχει σβεσθεί προ ολιγώτερο των οκτώ ημερών και έχει αερο-ψυχθεί σε λεπτά στρώματα ή δια κατεργασίας εξασφαλίζούσας ισοδύναμον βαθμόν ψύξεως.

9° Μίγματα καυσίμων υλών εις κόκκους ή μίγματα πορωδών καυσίμων υλών με συστατικά που εξακολουθούν να υπόκεινται σε στιγμιαία οξείδωση, όπως το λινέλαιο ή άλλα φυσικά ξηραινόμενα έλαια, βρασμένα ή με πρόσθετες ξηραντικές συνθέσεις, ρητίνην, ρητινέλαιον, κατάλοιπα πετρελαίου κλπ. (π.χ., η ύλη η γνωστή ως υπόλειμμα φελλού, λουπουλίνη) και ελαιώδη κατάλοιπα από λεύκασιν σογιελαίου.

Βλέπε επίσης περιθώριο 243Ια υπό στοιχείον (β) και Κλάσιν 4.Ι, περιθώριο 240Ι, Ι°.

IO° Χαρτί, κάρντμπορντ και προϊόντα κατασκευασμένα από χαρτί ή καρντμπορντ (π.χ. περιτυλίγματα κάρντμπορντ και δακτύλιοι κάρντμπορντ), φύλλα από ίναξύλου, δέσμες (κούκλες) νήματος, υφάσματα, σπάγγοι, κλωστοί (νήματα), υπολείμματα κλωστηρίου ή υφαντηρίου, όλα εμποτισμένα με έλαια, λίπη, φυσικά ξηραντικά έλαια, βρασμένα ή με πρόσθετες ξηραντικές συνθέσεις ή άλλες εμποτιστικές ύλες υποκείμενες σε στιγμιαία οξείδωση. Βλέπε επίσης περιθώριο 243Ια υπό στοιχείο (β) και Κλάσιν 4.I, περιθώριο 240I, I°. 243I (Συνεχίζεται)

Σημείωσις:- Οι ύλες της IO° δεν γίνονται δεκτές για μεταφορά εάν η υγρασία τους υπερβαίνει την υγροσκοπική υγρασία.

II° Η ύλη με βάσιν οξείδιο του σιδήρου χρησιμοποιηθείσα για καθαρισμόν του φωταερίου (δαπανηθέν οξείδιον του σιδήρου).

Σημείωσις:- Εάν η ύλη που χρησιμοποιήθηκε για τον καθαρισμόν φωταερίου (δαπανηθέν οξείδιο του σιδήρου), μετά την αποθήκευσιν και τον εξαερισμόν, δεν είναι του λοιπού υποκείμενη σε στιγμιαία ανάφλεξη, και εάν τούτο βεβαιούται στο έγγραφο μεταφοράς δια της εγγραφής:- "Ύλη μη υποκειμένη σε στιγμιαία ανάφλεξη", δεν υπόκειται στις διατάξεις της ADR.

I2° Μεταχειρισμένοι σάκκοι προζυμιού (μαγιάς), ακαθάριστοι. Βλέπε επίσης περιθώριο 243Ια υπό στοιχείον (β).

I3° Κενοί σάκκοι νιτρικού νατρίου κατασκευασμένοι από ύφασμα.

Σημείωσις:- Υφασματένιοι σάκκοι από τους οποίους έχει τε-

λείως αφαιρεθεί το εμποτίζον αυτούς αζωτούχο νιτρικό άλας δια πλύσεως δεν υπόκεινται στις διατάξεις της ADR. 243Ι (Συνεχίζεται)

Ι4° Κενά σιδηρά βαρέλια, ακαθάριστα, που περιείχαν ύλες της 3°.

Σημείωση:- Περί Ι4° και Ι5°: Κενά είδη συσκευασίας τα οποία περιείχαν άλλες ύλες της Κλάσεως 4.2 δεν υπόκεινται στις διατάξεις της ADR.

Επικίνδυνες ύλες παραδοθείσες για μεταφορά συμφώνως προς τις παρακάτω διατάξεις δεν υπόκεινται ούτε στις διατάξεις για τη παρούσα Κλάση τις περιεχόμενες στο παρόν Παράρτημα ούτε σ'εκείνες που περιέχονται στο Παράρτημα Β:- 243Ια

(α) διαλύματα υλών της 3° σε συμπύκνωση μη υπερβαίνουσα το Ι0 τοις εκατόν σε διαλύτες σε δημείο βρασμού όχι χαμηλώτερο των 95°C, εάν η κατάστασή τους είναι τέτοια ώστε να αποκλείεται οποιοσδήποτε κίνδυνος στιγμιαίας αναφλέξεως και εάν τούτο βεβαιούται στο έγγραφο της μεταφοράς δια της εγγραφής:- "Ύλη μη υποκειμένη σε στιγμιαία ανάφλεξη", βλέπε, εν τούτοις, Κλάσιν 3·

(β) ύλες των 5° - Ι0° και Ι2° (εξαιρουμένων, εν τούτοις, των υλών της 6°(δ)), εάν η κατάστασή των είναι τέτοια ώστε να αποκλείεται οποιοσδήποτε κίνδυνος στιγμιαίας αναφλέξεως και εάν τούτο βεβαιούται στο έγγραφο της μεταφοράς δια της εγγραφής:-"Ύλη μη υποκειμένη σε στιγμιαία ανάφλεξη"· για τις ύλες της

της 8° και ωρισμένες ύλες των 9° και 10°, εν τού- 2431α
τοις, βλέπε Κλάσιν 4.1 περιθώριο 2401, 1°. (Συνεχίζε-
ται)

(γ) κόνις και πυρίτις αργυλίου (αλουμινίου) ή ψευδαρ-
γύρου (6°(α)), π.χ. συσκευασμένα μαζί με βερνίκι
προς χρήσιν για τη κατασκευή χρωμάτων, εάν συσκευα-
σθούν με επιμέλεια σε ποσότητες μη υπερβαίνουσες
το 1 KG.

2.- Διατάξεις

Α. Κόλα

1.- Γενικοί Όροι Συσκευασίας 2432

(1) Τα είδη συσκευασίας θα κλείονται και διευ-
θετούνται κατά τρόπον ώστε να αποφεύγεται οποιαδήποτε
απώλεια του περιεχομένου.

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και
τα κλεισίματά του είναι κατασκευασμένα πρέπει να μη κιν-
δυνεύουν να προσβληθούν από το περιεχόμενο ούτε από επι-
βλαβείς ή επικινδύνους με αυτό ενώσεις.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των
κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά
σε όλα τα μέρη των ώστε να αποφεύγεται οποιαδήποτε χαλάρω-
ση διαρκούσης της μεταφοράς και να πληρούν τους κανονικούς
όρους μεταφοράς. Ειδικότερα, προκειμένου περί υλών σε υγρά
κατάσταση ή βυθισμένων σε υγρό ή σε διάλυμα, τα δοχεία και
τα κλεισίματά τους πρέπει, εκτός εάν το άρθρον το τιτλοφο-
ρούμενον "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού
είδους" προβλέπει άλλως, να είναι ικανά να αντέχουν σε οποια-
δήποτε πίεση η οποία, λαμβανομένης υπόψη επίσης της πιέσεως

του αέρα, μπορεί να εγερθεί εσωτερικώς των δοχείων κατά την κανονική μεταφοράν. Προς τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπ' όψει της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά τον χρόνον της πληρώσεως (γεμίσματος) και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν κατά την μεταφορά. Στερεές ύλες θα εγκλείονται σταθερά στις συσκευασίες τους, και εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται σε εξωτερικές συσκευασίες, είτε μία-μία είτε ομαδικά. 2432 (Συνεχίζεται)

(4) Φιάλες και άλλα γυάλινα δοχεία πρέπει να αίρονται καταλλήλως οι εσωτερικές τάσεις. Το πάχος των τοιχωμάτων δεν πρέπει να είναι μικρότερο των 3 ΜΜ (χιλ.) προκειμένου περί δοχείων τα οποία, με το περιεχόμενόν τους, ζυγίζουν άνω των 35 KG, και όχι κάτω των 2 ΜΜ (χιλ.) προκειμένου περί άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος πρέπει να εξασφαλίζεται με πρόσθετο μηχανισμόν (πώμα, κορώνα, σφραγίδα, δέσιμο, κλπ.)), ικανόν να εμποδίσει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος κατά τη μεταφορά.

(5) Οσάκις δοχεία από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά προβλέπονται ή επιτρέπονται,

πρέπει να ασφαλίζονται με αποσβεστικό υλικό σε προ- 2432
στατευτικά είδη συσκευασίας. (Συνεχίζεται)

Το αποσβεστικό υλικό θα ταιριάζει με τη φύση του περιεχομένου· ειδικώτερα πρέπει να είναι ξηρό και απορροφητικό όταν το περιεχόμενο είναι υγρό ή ενδέχεται να εξιδρώσει υγρό.

2.- Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους

(Ι) Ο φωσφόρος της Ι° θα συσκευάζεται:- 2433

(α) σε στεγανά από πλάκες κασσιτέρου δοχεία κλεισμένα ερμητικά και τοποθετημένα σε ξύλινα κιβώτια· ή

(β) σε βαρέλια από φύλλα σιδήρου (ελάσματα) κλείνοντα ερμητικά. Καλύμματα δια πιέσεως δεν θα επιτρέπονται. Το έλασμα το αποτελούν τον κορμόν, πυθμένα καί κάλυμμα θα είναι πάχους όχι μικροτέρου των Ι.5 MM (χιλ.). Το κόλον δεν πρέπει να ζυγίζει άνω των ΙΟΟ KG. Εάν ζυγίζει άνω των ΙΟΟ KG, πρέπει να είναι εφοδιασμένο με κυλιόμενες στεφάνες (ROLLING HOOPS)) ή ενισχυτικές δοκίδες, και θα συγκολλούνται· ή

(γ) όχι περισσότερα των 250 γραμμ. ανά δοχείο, σε ερμητικά κλεισμένα γυάλινα δοχεία ασφαλιζόμενα με αποσβεστικό υλικό σε στεγανά δοχεία από πλάκες κασσιτέρου κλεισμένα δια μαλακής συγκολλήσεως και ασφαλιζόμενα, ομοίως με αποσβεστικό υλικό, σε ξύλινα κιβώτια.

(2) Δοχεία και βαρέλια περιέχοντα φωσφόρον θα γεμίζονται με νερό.

(Ι) Ύλες της 2° θα συσκευάζονται σε στεγανά

από πλάκες κασσιτέρου δοχεία ερμητικά κλεισμένα και 2434
τοποθετημένα σε ξύλινα κιβώτια.

(2) Ύλες της 2ο μπορούν επίσης να συσκευάζονται όχι άνω των 2 KG ανά δοχείο, σε δοχεία κατασκευασμένα από γυαλί, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ασφαλισμένα με αποσβεστικό υλικό σε ξύλινα κιβώτια.

(Ι) Ύλες της 3ο θα συσκευάζονται σε δοχεία 2435
κατασκευασμένα είτε από μέταλλο είτε από γυαλί, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ερμητικά κλεισμένα. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 90 τοις εκατόν της χωρητικότητός των.

(2) Τα μεταλλικά δοχεία θα ασφαλίζονται με αποσβεστικό υλικό σε προστατευτικά είδη συσκευασίας τα οποία, εάν δεν είναι κλεισμένα, θα καλύπτονται. Εάν το κάλυμμα αποτελείται από ευχερώς εύφλεκτες ύλες, θα καθίσταται επαρκώς ανθεκτικό στη φωτιά ώστε να αποφεύγεται να πάρει φωτιά σε επαφή με φλόγα. Εάν το προστατευτικό είδος συσκευασίας δεν κλεισθεί, το κόλλον θα πρέπει να διαθέτει χειρολαβήν και να μη ζυγίζει άνω των 75 KG.

(3) Δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά θα έχουν χωρητικότητα όχι μεγαλυτέρα των 5 λιτρών και θα ασφαλίζονται με αποσβεστικό υλικό σε στεγανά μεταλλικά δοχεία ερμητικά κλεισμένα.

(4) Οι ύλες της 3ο μπορούν επίσης να συσκευάζονται σε ερμητικά κλεισμένα βαρέλια κατασκευασμένα από ανθεκτικό στη διάβρωση χάλυβα και έχοντα χωρητικότητα όχι μεγαλυτέρα των 300 λιτρών και πάχος τοιχώ-

. ματος όχι μικρότερο των 3 ΜΜ (χιλ.). Τα βαρέλια πρέπει να αντέχουν σε πίεση ελέγχου/δοκιμής 10 KG/CM^2 και να πληρούν τους όρους του περιθωρίου 22ΙΙ(Ι) και (2) (β). Το κλείσιμο του μηχανισμού πληρώσεως και εκκενώσεως θα ασφαλίζεται από προστατευτικό πώμα. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 90 τοις εκατόν της χωρητικότητός των· εν τούτοις, με το υγρό σε μέση θερμοκρασία 50°C, ελεύθερος χώρος εκ 5 τοις εκατόν πρέπει να υπάρχει για λόγους ασφαλείας. Όταν παραδίδεται για μεταφορά, το υγρό πρέπει να είναι σε στρώμα αδρανούς αερίου σε πίεση μη υπερβαίνουσα τα 0.5 KG/CM^2. Τα δοχεία θα ελέγχονται συμφώνως προς τις διατάξεις του περιθωρίου 22Ι6(2) και (3). Οι έλεγχοι θα επαναλαμβάνονται κάθε 5 χρόνια. Τα δοχεία θα φέρουν τα παρακάτω στοιχεία με γράμματα καθαρώς ευανάγνωστα και ανεξίτηλα:- 2435 (Συνεχίζεται)

Ι.- την ονομασίαν της ύλης πλήρη, την επωνυμία ή σήμα του κατασκευαστού ή ιδιοκτήτου, και τον αριθμό του δοχείου·

2.- το απόβαρο του δοχείου, συμπεριλαμβανομένων των εξαρτημάτων·

3.- την πίεση ελέγχου, την ημερομηνίαν (μήνα, έτος) της τελευταίας δοκιμής/ελέγχου την οποίαν υπέστη και την σφραγίδα του εμπειρογνώμονος που διεξήγαγε τους ελέγχους και τις επιθεωρήσεις·

4.- τη χωρητικότητα του δοχείου και το επιτρεπόμενο ανώτατο γέμισμα·

5.- Τη φράση:- "Μη το ανοίξετε κατά τη μεταφορά· υπο- 2435
κείμενο σε στιγμιαία ανάφλεξη". (Συνεχίζεται)

Το κόλον δεν πρέπει να ζυγίζει άνω από 400 KG.

(Ι) Οι ύλες της 4° θα συσκευάζονται σε σάκκους 2436
τοποθετημένους σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα ή σε δοχεία κατασκευασμένα από φύλλο ψευδαργύρου ή φύλλο αργυλίου (αλουμινίου). Οι πλευρές των μεταλλικών δοχείων θα επενδύονται με ινώδη σανίδα. Οι πυθμένες και τα καλύμματα των βαρελιών από ινώδη σανίδα και των μεταλλικών δοχείων θα επενδύονται με ξύλο.

(2) Τα μεταλλικά δοχεία θα είναι εφοδιασμένα με κλεισίματα ή μηχανισμούς ασφαλείας οι οποίοι θα λειτουργούν όταν η εσωτερική πίεση φθάσει τιμήν όχι μεγαλυτέραν των 3 KG/CM^2. η ύπαρξη αυτών των κλεισιμάτων ή μηχανισμών ασφαλείας δεν πρέπει να εξασθενεί την αντοχή του δοχείου ούτε να εξασθενεί το κλείσιμό του.

(3) Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

(Ι) Ύλες της 5°(α) θα έχουν σφικτά συμπιεσθεί και τοποθετηθεί σε στεγανά μεταλλικά δοχεία. 2437

(2) Ύλες της 5°(β) και (γ) θα έχουν σφικτά συμπιεσθεί και συσκευασθεί είτε σε ξύλινα είτε από ινώδη σάνίδα κιβώτια είτε σε χάρτινα είτε υφασματένια περιτυλίγματα σταθερά ασφαλισμένα.

(Ι) Οι ύλες της 6°(α) θα εγκλείονται σε σφι- 2438
κτά κλεισμένα στεγανά δοχεία κατασκευασμένα από ξύλο ή

μέταλλο. Εν τούτοις, το ζιρκόνιο θα εγκλείεται μόνο 2438
σε μεταλλικά ή γυάλινα δοχεία, τα οποία θα ασφαλίζον- (Συνεχίζε-
ται με αποσβεστικό υλικό σε γερά ξύλινα κιβώτια. ται)
Εάν το αποσβεστικό υλικό είναι εύφλεκτο, θα είναι πυρασφαλές.

(2) Οι ύλες της 6°(β) θα εγκλείονται σε σφικτά κλειδμενα στεγανά σιδηρά βαρέλια ή σε ξύλινα κιβώτια με επένδυση φύλλου μετάλλου (έλασμα) στεγανήν (δια μαλακής συγκολλήσεως, π.χ.) ή σε κυτία κατασκευασμένα από πλάκες κασσιτέρου ή λεπτό φύλλο αργυλίου και θα κλείουν κατά τρόπον ώστε να είναι στεγανά· τα βαρέλια αυτά, κιβώτια ή κυτία θα τοποθετούνται σε ξύλινα κιβώτια. Για ύλες της 6°(β) παραδοθείσες ατομικώς για μεταφορά σε κυτία κατασκευασμένα από πλάκα κασσιτέρου ή φύλλο αργιλίου, περιτύλιγμα κυματοειδούς ινώδους σανίδος θα είναι αρκετό αντί ξυλίνου κιβωτίου· κόλον της φύσεως αυτής δεν πρέπει να ζυγίζει άνω των 12 KG.

(3) Οι ύλες της 6°(γ) θα συσκευάζονται σε αεροστεγανά από φύλλο μετάλλου δοχεία ή αεροστεγανά σιδηρά βαρέλια. Προκειμένου περί δοχείων εκ φύλλου μετάλλου, το κόλον δεν πρέπει να ζυγίζει άνω των 50 KG.

(4) Οι ύλες της 6°(δ) θα συσκευάζονται σε δοχεία κατασκευασμένα από μέταλλο, ύαλο ή κατάλληλη πλαστική ύλη και θα κλείνουν κατά τρόπον ώστε να είναι αεροστεγανά. Οι αναστολείς οι χρησιμοποιούμενοι για κλείσιμο θα κρατούνται στη θέση τους με πρόσθετο μηχανισμό (όπως πώμα, κορώνα, σφραγίδα ή δέσιμο) ικανόν να εμποδίσει

οποιαδήποτε χαλάρωση κατά τη μεταφορά. Οι ύλες θα αποστέλονται από προστατευτικό υγρό (όπως μεθανόλη) ή προστατευτικό αέριο. 2438 (Συνεχίζεται)

Τα μεταλλικά δοχεία θα τοποθετούνται σε ξύλινο κιβώτιο συσκευασίας. Το κόλον δεν πρέπει να ζυγίζει άνω των 25 KG.

Οι ύλες των 7^{o} - 10^{o} και 12^{o} θα εγκλείονται σε σφικτά κλεισμένα είδη συσκευασίας. Ξύλινα είδη συσκευασίας χρησιμοποιούμενα για ύλες των 7^{o} και 8^{o} θα είναι εφοδιασμένα με στεγανήν επένδυσιν. 2439

Η ύλη η χρησιμοποιηθείσα για καθαρισμό φωταερίου (δαπανηθέν οξείδιον του σιδήρου) (11^{o}) θα συσκευάζεται σε σφικτά κλεισμένα δοχεία από φύλλο μετάλλου.

Κενοί σάκκοι νιτρικού νατρίου (13^{o}) θα γίνονται σφικτά συσκευασμένες δέσμες δεμένες ασφαλώς με σπάγγο και θα τοποθετούνται είτε σε ξύλινο κιβώτιο είτε σε περιτύλιγμα αποτελούμενο από γερό χαρτί διαφόρου πάχους ή αδιάβροχο ύφασμα.

3.- <u>Μικτή Συσκευασία</u>

(1) Ύλες ομαδοποιημένες υπό τον αυτόν αριθμόν είδους μπορούν να συμπεριληφθούν στο ίδιο κόλον. Οι εσωτερικές συσκευασίες θα συμφωνούν με ό,τι προβλέπεται για κάθε ύλην, και οι εξωτερικές συσκευασίες θα είναι οι οριζόμενες για τις ύλες του εν θέματι αριθμού είδους. 2442

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται από το άρθρο που φέρει τον τίτλο "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους", οι ύλες της παρούσης

Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG προ- 2442
κειμένου περί στερεών ή 3 λίτρες προκειμένου περί (Συνεχίζε-
υγρών για όλες τις ύλες τις αναγραφόμενες υπό τον ται)
αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν να εγ-
κλείονται στο αυτό κόλον είτε με ύλες άλλου αριθμού
είδους είτε άλλου γράμματος της αυτής Κλάσεως, είτε
με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις (εάν
μικτή συσκευασία επιτρέπεται προκειμένου περί τοιούτων
υλών), είτε με άλλα εμπορεύματα, υπό την επιφύλαξη των
παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως, οι γενικές διατάξεις των περιθωρίων 2001(5) και 2002(6) και (7) πρέπει να τηρούνται.

Το κόλον δεν πρέπει να ζυγίζει άνω των 150 KG, ή άνω των 75 KG εάν περιέχει εύθραυστα δοχεία.

Ειδικοί Όροι:-

Αριθμός Είδους	Περιγραφή Ύλης	Ανωτάτη ποσότητα ανά δοχείο	Ανωτάτη ποσότητα ανά κόλον	Ειδικές Διατάξεις
1ο	Λευκός ή κίτρινος Φωσφόρος			
2ο	Φωσφίδια			
3ο	Αλκύλια φευδαργύρου, κλπ.	Μικτή συσκευασία δεν επιτρέπεται		

2442
(Συνεχίζεται)

Αριθμός Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότης ανά δοχείον	ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			
6° (α) (β) και (δ)	Κόνις και πυρίτιδες αργιλίου (αλουμινίου) ή φευδαργύρου Κόνις, πυρίτιδες και λεπτά ρινήματα μαγνησίου Μέταλλα σε πυροφορική μορφή	3 KG	3 KG	Δεν πρέπει να συσκευάζονται μαζί με ασθενώς εμπλουτισμένη με άζωτο νιτροκυτταρίνη και κόκκινο φωσφόρο της Κλάσεως 4.I, ούτε με άλατα διυδροφθορικού οξέος
4°, 5°, 6° (γ) 7°-12°	Όλες οι ύλες			

4.- Ενδείξεις και ετικέτες κινδύνου στα κόλα

(βλέπε Προσθήκην Α.9)

(I) Κόλα περιέχοντα ύλες των I° έως 4° ή 6° 2443
θα φέρουν ετικέτα συμφώνως προς το μοντέλο No. 2C.

Εν τούτοις, εάν οι ύλες της 4° συσκευασθούν σε βαρέλια κατασκευασμένα από αδιαπέραστη ινώδη σανίδα συμφώνως προς το περιθώριο 2436(I), τα κόλα θα φέρουν δύο ετικέτες συμφώνως προς το μοντέλο No. 2C.

(2) Βαρέλια περιέχοντα φωσφόρον της I° και έχοντα κοχλιωτό πώμα οφείλουν, εκτός εάν διαθέτουν μηχανισμόν διατηρούντα αυτά όρθια, να φέρουν επιπροσθέτως, ψηλά σε δύο διαμετρικώς αντίθετα μέρη, δύο ετικέτες

συμφώνως προς το μοντέλο No.8. 2443

(Συνεχίζεται)

(3) Κόλα που περιέχουν εύθραυστα δοχεία μη ορατά από έξω θα φέρουν ετικέτες σύμφωνες προς το μοντέλο No.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα επιπροσθέτως, πλην της περιπτώσεως σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνα προς το μοντέλο No.8°. οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπο ισοδύναμο όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

(4) Προκειμένου περί αποστολών διεξαγομένων ως πλήρη φορτία, η ετικέτα No. 20 η προβλεπομένη εκ της ανωτέρω παραγράφου (I), δεν χρειάζεται να τεθεί στα κόλα εάν το όχημα φέρει την ένδειξιν την προβλεπομένην υπό του Παραρτήματος Β, περιθώριο 10 500.

2444

Β.- <u>Στοιχεία (Λεπτομέρειες) του εγγράφου μεταφοράς</u> 2445

Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφοράς πρέπει να είναι σύμφωνη με μία των ονομασιών των <u>υπογραμμισμένων</u> στο περιθώριο 2431. Όπου η ονομασία της ύλης δεν σημειούται προκειμένου περί των 2°, 3°, 9° και 10°, η εμπορική ονομασία πρέπει να χρησιμοποιείται. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα <u>στοιχεία της Κλάσεως, του αριθμού του είδους (μαζί με το, τυχόν, γράμμα), και των αρχικών "ADR" ή "RID"</u> (π.χ. <u>4.2, 5°(α), ADR"</u>).

2446-
2452

Γ.- Κενά Είδη Συσκευασίας 2453

(1) Δοχεία και δεξαμενές της 14^{o} και δοχεία της 15^{o} πρέπει να κλείνουν κατά τον αυτόν τρόπον και να είναι του αυτού βαθμού στεγανά ως εάν επρόκειτο για πλήρη φορτία.

(2) Η περιγραφή στο έγγραφο της μεταφοράς πρέπει να είναι:- "Κενό δοχείο (ή κενή δεξαμενή), 4.2, 14^{o} (ή 15^{o}), ADR (ή RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

2454-
2469

ΚΛΑΣΗ 4.3 ΥΛΕΣ ΠΟΥ ΒΓΑΖΟΥΝ ΕΥΦΛΕΚΤΑ ΑΕΡΙΑ ΣΕ ΕΠΑΦΗ ΜΕ ΤΟ ΝΕΡΟ

Ι.- Κατάλογος υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2470 τον τίτλον Κλάση 4.3 μόνον οι αναγραφόμενες στο περιθώριο 2471 γίνονται δεκτές για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και τα είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

1ο (α) Αλκαλι-μέταλλα/και μέταλλα αλκαλικών γαιών, π.χ. νάτριο, 2471
νάλιο, ασβέστιο καθώς και κράματα αλκαλιμετάλλων, μεταλλικά κράματα αλκαλικών γαιών και κράματα αλκαλίου (αλκαλιμετάλλων) και μετάλλων αλκαλικών γαιών·

(β) αμάλγαμα αλκαλιμετάλλων και αμάλγαμα μετάλλων αλκαλικών γαιών·

2ο (α) ανθρακούχο ασβέστιο και ανθρακούχο αργίλιο·

(β) υδρίδια αλκαλιμετάλλων και μετάλλων αλκαλικών γαιών

(π.χ. λίθιο, υδρίδιο, υδρίδιο ασβεστίου), μικτά υδρίδια, και υδρίδια βορίου και υδρίδια αργυλίου αλκαλιμετάλλων και μετάλλων αλκαλικών γαιών· 247Ι (Συνεχίζεται)

(γ) πυριτούχα άλκάλι (ALKALI SILICIDES)·

(δ) πυριτούχο ασβέστιο, σε κόνιν, κόκκους ή σβώλους, περιέχον άνω του 50 τοις εκατόν πυρίτιο, πυριτιούχο μαγγανιούχο ασβέστιο (πυριτιομαγγανιούχον ασβέστιον)·

(ε) κράματα μαγνησίου με μαγγάνιο.

3° Αμίδια αλκαλιμετάλλων και μετάλλων αλκαλικών γαιών, π.χ. αμίδιο του νατρίου (SODAMIDE). Βλέπε επίσης περιθώριο 247Ιά

Σημείωσις:- Το κυαναμίδιο ασβεστίου δεν υπόκειται στις διατάξεις της ADR.

4° Τριχλωρουδρογονούχο πυρίτιο (πυριτιοχλωροφόρμιον)

5° Κενά δοχεία, ακαθάριστα, και κενές δεξαμενές, ακαθάριστες, που περιείχαν ύλες της Κλάσεως 4.3.

Το αμίδιο του νατρίου της 3° (SODAMIDE) σε ποσότητες μη υπερβαίνουσες τα 200 γραμμ. ανά κόλον δεν υπόκειται στις διατάξεις της παρούσης Κλάσεως τις περιεχόμενες στο παρόν Παράρτημα ή στο Παράρτημα Β εάν είναι συσκευασμένο σε δοχεία τα οποία είναι έτσι κλεισμένα ώστε να είναι στεγανά και τα οποία δεν μπορούν να προσβληθούν από το περιεχόμενο, και εάν τα δοχεία αυτά είναι συσκευασμένα με επιμέλεια σε γερά, στεγανά ξύλινα είδη συσκευασίας με στεγανόν κλείσιμον.

2.Θ Διατάξεις

Α.- Κόλα

Ε.- Γενικοί όροι συσκευασίας

(Ι) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα 2472
και στεγανά ώστε να αποφεύγεται η είσοδος υγρασίας και οιαδήποτε απώλεια του περιεχομένου.

(2) Τα υλικά από τα οποία τα δοχεία και τα κλεισίματά των κατασκευάζονται δεν πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ή να σχηματίζουν με τούτο επιβλαβείς και επικινδύνους ενώσεις. Τα δοχεία εις όλες τις περιπτώσεις πρέπει να είναι απηλλαγμένες από υγρασία.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη των ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους κανονικούς όρους μεταφοράς. Ειδικώτερα, προκειμένου περί στερεών εμβαπτισμένων σε υγρό, τα δοχεία και τα κλεισίματά των πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης" προβλέπει άλλως, να είναι ικανά να αντέχουν σε οποιαδήποτε πίεση η οποία, λαμβανομένης υπόψη της υπάρξεως αέρος, ενδέχεται να εγερθεί εσωτερικώς των δοχείων στη συνήθη μεταφορά. Για τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά τον χρόνον της πληρώσεως (γεμίσματος) και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μεταφοράς./Οι στερεές ύλες θα ασφαλίζονται σταθερά στις συσκευασίες τους,

και οι εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες. 2472 (Συνεχίζεται)

Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται σε εξωτερικές συσκευασίες είτε μία-μία είτε ομαδικά.

(4) Φιάλες και λοιπά γυάλινα δοχεία πρέπει να είναι απηλλαγμένα από βλάβες που κινδυνεύουν να εξασθενήσουν την αντοχήν τους· ειδικώτερα, πρέπει να αίρονται καταλλήλως οι εσωτερικές τάσεις. Το πάχος των τοιχωμάτων σε καμιά περίπτωση πρέπει να είναι μικρότερο των 2 ΜΜ.

Η στεγανότητα του συστήματος κλεισίματος πρέπει να εξασφαλίζεται από πρόσθετο μηχανισμό (πώμα, στέμμα (κορώνω), σφραγίδα, δέσιμο, κλπ.) ικανόν να εμποδίσει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς.

(5) Το αποσβεστικό υλικό θα ταιριάζει στη φύση του περιεχομένου.

2.- <u>Συσκευασία μιάς ύλης</u>

(I) Οι ύλες της I^{o} θα συσκευάζονται:-

(α) σε δοχεία κατασκευασμένα από φύλλο-σιδήρου (έλασμα), επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασσιτέρου. Για ύλες της I^{o}(β), εν τούτοις, δοχεία κατασκευασμένα από επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασσιτέρου δεν γίνονται δεκτά. Τα δοχεία αυτά, με εξαίρεση τα σιδηρά βαρέλια, πρέπει να τοποθετούνται σε ξύλινα κιβώτια συσκευασίας ή σε προστατευτικούς σιδηρούς καλάθους· ή

2473 (Συνεχίζεται)

(β) όχι περισσότερες από Ι ΚG ανά δοχείο, σε δοχεία κατασκευασμένα από ύαλο ή είδη κεραμεικής. Όχι περισσότερα των 5 από τα δοχεία αυτά θα συσκευάζονται σε ξύλινο κιβώτιο συσκευασίας έχον στεγανήν επένδυσιν από σύνθες φύλλο-σιδήρου, επενδεδυμένο με μόλυβδο φύλλο-σιδήρου, ή πλάκα-κασσιτέρου συναρμολογημένην με μαλακή συγκόλλησιν. Για γυάλινα δοχεία περιέχοντα ποσότητες μη υπερβαίνουσες τα 250 γραμμ., το επενδεδυμένο ξύλινο κιβώτιο μπορεί να αντικατασταθεί από ένα εξωτερικό δοχείο κατασκευασμένο από σύνθες φύλλο-μετάλλου, επενδεδυμένο με μόλυβδο φύλλο-σιδήρου, ή πλάκα κασσιτέρου. Τα γυάλινα δοχεία θα ασφαλίζονται στις εξωτερικές συσκευασίες από άκαυστο αποσβεστικό υλικό.

(2) Εάν ύλη της Ι°(α) δεν συσκευασθεί εντός συγκολληθέντος μεταλλικού δοχείου με κάλυμμα ερμητικώς κλεισμένο με μαλακή συγκόλλησιν, τότε:-

(α) πρέπει να καλύπτεται πλήρως από ορυκτέλαιο του οποίου το σημείο αναφλέξεως είναι άνω των 50°C, ή να ραντισθεί επαρκώς για να εξασφαλισθεί ότι οι σβώλοι έχουν επιχρισθεί με το έλαιο αυτό· ή

(β) ο αέρας του δοχείου πρέπει να αντικαθίσταται εξ ολοκλήρου από προστατευτικό αέριο (π.χ. άζωτο) και το δοχείο να είναι έτσι κλεισμένο ώστε να είναι αεριοστεγανό, ή

(γ) η ύλη πρέπει να χυθεί στο δοχείο, το οποίο πρέπει

να πληρωθεί μέχρι το χείλος και να είναι κατά τρόπο τέτοιο κλεισμένο ώστε να είναι αεριο-στεγανό. 2473 (Συνεχίζεται)

(3) Τα σιδηρά δοχεία πρέπει να έχουν πλευρές πάχους όχι μικροτέρου των I.25 MM (χιλ.). Εάν με το περιεχόμενό τους ζυγίζουν πάνω από 75 KG, πρέπει να συγκολληθούν με σκληρή συγκόλληση ή συγκόλληση. Εάν ζυγίζουν πάνω από I25 KG, πρέπει επιπροσθέτως να είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) ή με κυλιόμενες φλάντζες.

(I) Οι ύλες της 2° θα συσκευάζονται:- 2474

(α) σε δοχεία κατασκευασμένα από φύλλο-σιδήρου, επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασσιτέρου. Για ύλες της 2°(β) και (γ) το δοχείο δεν πρέπει να περιέχει περισσότερα από IO KG. Τα δοχεία αυτά, με εξαίρεση τα σιδηρά βαρέλια, πρέπει να τοποθετούνται σε ξύλινα κιβώτια συσκευασίας ή σε προστατευτικά σιδηρά καλάθια (κοφίνια)· ή

(β) όχι περισσότερες από I KG ανά δοχείο, σε δοχεία κατασκευασμένα από ύαλο ή είδη κεραμεικής ή από κατάλληλη πλαστική ύλη. Όχι περισσότερα των 5 από τα δοχεία αυτά θα συσκευάζονται σε ξύλινο κιβώτιο συσκευασίας με στεγανήν επένδυσιν από σύνηθες φύλλο-σιδήρου, επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασσιτέρου, συναρμολογουμένην με μαλακή συγκόλληση. Για γυάλινα δοχεία περιέχοντα ποσότητες μη υπερβαίνουσες τα

250 γραμμ., το επενδεδυμένο ξύλινο κιβώτιο μπορεί να αντικαθίσταται από εξωτερικό δοχείο κατασκευασμένο από σύνηθες φύλλο-σιδήρου, επενδεδυμένο με μόλυβδο φύλλο-σιδήρου ή πλάκα κασσιτέρου. Τα γυάλινα δοχεία θα ασφαλίζονται στα κιβώτια συσκευασίας με άκαυστο απορροφητικό υλικό. 2474 (Συνεχίζεται)

(2) Το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG εάν περιέχει ύλες της 2°(β) ή (γ) και όχι πάνω από 125 KG εάν περιέχει ύλες της 2°(δ) ή (ε).

Τα αμίδια (3°) θα συσκευάζονται, όχι περισσότερα των 10 KG ανά κυτίο ή βαρέλι, σε ερμητικώς κλεισμένα μεταλλικά κυτία ή βαρέλια, τα οποία θα τοποθετούνται σε ξύλινα κιβώτια. Το κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. 2475

(1) Το τριχλωρουδρογονούχο πυρίτιο (TRICHLOROSILANE) (4°) πρέπει να συσκευάζεται σε δοχεία κατασκευασμένα από ανθεκτικό στη διάβρωση χάλυβα και να έχουν χωρητικότητα μη υπερβαίνουσα τις 500 λίτρες. Τα δοχεία πρέπει να είναι ερμητικώς κλεισμένα· ο μηχανισμός κλεισίματος πρέπει να προστατεύεται ειδικώς με πώμα. Τα δοχεία πρέπει να είναι κατασκευασμένα ως σκεύη πιέσεως για πίεση λειτουργίας 4 KG/CM^2 και να ελέγχονται σύμφωνα με τις ~~τεχνούσες~~ στην χώρα της αναχωρήσεως διατάξεις τις διέπουσες τα σκεύη (αγγεία) πιέσεως. Δοχεία με χωρητικότητα μη υπερβαίνουσα τις 250 λίτρες πρέπει να έχουν πάχος τοιχώματος όχι μικρότερο των 2.5 ΜΜ (χιλ.), και δοχεία με μικρότερη χωρητικότητα πάχος τοιχώματος όχι μικρότερο των 3 ΜΜ (χιλ.) 2476

(2) Εάν το γέμισμα βασίζεται σε βάρος, ο βαθ- 2476
μός γεμίσματος δεν πρέπει να υπερβαίνει τα I.I4KG/L. (Συνεχίζεται)
Εάν διεξάγεται με οπτικό έλεγχο, ο βαθμός γεμίσματος δεν θα υπερβαίνει το 84.5 τοις εκατόν.

3.- Μικτή συσκευασία

(I) Οι ύλες οι ομαδοποιημένες υπό τον αυτόν 2477
αριθμόν είδους μπορούν να μπορούν να συμπεριλαμβάνονται στο αυτό κόλον. Οι εσωτερικές συσκευασίες θα είναι σύμφωνα με ό,τι προβλέπεται για κάθε ύλη, και οι εξωτερικές συσκευασίες θα είναι όπως έχουν ορισθεί για τις ύλες του αυτού αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται από το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι ύλες της παρούσας Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG προκειμένου περί στερεών ή 3 λίτρες προκειμένου περί υγρών για όλες τις ύλες υπό τον αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν να εγκλείονται στο αυτό κόλον είτε με ύλες άλλου αριθμού είδους ή άλλου γράμματος της αυτής Κλάσεως, ή με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις (εάν μικτή συσκευασία επιτρέπεται προκειμένου περί τοιούτων υλών), ή με άλλα εμπορεύματα, υπό την επιφύλαξη των παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως, οι γενικοί όροι οι περιεχόμενοι στα περιθώρια 2001(5) και 2002(6) και (7) πρέπει να τηρούνται.

Το κόλον δεν πρέπει να ζυγίζει πάνω από 150KG, ή πάνω από 75 KG εάν περιέχει εύθραυστα δοχεία. 2477 (Συνεχίζεται)

Ειδικοί όροι:-

Αρ.Είδους	Περιγραφή Ύλης	Ανωτάτη ποσότητα ανά δοχείο	Ανωτάτη ποσότητα ανά κόλον	Ειδικές Διατάξεις
1°(α)	Αλκαλιμέταλλα και μέταλλα αλκαλικών γαιών (π.χ. νάτριον, κάλιον, βάριον)			Τα όρια των 500 γραμμ. ή 1 KG ισχύουν για αλκαλιμέταλλα και μέταλλα αλκαλικών γαιών της 1°(α), και για υδρίδια αλκαλιμετάλλων και υδρίδια μετάλλων αλκαλικών γαιών, σε σχέση με το ολικό βάρος των υλών αυτών. Τα αλκαλιμέταλλα και μέταλλα αλκαλικών γαιών, και ύλες της 2°(β), δεν μπορούν να συσκευάζονται μαζί με οξέα, ούτε με υγρά περιέχοντα ύδωρ
	- σε εύθραυστα δοχεία	500 γραμμ.	500 γραμμ.	
	- σε άλλα δοχεία	1 KG	1 KG	
2°(α)	Ανθρακούχο ασβέστιο	Μικτή συσκευασία δεν επιτρέπεται		
2°(β)	Υδρίδια αλκαλιμετάλλων και μετάλλων αλκαλικών γαιών (π.χ., (λίθιο) υδρίδιο λιθίου, υδρίδιο ασβεστίου), μικτά υδρίδια, υδρίδια βορίου και υδρίδια αργυλίου			
	- σε εύθραυστα δοχεία	500 γραμμ.	500 γραμμ.	
	- σε άλλα δοχεία	1 KG	1 KG	

2477

Συνέχεια Πίνακας (Συνεχίζεται)

4°	Τριχλωρουδρογονούχο πυρίτιο (TRICHLOROSILANE)	Μικτή συσκευασία δεν επιτρέπεται

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου επί των κόλων (βλέπε Προσθήκην Α.9) 2478

(1) Κάθε κόλο περιέχον ύλες της Κλάσεως 4.3 θα φέρει ετικέτα του μοντέλου No.2D καιετικέτα σύμφωνον προς το μοντέλο No. 7.

(2) Κάθε κόλον περιέχον Τριχλωρουδρογονούχο πυρίτιο (TRICHLOROSILANE) της 4° θα φέρει επιπροσθέτως ετικέτα σύμφωνον προς το μοντέλο No. 2A.

(3) Κόλα περιέχοντα εύθραυστα δοχεία που δεν είναι ορατά από έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No.9. Εάν το εύθραυστο δοχείο ή δοχεία περιέχουν υγρά, τα κόλα επιπροσθέτως, με εξαίρεση την περίπτωση των σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνες προς το μοντέλο No. 8· οι ετικέτες αυτές θα τοποθετούνται φηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον όταν χρησιμοποιούνται άλλες συσκευασίες.

2479

Β.- Στοιχεία του εγγράφου μεταφοράς

Η περιγραφή των εμπορευμάτων στο έγγραφο με- 2480
ταφοράς πρέπει να είναι σύμφωνη με μία των ονομασιών των υπογραμμισμένων στο περιθώριο 2471. Όπου η ονομα-

σία της ύλης δεν καθορίζεται, προκειμένου περί της I°, η εμπορική ονομασία πρέπει να χρησιμοποιείται. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμόν του είδους (μαζί με, το τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 4.3 2°(α), ADR). 2480 (Συνεχίζεται)

248I-2497

Γ.- Κενά είδη συσκευασίας

(I) Τα δοχεία και οι δεξαμενές της 5° πρέπει να κλείνουν κατά τον ίδιο τρόπο και να είναι του αυτού βαθμού στεγανά ως εάν ήσαν πλήρη. 2498

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι:- "Κενό δοχείο (ή κενή δεξαμενή), 4.3 5°, ADR (ή RID". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

ΚΛΑΣΗ 5.Ι ΟΞΕΙΔΩΤΙΚΕΣ ΥΛΕΣ

Ι.- Κατάλογος υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2500
τον τίτλον Κλάση 5.Ι, οι αναγραφόμενες στο περιθώριο
2501 υπόκεινται στις διατάξεις του παρόντος Παραρτήματος
και του Παραρτήματος Β. Οι ύλες αυτές και είδη/που γίνονται
δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται
ως ύλες και είδη της ADR.

Σημείωσις:- Εκτός εάν ειδικώς αναγράφονται στη Κλάση Ια ή Κλάση Ιγ, μίγματα οξειδωτικών υλών με καύσιμες ύλες δεν θα γίνονται δεκτά για μεταφορά εάν μπορούν να ενεργούν σε επαφή με φλόγα ή εάν είναι λίαν ευαίσθητα και περισσότερον ευαίσθητα στη πρόσκρουση και τριβή από το από το δινιτροβενζόλιο.

Ι° Σταθεροποιημένα, υδάτινα διαλύματα υπεροξειδίου του 2501
υδρογόνου περιέχοντα περισσότερο από 60 τοις εκατόν
υπεροξείδιο του υδρογόνου, και σταθεροποιημένο υπερο-
ξείδιο του υδρογόνου.

Σημείωσις:- Ι.- Για υδάτινα διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα όχι περισσότερο του 60 τοις εκατόν υπεροξείδιο του υδρογόνου, βλέπε περιθώριο 2801, 41°.

2.- Υδάτινα διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα του 60 τοις εκατόν υπεροξείδιο του υδρογόνου, μη σταθεροποιημένο, και υπεροξείδιο του υδρογόνου, μη σταθεροποιημένο, δεν γίνονται δεκτά για μεταφορά.

Τετρανιτρομεθάνιο, ελεύθερο από καυσίμους ανακαθαρσίας. 250Ι (Συνεχίζεται)

Σημείωση:- Τετρανιτρομεθάνιο μη απαλλαγμένο από καυσίμους ανακαθαρσίας δεν γίνεται δεκτό για μεταφορά.

3° Υπερχλωρικό οξύ σε υδάτινα διαλύματα περιέχοντα περισσότερο από 50 κατ. εκατόν αλλά όχι περισσότερο από 72.5 κατ. εκατόν υπερχλωρικό οξύ ($HClO_4$). Βλέπε επίσης περιθώριο 250Ιa, υπό στοιχείον (α).

Σημείωση:- Υπερχλωρικό οξύ σε υδάτινα διαλύματα περιέχοντα όχι περισσότερο του 50 κατ. εκατόν υπερχλωρικό οξύ ($HClO_4$) είναι ύλη της Κλάσεως 8 (βλέπε περιθώριο 280Ι, 4°). Υδάτινα διαλύματα υπερχλωρικού οξέος περιέχοντα περισσότερο από 72.5 κατ. εκατόν υπερχλωρικό οξύ δεν γίνονται δεκτά για μεταφορά· το ίδιο ισχύει για μίγματα υπερχλωρικού οξέος με οποιοδήποτε υγρό πλήν του νερού.

4° (α) Χλωρικά Άλατα: ανόργανου χλωρικού άλατος ζιζανιοκτόνα αποτελούμενα από μίγματα χλωρικού νατρίου, χλωρικού καλίου ή χλωρικού ασβεστίου με υφροσκοπικό χλωρίδιο (όπως χλωριούχο μαγνήσιο ή χλωριούχο ασβέστιο)·

Σημείωση:- Χλωρικόν Αμμώνιον δεν γίνεται δεκτό για μεταφορά.

(β) υπερχλωρικά άλατα (με εξαίρεση το υπερχλωρικόν αμμώνιον, βλέπε 5°).

(γ) χλωρικά άλατα νατρίου και καλίου.

(δ) μίγματα χλωρικών αλάτων, υπερχλωρικών αλάτων και χλωριωδών αλάτων (των (α), (β) και (γ) με άλληλα.

Για τα (α), (β), (γ) και (δ), βλέπε επίσης περιθώριο 250Ια, υπό στοιχείον (β). 250Ι (Συνεχίζεται)

5° Υπερχλωρικόν αμμώνιον. Βλέπε επίσης περιθώριο 250Ια υπό στοιχείον (β).

6° (α) Νιτρικόν αμμώνιον μη περιέχον καύσιμες ύλες σε μεγαλυτέρα αναλογία του 0.4 τοις εκατόν.

Σημείωσις:- Νιτρικόν αμμώνιον περιέχον περισσότερο του 0.4 τοις εκατόν καύσιμες ύλες δεν γίνεται δεκτό για μεταφορά εκτός εάν είναι συστατικόν εκρηκτικής ύλης των 12° ή 14° του περιθωρίου 210Ι.

(β) μίγματα νιτρικού αμμωνίου με θειϊκόν αμμώνιον ή φωσφορικό αμμώνιον περιέχοντα περισσότερο του 40 τοις εκατόν νιτρικού άλατος αλλά όχι περισσότερο από 0.46 τοις εκατόν καύσιμες ύλες·

(γ) μίγματα νιτρικού αμμωνίου με αδρανή ύλην (π.χ., πορώδης γή (τριπολική), ανθρακικό ασβέστιο, χλωριούχο κάλιο) περιέχοντα περισσότερο του 65 τοις εκατόν νιτρικού άλατος αλλά όχι περισσότερο του 0.46 τοις εκατόν καύσιμες ύλες.

Για τα (α), (β) και (γ), βλέπε επίσης περιθώριο 250Ια, υπό στοιχείον (β).

Σημείωσις:- Ι.- Μίγματα νιτρικού αμμωνίου με θειϊκόν αμμώνιον ή φωσφορικόν αμμώνιον περιέχοντα όχι περισσότερο του 40 τοις εκατόν νιτρικόν άλας, και μίγματα νιτρικού αμμωνίου με αδρανή ανόργανο ύλην περιέχοντα όχι περισσότερο του 65 τοις εκατόν νιτρικού άλατος, δεν υπόκεινται στις διατάξεις της ADR.

(2) Στα μίγματα της παραγράφου (γ), μόνον ανόργανοι ύλες που δεν είναι ούτε καύσιμες ούτε οξειδωτικές μπορούν να θεωρηθούν ως αδρανείς. 250Ι (Συνεχίζεται)

(3) Σύνθετα λιπάσματα στα οποία το ολικό περιεχόμενο του αζώτου ως νιτρικόν άλας και ως αμμωνία δεν υπερβαίνει το 14 στα εκατόν ή στα οποία το εις άζωτον περιεχόμενον ως νιτρικόν άλας δεν υπερβαίνει το 7 στα εκατόν δεν υπόκεινται στις διατάξεις της ADR.

7° (α) Νιτρικόν νάτριον·

(β) μίγματα νιτρικού αμμωνίου με νιτρικά άλατα νατρίου, καλίου, ασβεστίου ή μαγνησίου·

(γ) νιτρικόν βάριον, νιτρικός μόλυβδος.

Για τα (α), (β) και (γ), βλέπε επίσης περιθώριο 250Ια, υπό στοιχείον (β).

Σημειώσις:- Ι.- Εάν δεν περιέχουν άνω του 10 στα εκατόν νιτρικού αμμωνίου, τα μίγματα νιτρικού αμμωνίου με νιτρικόν ασβέστιον ή νιτρικόν μαγνήσιον ή με αμφότερα δεν υπόκεινται στις διατάξεις της ADR.

2.- Κενοί σάκκοι από ύφασμα οι οποίοι περιείχαν νιτρικόν νάτριον και δεν έχουν πλήρως ελευθερωθεί από το νιτρικόν άλας που διαπότισε αυτά είναι είδη της Κλάσεως 4.3 (βλέπε περιθώριο 243Ι, Ι3°).

8° Ανόργανα νιτρίλια. Βλέπε επίσης περιθώριο 250Ια, υπό στοιχείον (β).

Σημείωσις:- Νιτρώδες αμμώνιο και μίγματα ανοργάνου νιτριλίου με άλας αμμωνίου δεν γίνονται δεκτά για μεταφορά.

(α) Υπεροξείδια αλκαλιμετάλλων και μίγματα περιέχοντα υπεροξείδια αλκαλιμετάλλων τα οποία δεν είναι περισσότερο επικίνδυνα από το υπεροξείδιο του νατρίου· 250Ι (Συνεχίζεται)

(β) διοξείδια και λοιπά υπεροξείδια μετάλλων αλκαλικών γαιών, π.χ. διοξείδιο του βαρίου·

(γ) υπερμαγγανικά άλατα νατρίου, καλίου, ασβεστίου και βαρίου.

Για τα (α), (β) και (γ), βλέπε επίσης περιθώριο 250Ια, υπό στοιχείον (β).

Σημείωσις:- Υπερμαγγανικόν αμμώνιον, και μίγματα υπερμαγγανικού άλατος με άλας αμμωνίου, δεν γίνονται δεκτά για μεταφορά.

10° Τριοξείδιον του Χρωμίου (χρωμικός ανυδρίτης· καλούμενος επίσης χρωμικόν οξύ).

Βλέπε επίσης περιθώριο 250Ια, υπό στοιχείον (β).

11°. Κενά είδη συσκευασίας, ακαθάριστα, και κενές δεξαμενές, ακαθάριστες, που περιείχαν ύλες της Κλάσεως 5.Ι.

Σημείωσις:- Κενά είδη συσκευασίας και κενές δεξαμενές που περιείχαν χλωρικόν άλας, υπερχλωρικόν άλας, χλωρίτη (4° και 5°), ανόργανο νιτρώδες άλας (8°) ή ύλες των 9° και 10°, με υπολείμματα από το προηγούμενο περιεχόμενό τους προσκολλημένα στο εξωτερικό, δεν γίνονται δεκτά για μεταφορά.

Ύλες παραδοθείσες για μεταφορά συμφώνως προς τις παρακάτω διατάξεις δεν υπόκεινται ούτε στις διατάξεις της παρούσης Κλάσεως τις περιεχόμενες στο παρόν Παράρτημα ούτε στις διατάξεις τις περιεχόμενες στο 250Ια

Παράρτημα Β.

ύλες της 3°, σε ποσότητες μη υπερβαίνουσες τα 200 γραμμάρια ανά δοχείο, υπό τον όρον ότι είναι συσκευασμένες σε δοχεία έτσι κλεισμένα ώστε να είναι στεγανά και να μη μπορούν να προσβληθούν από το περιεχόμενό τους, και όπως τα δοχεία συσκευάζονται, όχι περισσότερα των 10 ανά κιβώτιο, σε ξύλινο κιβώτιο με αδρανές απορροφητικό αποσβεστικό υλικό· 2501α (Συνεχίζεται)

(β) ύλες των 4° - 10°, σε ποσότητες μη υπερβαίνουσες τα 10 KG, συσκευασμένες όχι περισσότερες των 2 KG ανα δοχείο σε δοχεία έτσι κλεισμένα ώστε να είναι στεγανά και να μη μπορούν να προσβληθούν από το περιεχόμενό τους, και που θα εγκλείονται σε γερά, στεγανά είδη συσκευασίας κατασκευασμένα από ξύλο ή φύλλο-μετάλλου, διαθέτοντα στεγανά κλεισίματα.

2.- Διατάξεις

Α.- Κόλα

Ι.- Γενικοί όροι συσκευασίας

(1) Τα δοχεία θα είναι έτσι κλεισμένα και διευθετημένα ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου. 2502

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και τα κλεισίματά τους είναι κατασκευασμένα δεν πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο, ή να προκαλούν την αποσύνθεση του περιεχομένου, ή να σχηματίζουν με αυτό επιβλαβείς ή επικινδύνους ενώσεις.

(3) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά

σε όλα τους τα μέρη ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους κανονικούς όρους μεταφοράς. Ειδικώτερα, όταν οι ύλες αυτές είναι σε υγρή κατάσταση, τα δοχεία και τα κλεισίματά τους πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης" προβλέπει άλλως, να είναι σε θέση να αντέχουν οποιαδήποτε πίεση η οποία, λαμβανομένης υπόψη της υπάρξεως αέρος, ενδέχεται να εγερθεί εσωτερικώς των δοχείων κατά την συνήθη μεταφορά. Διά τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά τον χρόνον του γεμίσματος και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μεταφοράς. Εκτός εάν άλλως ειδικώς ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται σε εξωτερικές συσκευασίες, είτε μία-μία είτε ομοαδικά. 2502 (Συνεχίζεται)

(4) Οι φιάλες και τα λοιπά γυάλινα δοχεία πρέπει να είναι απαλλαγμένα από βλάβες που κινδυνεύουν να εξασθενήσουν την αντοχή τους· ειδικώτερα, πρέπει να αίρονται καταλλήλως οι εσωτερικές τάσεις. Τα τοιχώματα δεν πρέπει να έχουν πάχος μικρότερο των 3 ΜΜ (χιλ.) στη περίπτωση δοχείων που ζυγίζουν, μαζί με το περιεχόμενό τους, άνω των 35 KG, και όχι μικρότερο των 2 ΜΜ (χιλ.) στη περίπτωση άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος πρέπει να εξασφαλίζεται με πρόσθετο μηχανισμό (πώμα, στέμμα (κο-

ρώνα), σφραγίδα, δέσιμο, κλπ.)) ικανόν να εμποδίζει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς. 2502 (Συνεχίζεται)

(5) Οσάκις δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά προβλέπονται ή επιτρέπονται, πρέπει να αφαλίζονται με αποσβεστικό υλικό σε προστατευτικές συσκευασίες. Το αποσβεστικό υλικό πρέπει να είναι άκαυστο (άμίαντο, υαλοέριο, απορροφητική γή, τριπολική γή, κλπ.) και ανίκανο να σχηματίζει επικίνδυνες ενώσεις με το περιεχόμενο των δοχείων. Εάν το περιεχόμενον είναι υγρό, το αποσβεστικό υλικό θα είναι επίσης απορροφητικό και αναλογικό σε ποσότητα με τον όγκον του υγρού· αυτό το εσωτερικό απορροφητικό στρώμα δεν πρέπει, εφ' ώτου, να έχει πάχος μικρότερο των 4 CM σε οποιοδήποτε σημείο.

Συσκευασία μιας ύλης

(I) Υδάτινα διαλύματα υπεροξειδίου του υδρογόνου, της I^{o}, θα συσκευάζονται σε βαρέλια ή άλλα δοχεία κατασκευασμένα από αργύλιο (αλουμίνιο) καθαρότητος 99.5 τοις εκατόν τουλάχιστον ή από ειδικο χάλυβα μη κινδυνεύοντα να προκαλέση αποσύνθεση του υπεροξειδίου του υδρογόνου. Τα δοχεία αυτά θα είναι εφοδιασμένα με χειρολαβήν· θα πρέπει να παραμένουν όρθια σε σταθερό σχήμα και πρέπει:- 2503

(α) να διαθέτουν στο άνω μέρος αυτών μηχανισμόν κλεισίματος εξασφαλίζοντα ίσην εσωτερικήν και ατμοσφαιρικήν πίεσιν· ο μηχανισμός αυτός κλεισίματος πρέπει σε

κάθε περίπτωση να εμποδίζει οιανδήποτε διαφυγήν του υγρού και οιανδήποτε είσοδον ξένης ύλης στο δοχείο και πρέπει να προστατεύται από αεριζόμενο πώμα· ή

2503 (Συνεχίζεται)

(β) να είναι σε θέση να ανθίστανται σε εσωτερική πίεση 2.5 KG/CM^2 και να διαθέτουν στο άνω μέρος μηχανισμόν ασφαλείας τιθέμενον σε λειτουργίαν όταν η επί πλέον εσωτερική πίεσις είναι κυρίως 1 KG/CM^2.

(2) Τα δοχεία δεν θα πληρούνται πέραν του 90 τοις εκατόν της χωρητικότητάς των.

(3) Το κόλον δεν πρέπει να ζυγίζει άνω των 90 KG.

Το τετρανιτρομεθάνιο (2°) θα περιέχεται σε φιάλες κατασκευασμένες από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοιο υλικό ή κατάλληλη πλαστική ύλη, με άκαυστους αναστολείς, τοποθετημένους εσωτερικά ξυλίνου κιβωτίου με πλήρεις πλευράς· εύθραυστα δοχεία θα ασφαλίζονται εκεί με απορροφητικό αποσβεστικό υλικό. Τα δοχεία δεν θα πληρούνται πέραν του 93 τοις εκατόν της χωρητικότητάς των.

Υπερχλωρικό οξύ σε υδάτινα διαλύματα (3°) θα περιέχεται σε γυάλινα δοχεία, τα οποία θα πληρούνται με όχι περισσότερο του 93 τοις εκατόν της χωρητικότητός των. Τα δοχεία θα ασφαλίζονται με απορροφητικό και άκαυστο αποσβεστικό υλικό σε άκαυστα προστατευτικά είδη συσκευασίας αδιαπέραστα από υγρά και ικανά να συγκρατούν το περιεχόμενο των δοχείων. Το κλείσιμο των δοχείων θα προστατεύεται από πώματα εάν τα προστατευτικά είδη συσκευασίας δεν κλείουν πλήρως.

Γυάλινες φιάλες κλεισμένες με γυάλινους αναστο- 2505
λείς μπορούν επίσης να ασφαλίζονται με απορροφητικό (Συνεχίζε-
και άκαυστο αποσβεστικό υλικό σε ξύλινα κιβώτια με πλή- ται)
ρεις πλευρές.

Κόλα περιέχοντα εύθραυστα δοχεία και μεταφερόμενα όχι ως πλήρη φορτία δεν πρέπει να ζυγίζουν περισσότερο των 75 KG και θα διαθέτουν χειρολαβή.

(Ι) Ύλες των 4° και 5° και διαλύματα των υλών 2506
της 4° θα συσκευάζονται σε δοχεία κατασκευασμένα από ύαλο, ή κατάλληλη πλαστική ύλη, ή μέταλλο· στερεές ύλες της 4°(β) μπορούν επίσης να εγκλείονται σε κάδους από χοντρό ξύλο.

(2) Εύθραυστα δοχεία και δοχεία κατασκευασμένα από πλαστική ύλη πρέπει να ασφαλίζονται με αποσβεστικό υλικό σε ξύλινα ή μεταλλικά προστατευτικά είδη συσκευασίας. Μπορούν επίσης να ασφαλισθούν χωριστά με άκαυστο αποσβεστικό υλικό σε άθραυστα ενδιάμεσα δοχεία τα οποία με τη σειρά τους πρέπει σταθερά να τοποθετούνται ή ασφαλίζονται με προστατευτικό υλικό σε προστατευτικά είδη συσκευασίας. Το κάθε δοχείο πρέπει να περιέχει όχι περισσότερο από 5 KG ύλης. Προκειμένου περί δοχείων των οποίων το περιεχόμενο είναι υγρό, το αποσβεστικό υλικό πρέπει να είναι απορροφητικό.

(3) Προκειμένου περί δοχείων κατασκευασμένων από πλαστικήν ύλην και περιεχόντων διαλύματα υλών της 4°, τα προστατευτικά είδη συσκευασίας ενδέχεται να μην απαιτούνται εάν τα τοιχώματα είναι σε κάθε σημείο πάχους όχι μικρότερο των 4 MM (χιλ.), όταν τα τοιχώματα έχουν ενισχυ-

θεί με γερές ενισχυμένες στεφάνες, τα άκρα ενισχυθούν, το άνω μέρος διαθέτει δύο γερές χειρολαβές, και οι χειρολαβές, και το άνοιγμα είναι εφοδιασμένα με κοχλιωτό κλείσιμο. 2506 (Συνεχίζεται)

(4) Δοχεία για υγρά δεν θα πληρούνται πέραν του 95 τοις εκατόν της χωρητικότητός των.

(5) Κόλα περιέχοντα εύθραυστα δοχεία ή δοχεία κατασκευασμένα από πλαστική ύλη (βλέπε (2) και (3)), εάν περιέχουν υγρά, και κόλα περιέχοντα εύθραυστα δοχεία ή δοχεία κατασκευασμένα από πλαστική ύλη (βλέπε(2)), εάν περιέχουν μόνον στερεές ύλες και μεταφέρονται όχι ως πλήρες φορτίο, δεν πρέπει να ζυγίζουν πάνω από 75 KG. Κόλα μεταφερόμενα όχι ως πλήρες φορτίο θα διαθέτουν χειρολαβήν.

(6) Κόλα που μπορούν να κυλισθούν δεν πρέπει να ζυγίζουν περισσότερο από 400 KG· εάν ζυγίζουν περισσότερο των 275 KG πρέπει να διαθέτουν κυλιόμενες στεφάνες (ROLLING HOOPS).

(7) Δοχεία περιέχοντα στερεά χλωρικά άλατα πλήν των αναφερομένων υπό το στοιχείον (8) δεν πρέπει να περιέχουν καύσιμο υλικό πλήν μικρού παρεμβύσματος από κηρόχαρτο.

(8) Εάν το χλωρικόν άλας είναι υπό μορφήν δισκίων, μετά ή άνευ καταλλήλου σύνδετικής ύλης, και συσκευάζεται σε φιάλας περιέχουσες όχι άνω των 200 γραμμ., επαρκής ποσότης βαμβακο-ερίου μπορεί να χρησιμοποιείται για να εμποδισθεί η υπερβολική μετακίνησις των δισκίων στην φιάλη. Οι φιάλες θα συσκευάζονται σε κυτία από ινοσανίδα τοποθετούμενα σε ενδιάμεση συσκευασία χωριστά από την εξωτερική συσκευασία.

Η ενδιάμεσος συσκευασία δεν θα περιέχει άνω του Ι KG ή το ηόλον άνω των 6 KG χλωρικού άλατος. 2506 (Συνεχίζεται)

(Ι) Οι ύλες των 6°, 7°, και 8° θα συσκευάζονται: 2507

(α) σε βαρέλια ή κιβώτια· ή

(β) σε γερούς σάκκους κατασκευασμένους από στενά υφασμένο ύφασμα ή από γερό χαρτί τουλάχιστο πεντά-φυλλο ή, σε ποσότητες μη υπερβαίνουσες τα 50 KG, σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη επαρκούς πάχους και γερής ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου.

Εάν η ύλη είναι περισσότερο υγροσκοπική από το νιτρικό νάτριο, οι σάκκοι οι κατασκευασμένοι από στενά υφασμένο ύφασμα ή από γερό χαρτί πεντάφυλλο πρέπει να επενδύονται με κατάλληλη πλαστική ύλη ή να καθίστανται αδιαπέραστοι δια καταλλήλου μέσου.

Κόλα τα οποία μπορούν να κυλισθούν δεν πρέπει να ζυγίζουν περισσότερο από 400 KG· εάν ζυγίζουν πάνω από 275 KG πρέπει να είναι εφοδιασμένα μεκυλιόμενες στεφάνες (ROLLING HOOPS).

(Ι) Οι ύλες της 9°(α) θα συσκευάζονται: 2508

(α) σε βαρέλια από χάλυβα· ή

(β) σε δοχεία κατασκευασμένα από φύλλο-μετάλλου, φύλλο σιδήρου επενδεδυμένο με μόλυβδο, ή πλάκα-κασσιτέρου ασφαλιζόμενα σε ξύλινα κιβώτια συσκευασίας έχοντα μεταλλικήν επένδυσιν καταστάσαν στεγανήν, π.χ. με μαλακή συγκόλλησιν.

Όταν μεταφέρονται ως πλήρες φορτίο οι ύλες

2508
(Συνεχίζεται)

της 9°(α) πρέπει να συσκευάζονται σε δοχεία από πλάκα κασσιτέρου τοποθετημένα αποκλειστικώς σε προστατευτικούς σιδηρούς κάλαθους (IRON HAMPERS).

(2) Δοχεία περιέχοντα ύλες της 9°(α) πρέπει να είναι έτσι κλεισμένα και στεγανά ώστε να αποφεύγεται η είσοδος υγρασίας.

(3) Ύλες της 9°(β) και (γ) θα συσκευάζονται:-

(α) σε άκαυστα δοχεία εφοδιασμένα με άκαυστο ερμητικό κλείσιμο. Εάν τα άκαυστα δοχεία είναι εύθραυστα, το καθένα θα ασφαλίζεται χωριστά με αποσβεστικό υλικό σε ξύλινο δοχείο επενδεδυμένο με γερό χαρτί· ή

(β) σε κάδους από σκληρό ξύλο με στενά εφαρμοσμένες σανίδες, επενδεδυμένους με γερό χαρτί.

(4) Κόλα περιέχοντα εύθραυστα δοχεία και μεταφερόμενα όχι ως πλήρη φορτία δεν πρέπει να ζυγίζουν πάνω από 75 KG και θα διαθέτουν χειρολαβήν.

Κόλα ικανά να κυλίσουν δεν πρέπει να ζυγίζουν πάνω από 400 KG· πρέπει να είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) εάν ζυγίζουν πάνω από 275 KG.

(Ι) Το τριοξείδιο του χρωμίου θα συσκευάζεται: 2509

(α) σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, σφιχτά ασφαλισμένα σε ξύλινο κιβώτιο με αδρανές και απορροφητικό αποσβεστικό υλικό· ή

(β) σε μεταλλικά βαρέλια.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μεταφερόμενα όχι ως πλήρες φορτίο δεν πρέπει να ζυγίζουν περισσότερο από 75 KG και θα είναι εφοδιασμένα με χειρολαβή. 2509 (Συνεχίζεται)

Κόλα ικανά να κυλίουν δεν πρέπει να ζυγίζουν περισσότερο από 400 KG· πρέπει να είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) εάν ζυγίζουν περισσότερο από 275 KG.

3.- Μικτή συσκευασία

(1) Ύλες σημαδοποιημένες υπό το αυτό γράμμα 2510 μπορούν να συμπεριλαμβάνονται στο ίδιο κόλον. Οι εσωτερικές συσκευασίες θα συμφωνούν με ό,τι προβλέπεται για κάθε ύλη, και η εξωτερική συσκευασία θα είναι η ορισθείσα για τις ύλες του ανωτέρω αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται υπό του άρθρου του τιτλοφορουμένου "Συσκευασία μιάς ύλης", οι ύλες της παρούσης Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG προκειμένου περί στερεών ή τις 3 λίτρες προκειμένου περί υγρών για όλες τις ύλες τις αναγραφόμενες υπό τον αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν να εγκλείονται στο αυτό κόλον είτε με τις ύλες άλλου αριθμού είδους είτε άλλου γράμματος της αυτής Κλάσεως, ή με επικίνδυνες ύλες ανήκουσες σε άλλες Κλάσεις (εάν μικτή συσκευασία επιτρέπεται ομοίως προκειμένου περί τοιούτων υλών), ή με άλλα εμπορεύματα, υπό την επιφύλαξη των παρακάτω ειδικών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν

τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως, οι γενικές διατάξεις των περιθωρίων 2001(5) και 2002(6) και (7)) πρέπει να τηρούνται. 2510 (Συνεχίζεται)

Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 150 KG, ή περισσότερο από 75 KG εάν περιέχει εύθραυστα δοχεία.

Ειδικοί όροι:-

Αρ. Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	Ανωτάτη Ποσότητα ανά κόλον	Ειδικές Διατάξεις
1°	Υπεροξείδιο υδρογόνου και υδάτινα διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω των 60°/ο υπεροξειδίου του υδρογόνου.	Μικτή συσκευασία δεν επιτρέπεται.		
2°	Τετρανιτρομεθάνιο			
3°	Υπερχλωρικό Οξύ			
4°	Διαλύματα υλών της 4°			
4°(α)	Χλωρικά Άλατα			Δεν πρέπει να συσκευάζονται με ασθενώς εμπλουτισμένη νιτροκυτταρίνη, κόκκινο φωσφόρο, άλατα υδροφθορικού οξέος, υγρές αλογοποιημένες ερεθιστικές ουσίες, υδροχλωρικό οξύ, θειϊκό οξύ, χλωροσουλφανικά οξέα, οξικό οξύ, βενζοϊκό οξύ, σαλικυλικόν οξύ, μυρμηκικόν οξύ, νιτρικόν οξύ, ελεύθερα σουλφονικά οξέα, μικτά
	- σε εύθραυστα δοχεία	1 KG	2.75 KG	
	- σε άλλα δοχεία	5 KG	5 KG	

Αρ. Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	Ανωτάτη Ποσότητα ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			
				αζωτούχα οξέα, θείον, υδραζίνη. Πρέπει να χωρίζονται από μη-συνδεδυασμένο άνθρακα (υπό οποιαδήποτε μορφή), υποφωσφορώδη άλατα, αμμωνία και ενώσεις αυτής, τριαιθανολαμίνη, ανιλίνη, ξυλιδίνη, τολουϋδίναι ή εύφλεκτα υγρά έχοντα σημείο αναφλέξεως κάτω των 21°C.
4°(β) και 5°	Υπερχλωρικά Άλατα	5 KG	5 KG	Δεν πρέπει να συσκευάζονται μαζί με ασθενώς εμπλουτισμένη με άζωτο νιτροκυτταρίνη, κόκκινο φωσφόρο, διφθοριούχα, υγρές αλογοποιημένες ερεθιστικές ουσίες, υδροχλωρικό οξύ, θειϊκό οξύ, χλωροσουλφονικό ο-

Αρ. Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	Ανωτάτη Ποσότητα ανά κόλον	Ειδικές Διατάξεις
	(Σ ω ν έ χ ε ι α)			
				ξύ, νιτρικό οξύ, μικτά αζωτούχα οξέα, ανιλίνη, πυριδίνη, ξυλιδίνη, τολυϋδίνη, θείον, υδραζίνη
4° (γ) και (δ), 6°, 7°, 8°	Όλες οι ύλες			Δεν πρέπει να συσκευάζονται μαζί με ασθενώς εμπλουτισμένη με άζωτο νιτροκυτταρίνη ή κόκκινο φωσφόρο.
9° (α) και (β)	Υπεροξείδια - σε εύθραυστα δοχεία	500 γραμ.	2.5KG	Οι ίδιες ύλες που απαγορεύονται προκειμένου περί υπερχλωρικών αλάτων, ως και: κόνις αργυλίου, πυριτίου ή κόκκοι, οξικό οξύ· υδάτινα υγρά, εύφλεκτα υγρά των Κλάσεων 3 και 6.Ι, ύλες της Κλάσεως 4.ΙΙΙ· τα μεταλλικά υπεροξείδια δεν πρέπει να συσκευάζονται στο ίδιο κόλον
	- σε άλλα δοχεία	5 KG	5 KG	

Αρ.Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότης ανά δοχείο	ανά κόλον	Ειδικες Διατάξεις
	(Σ υ ν έ χ ε ι α)			με τα διαλύματα του υπεροξειδίου του υδρογόνου. Ο περιορισμός των 2.5 KG ισχύει για τα υπεροξείδια της 9°(α) και (β) για όλες τις ύλες αυτές. Η χρήση πριονιδίου ή άλλων οργανικών υλών γεμίσματος απαγορεύεται
9°(γ)	Υπερμαγγανικά Αλατα	5 KG	5 KG	Οι ίδιες ύλες που απαγορεύονται προκειμένου περί χλωρικών αλάτων ως και: διαλύματα υπεροξειδίου του υδρογόνου, γλυκερίνη και γλυκόλη Πρέπει να χωρίζονται από τις ίδιες ύλες ως ορίζεται στη περίπτωση των χλωρικών αλάτων.
10°	Χρωμικός ανυδρίτης (χρωμικό οξύ)	4.5KG	4.5KG	Η χρήση πριονιδίου ή άλλων οργανικών υλών πληρώσεως απαγορεύεται.

Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου επί των κόλων (βλέπε Προσθήκην Α.9) 25II

(I) Κόλα περιέχοντα ύλες της Κλάσεως 5.I θα φέρουν ετικέτα του μοντέλου No.3. Εν τούτοις, κόλα περιέχοντα ύλες της I^{o} έως 5^{o} ή της 8^{o} - IO^{o} θα φέρουν δύο ετικέτες σύμφωνα προς το μόντελο No. 3.

Κόλα περιέχοντα ύλες της 3^{o} θα φέρουν επιπροσθέτως ετικέτα σύμφωνα προς το μοντέλο No. 5.

(2) Κόλα περιέχοντα εύθραυστα δοχεία μή ορατά από έξω θα φέρουν ετικέτα σύμφωνα με το μοντέλο No.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα, επιπροσθέτως, εκτός προκειμένου περί σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνα προς το μοντέλο No. 8· οι ετικέτες αυτές θα τοποθετούνται φιλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

(3) Στη περίπτωση αποστολών μεταφερομένων ως πλήρες φορτίο, οι ετικέτες No 4 και 5, ως προβλέπεται υπό το στοιχείον (I), δεν χρειάζεται να τεθούν στα κόλα εάν το όχημα φέρει την ένδειξιν την προβλεπομένην υπό του Παραρτήματος Β, περιθώριο 0 500.

Β.- Στοιχεία του εγγράφου μεταφοράς 25I2

Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφο- 25I3
ράς πρέπει να συμφωνεί με μία των ονομασιών των υπογραμμισμένων στο περιθώριο 250I· πρέπει να υπογραμμίζεται με κόκκινο και ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 5.I 4^{o} (α), A45)

2514-
2520

Γ.- Κενά είδη συσκευασίας

(1) Είδη συσκευασίας και δεξαμενές της II° 2521
πρέπει να κλείνουν κατά τον αυτόν τρόπον και να είναι του αυτού βαθμού στεγανά ως εάν ήσαν πλήρη.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι:-"Κενό είδος συσκευασίας, 5.I, II°, ADR (ή RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

(3) Κενοί σάκκοι από ύφασμα, ακαθάριστοι οι οποίοι περιείχαν νιτρικόν νάτριον (7°(α)) υπόκεινται στις διατάξεις της Κλάσεως 4.2 (βλέπε περιθώριο 2441).

2522-
2549

ΚΛΑΣΗ 5.2 ΟΡΓΑΝΙΚΑ ΥΠΕΡΟΞΕΙΔΙΑ

I.- Κατάσταση υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2550
τον τίτλον της Κλάσεως 5.2, μόνον τα αναγραφόμενα εις περιθώριον 255I είναι δεκτά για μεταφορά, και τότε μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

Σημείωση:- Οργανικά υπεροξείδια τα οποία μπορούν να ενεργούν σε επαφή με φλόγα ή τα οποία είναι περισσότερον ευαίσθητα στη κρούση και τη τριβή από το δινιτροβενζόλιο δεν γίνονται δεκτά για μεταφορά εκτός εάν ειδικώς αναγράφονται στη Κλάση Ια (βλέπε περιθώριο 2I0I, I0° και Προσθήκην Α.Ι, περιθώριο 3II2· επίσης περιθώριο 255I, Ομάς Ε κατωτέρω).

Ομάς Α 255I

I° Υπεροξείδιο διτριτογενούς βουτυλίου (DITERTIARY BUTYL PEROXIDE).

2° Υδροϋπεροξείδιο τριτογενούς βουτυλίου (TERTIARY BUTYL HYDROPEROXIDE) με όχι λιγώτερο του 20 στα εκατόν υπεροξειδίου διτριτογενούς βουτυλίου και όχι λιγώτερο του 20 στα εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

Σημείωση:- Υδροϋπεροξείδιο τριτογενούς βουτυλίου (TERTIARY BUTYL HYDROPEROXIDE) με όχι λιγώτερο του 20 στα εκατόν υπεροξειδίου διτριτογενούς βουτυ-

λίου αλλά χωρίς αδρανοποιητική ουσία αναγράφεται 2551 υπό στοιχείον 31°. (Συνεχίζεται)

3° Υπεροξικόν τριτογενές βουτύλιο (TERTIARY BUTYL PERACETATE) με όχι λιγώτερο του 30 στα εκατόν αδρανοποιητικής ουσίας.

4° Υπερβενζοϊκό τριτογενές βουτύλιο (TERTIARY BUTYL PERBENZOATE).

5° TERTIARY BUTYL PERMALEATE με όχι λιγώτερο του 50 στα εκατόν αδρανοποιητικής ουσίας.

6° Διϋπερφθαλικόν δίτριτογενές βουτύλιο (DITERTIARY BUTYL DIPERPHTALATE) με όχι λιγώτερο του 50 στα εκατόν αδρανοποιητικής ουσίας.

7° 2,2-BIS (TERTIARY BUTYL PEROXY) BUTANE με όχι λιγώτερο του 50 στα εκατόν αδρανοποιητικής ουσίας.

8° Υπεροξείδιο Βενζοΰλιου:-

(α) με όχι λιγώτερο του 10 στα εκατόν ύδωρ·

(β) με όχι λιγώτερο του 30 στα εκατόν αδρανοοιητικής ουσίας.

Σημειώσεις:- 1.- Το υπεροξείδιο του βενζοϋλίου σε ξηράν κατάστασιν ή με λιγώτερο του 10 στα εκατόν ύδωρ ή λιγώτερο του 30 στα εκατόν αδρανοποιητικής ουσίας είναι ύλη της Κλάσεως Ια (βλέπε περιθώριο 2101 10°(α).

2.- Υπεροξείδιο του βενζοϋλίου περιέχον όχι λιγώτερο του 70 στα εκατόν ξηρά και αδρανή σρερεά δεν υπόκειται στις διατάξεις της ADR.

9° Υπεροξείδια κυκλοεξανόλης (1-HYDROXY-1'-HYDROPEROXY-

DICYCLOHEXYL PEROXIDE AND BIS (I-HYDROXYCYCLOHEXYL) υπεροξείδιο και μίγματα των δύο αυτών ενώσεων)):-

(α) με όχι λιγώτερο του 56τοκ εκατόν ύδωρ·

(β) με όχι λιγώτερο του 30 6τοκ εκατόν αδρανοποιητικής ουσίας.

Σημειώσεις:- I.- Υπεροξείδια κυκλοεξανόλης και τα μίγματά τους σε ξηρά κατάσταση ή με λιγώτερο του 56τοκ εκατόν ύδωρ ή λιγώτερο του 30 6τοκ εκατόν αδρανοποιητικής ουσίας είναι ύλες της Κλάσεως Ια (βλέπε περιθώριο 2IOI, IO° (β)).

2.- Υπεροξείδια κυκλοεξανόλης και τα μίγματά τους περιέχοντα όχι λιγώτερο του 70 6τοκ εκατόν ξηρά και αδρανή σφαιρά δεν υπόκεινται στις διατάξεις της ADR.

IO° α, α - DIMETHYLBENZYL HYDROPEROXIDE (υδροϋπεροξείδιο διμεθυλοβενζυλίου) (CUMYL HYDROPEROXIDE) με περιεχόμενο σε υπεροξείδιο μη υπερβαίνον το 95 6τοκ εκατόν.

II° Υπεροξείδιο DILAUROYL.

I2° I,2,3,4-TETRANYDRO-I-NAPHTYL HYDROPEROXIDE.

I3° 2,4-DICHLOROBENZOYL PEROXIDE (υπεροξείδιο διχλωροβενζοϋλίου)

(α) με όχι λιγώτερο του IO 6τοκ εκατόν ύδωρ·

(β) με όχι λιγώτερο του 30 6τοκ εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

I4° P-MENTHANYL HYDROPEROXIDE με περιεχόμενον εις υπεροξείδιο μη υπερβαίνον το 95 6τοκ εκατόν (υπόλοιπον: αλκοόλαι και κετόναι).

I5° 2,6,6-TRIMETHYL NORPINANYLE HYDROPEROXIDE (PINANYL HYDROPEROXIDE· PINANE HYDROPEROXIDE) με περιεχόμενο εις υπεροξείδιο μη υπερβαίνον το 95 6τοις εκατόν (υπόλοιπον: αλκόλαι και κετόναι). (Συνεχίζεται)

I6° DI-(α, α -DIMETHYLBENZYL) PEROXIDE με περιεχόμενον εις υπεροξείδιο μη υπερβαίνον το 95 6τοις εκατόν.

Σημείωσις:- DI-(α, OC-DIMETHYLBENZYL)

Το υπεροξείδιο του DICUMYL περιέχον 60 6τοις εκατόν ή και περισσότερον στερεάναι αδρανή στερεά δεν υπόκειται στις διατάξεις της ADR.

I7° PARACHLOROBENZOYL PEROXIDE Υπεροξείδιο (Παραχλωροβενζοϋλίου(:-

(α) με όχι λιγώτερο του 10 6τοις εκατόν ύδωρ·

(β) με όχι λιγώτερο του 30 6τοις εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

Σημείωσις:- 1.- Το υπεροξείδιο παραχλωροβενζοϋλίου σε ξηρά κατάσταση ή με λιγώτερο του 10 6τοις εκατόν ύδωρ ή λιγώτερο του 30 6τοις εκατόν αδρανοποιητικής ουσίας είναι ύλη της Κλάσεως Ια (βλέπε περιθώριο 2101, 10° (γ)).

2.- Το υπεροξείδιο παραχλωροβενζοϋλίου περιέχον 70 τοις εκατόν ή περισσότερον ξηρά και αδρανή στερεά δεν υπόκειται στις διατάξεις της ADR.

I8° DI-ISOPROPYLBENZENE HYDROPEROXIDE (ISOPROPYLCUMYL HYDROPEROXIDE) με 45 τοις εκατόν μίγμα αλκοόλης και ακετόνης.

I9° 4-METHYLPENTAN-2-ONE PEROXIDE (ISOBUTYLMETHYLKETONE PEROXIDE) με όχι λιγώτερο του 40 6τοις εκατόν αδρανοποιητικής ουσίας.

TERTIARY BUTYL (α, α- I-DIMETHYLBENZYL) PEROXIDE 255I
με όχι περισσότερο από 95 τοις εκατόν υπεροξείδιο. (Συνεχίζεται

21° Υπεροξείδιο DIACETYL (Διακετυλίου) με όχι λιγώτερο του 75 τοις εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

22° Υπεροξείδιο ακετυλο-βενζοϋλίου (ACETYL BENZOYL PEROXIDE) με όχι λιγώτερο του 60 τοις εκατόν αδρανοποιητικής ουσίας.

Σημείωσις:- Περί I° έως 22°. Ύλες που είναι αδρανείς σε οργανικά υπεροξείδια και έχουν σημείον αναφλέξεως όχι χαμηλώτερο των I00°C και σημείον βρασμού όχι χαμηλώτερο των I50°C θεωρούνται ότι είναι αδρανοποιητικές ύλες. Οι ύλες της Ομάδος Α μπορούν επίσης να αραιωθούν με διαλύτας που είναι αδρανείς στις ύλες αυτές.

Ομάς Β

30° Υπεροξείδιο Βουτανονίου (αιθυλο-μεθυλο-κετον-υπεροξείδιο) (BUTANONE PEROXIDE (ETHYL METHYL KETONE PEROXIDE)

(α) με όχι λιγώτερο του 50 τοις εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

(β) σε διαλύματα περιέχοντα όχι άνω του I2 τοις εκατόν του υπεροξειδίου αυτού σε διαλύτες που είναι αδρανείς εις τούτο.

3I° Υδρουπεροξείδιο Τριτογενούς Βουτυλίου (TERTIARY BUTYL HYDROPEROXIDE):-

(α) με όχι λιγώτερο του 20 τοις εκατόν υπεροξειδίου

τριτογενούς βουτυλίου, χωρίς αδρανοποιητική ουσία 255Ι (Συνεχίζεται
(PHLEGMATIZER)·

(β) σε διαλύματα περιέχοντα όχι περισσότερο του Ι2 τοις εκατόν του υπεροξειδίου αυτού σε διαλύτες που είναι αδρανείς εις ποσότο.

Σημείωσις:- Περί 30° και 3Ι°. Ύλες που είναι αδρανείς σε οργανικά υπεροξείδια και έχουν σημείον αναφλέξεως όχι χαμηλώτερο των Ι00°C και σημείον βρασμού όχι χαμηλώτερο των Ι50°C θεωρούνται ως αδρανοποιητικές ύλες.

Ομάς Γ

35° Υπεροξικό οξύ περιέχον όχι περισσότερο του 40 τοις εκατόν υπεροξικό όξύ και όχι λιγώτερο του 45 τοις εκατόν οξικό οξύ και όχι λιγώτερο του Ι0 τοις εκατόν ύδωρ.

Σημείωσις:- Περί Ομάδων Α, Β και Γ. Μίγματα προϊόντων αναφερομένων στις Ομάδες Α, Β και Γ γίνονται δεκτά για μεταφορά υπό την επιφύλαξη των όρων της Ομάδος Γ εάν περιέχουν υπεροξικό οξύ, και σε άλλες περιπτώσεις υπό την επιφύλαξη των όρων της Ομάδος Β.

Ομάς Δ

40° Δείγματα αδρανοποιηθέντων οργανικών υπεροξειδίων μη αναγραφομένων στις Ομάδες Α, Β ή Γ, ή στα διαλύματα αυτών, γίνονται δεκτά σε ποσότητες μη υπερβαίνουσες το Ι KG ανά κόλον υπό τον όρον ότι η σταθερότητά τους εν αποθηκεύσει είναι τουλάχιστον ίση προς εκείνην των υλών των αναγραφομένων στις Ομάδες Α και Β.

Ομάς Ε

Σημείωσις:- Η Ομάς Ε περιλαμβάνει οργανικά υπεροξείδια

τα οποία αποσυντίθεται ευχερώς σε συνήθη θερμοκρασία και επομένως πρέπει να μεταφέρονται μόνον υπό συνθήκας καταλλήλου ψύξεως. Μολονότι εκρηκτικής φύσεως ως ορίζονται υπό της Σημειώσεως της Κλάσεως 5.2, ολίγα οργανικά υπεροξείδια συμπεριλαμβάνονται στην Ομάδα Ε διότι μπορούν να μεταφερθούν ασφαλώς σε κατεψυγμένη κατάσταση και δια να αποφεύγεται οποιαδήποτε σύγχυσις αναφορικά με τον χειρισμό τους. 2551 (Συνεχίζεται)

45° Υπεροξείδιο DIOCTANOYL (υπεροξείδιο DICAPRYLYL) τεχνικής καθαρότητος.

46° Υπεροξείδιο ACETYL CYCLOHEXANE SULPHONYL:-

(α) περιέχον όχι λιγώτερο του 30% κατ' όγκον εκατόν ύδωρ·

(β) σε διάλυμα όχι λιγώτερο του 80% κατ' όγκον εκατόν διαλύτου·

(γ) σε διάλυμα όχι λιγώτερο του 70% κατ' όγκον εκατόν αδρανοποιητικής ουσίας (PHLEGMATIZER).

47° Υπεροξυδιανθρακικό Διισοπροπύλιο (DIISOPROPYL PEROXYDICARBONATE):

(α) τεχνικής καθαρότητος·

(β) σε διάλυμα με όχι λιγώτερο του 50% κατ' όγκον εκατόν αδρανοποιητικήν ουσίαν ή διαλύτην.

48° Υπεροξείδιο Διπροπιονυλίου (DIPROPIONYL PEROXIDE) σε διάλυμα με όχι λιγώτερο του 75% κατ' όγκον εκατόν διαλύτην.

49° TERTIARY BUTYL PERPIVALATE:-

(α) τεχνικής καθαρότητος·

(β) σε διάλυμα με όχι λιγώτερο του 25% κατ' όγκον εκατόν αδρανοποιητικήν ουσίαν ή διαλύτην.

50° Υπεροξείδιο BIS-(3,5,5-TRIMETHYLHEXANOYL) σε διάλυμα με όχι λιγώτερο του 20 τοις εκατόν αδρανοποιητικήν ουσίαν (PHLEGMATIZER). 255Ι (Συνεχίζεται)

51° Υπεροξείδιο Διπελαργονυλίου (DIPELARGONYL PEROXIDE), τεχνικής καθαρότητος.

52° TERTIARY BUTYL PER-2-ETHYLHEXANOATE τεχνικής καθαρότητος.

53° DI-2-ETHYLHEXYL-PEROXYDICARBONATE σε διάλυμα με όχι λιγώτερο του 55 τοις εκατόν αδρανοποιητικήν ουσίαν (PHLEGMATIZER) ή διαλύτην.

54° Υπεροξείδιο DIDECANOYL τεχνικής καθαρότητος.

55° TERTIARY BUTYL PERISOBUTYRATE σε διάλυμα με όχι λιγώτερο του 25 τοις εκατόν διαλύτην.

Σημειώσεις:- Ι.- Ύλες που είναι αδρανείς σε οργανικά υπεροξείδια και έχουν σημείον-αναφλέξεως όχι χαμηλώτερον των 100°C και σημείον βρασμού όχι χαμηλώτερον των 150°C θεωρούνται ως αδρανοποιητικές ύλες (PHLEGMATIZING SUBSTANCES).

2.- Ο αναφερθέντες διαλύτες είναι ύλες οι οποίες είναι αδρανείς σε οργανικά υπεροξείδια και οι οποίες επίσης πληρούν ένα των παρακάτω όρων:-

(α) δεν είναι εύφλεκτοι και έχουν σημείον βρασμού όχι χαμηλώτερο των 85°C· ή

(β) δεν είναι εύφλεκτοι και έχουν σημείον βρασμού κάτω των 85°C αλλά όχι κάτω των 60°C, οπότε πρέπει να χρησιμοποιούνται υποδοχείς (δοχεία) ερμητικώς κλεισμένα· ή

(γ) έχουν σημείον-αναφλέξεως όχι κάτω των 21°C και

σημείον βρασμού όχι κάτω των 85°C· ή 2551
(δ) έχουν σημείον-αναφλέξεως κάτω των 21°C αλλά ((Συνεχίζεται))
όχι κάτω των 5°C και σημείο βρασμού όχι κάτω
των 60°C, οπότε πρέπει να χρησιμοποιούνται
ερμητικώς κλεισμένοι υποδοχείς (δοχεία).

Ομάδα ΣΤ

99° Κενά είδη συσκευασίας, καθαρίστα, και κενές δεξαμενές, καθαρίστες, που περιείχαν ύλες της Κλάσεως 5.2.

2.ο Διατάξεις

Α.- Κόλα

Ι.- Γενικοί όροι συσκευασίας

(1) Τα υλικά από τα οποία τα είδη συσκευασίας 2552
και τα κλεισίματά των κατασκευάζονται δεν πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ή να σχηματίζουν με αυτό επιβλαβείς ή επικινδύνους ενώσεις.

(2) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη τους ώστε να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους συνήθεις όρους μεταφοράς. Οι εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται σε εξωτερικές συσκευασίες, είτε μία-μία είτε ομαδικά.

(3) Το αποσβεστικό υλικό δεν πρέπει να είναι ευχερώς εύφλεκτο· επιπροσθέτως θα ταιριάζει στη φύση

του περιεχομένου και δεν πρέπει να προκαλεί την απο- 2552
σύνθεση των υπεροξειδίων. (Συνεχίζε-
ται)

2.- Συσκευασία μιάς ύλης

α.- Συσκευασία υλών της Ομάδος Α

Τα δοχεία θα είναι έτσι κλεισμένα και στεγα- 2553
νά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιε-
χομένου.

(1) Ύλες των 1° έως 7°, 8°(β), 9°(β), 10° 2554
έως 12°, 13°(β), 14° έως 16°, 17°(β) και 18° έως 22°
και τα διαλύματά τους πρέπει να συσκευάζονται:-

(α) σε κασσιτερωμένα δι' εμβαπτίσεως εν θερμώ δοχεία ή
σε δοχεία κατασκευασμένα από αργύλιο (αλουμίνιο)
όχι λιγώτερο του 99.56τοκ εκατόν καθαρό· ή

(β) σε δοχεία, κατασκευασμένα από καταλληλη πλαστική
ύλη, τα οποία θα τοποθετούνται σε προστατευτικές
συσκευασίες· ή

(γ) όχι άνω των 2 λιτρών ανά φιάλην, σε σφιχτά-κλειστές
γυάλινες φιάλες που θα ασφαλίζονται με αποσβεστικό
υλικό σε προστατευτική συσκευασία εις τρόπον ώστε
να προστατεύονται από το σπάσιμο.

(2) Ύλες των 1° έως 3°, 5° έως 7°, 8°(β),
9°(β), 10° έως 12°, 13°(β), 16°, 18° και 20° μπορούν
επίσης να συσκευάζονται σε γαλβανισμένα (HOT-TIPPED
GALVANIZED) δοχεία.

(3) Οι ύλες των 8°(α), 9°(α), 13°(α) και 17°(α)
θα περιέχονται, όχι περισσότερες των 5 KG ανά είδος συ-
σκευασίας, σε υδατοστεγανά είδη συσκε-υασίας τοποθετού-

μενα σε ξύλινο κιβώτιο. 2554

(4) Γλοιώδη (σαν ζυμάρι) και στερεά υπεροξείδια μπορούν επίσης να συσκευάζονται σε σάκκους, κατασκευασμένους από κατάλληλη πλαστική ύλη, τοποθετουμένους σε κατάλληλα προστατευτικά είδη συσκευασίας. Το πάχος του υλικού συσκευασίας θα είναι επαρκές ώστε να εμποδίζεται οποιαδήποτε απώλεια του περιεχομένου από τους σάκκους κατά την συνήθη μεταφορά. Τα στερεά υπεροξείδια μπορούν να συσκευάζονται, όχι περισσότερο του I KG ανά δοχείον, σε δοχεία από ινοσανίδα επιχρισμένην με κηρόν παραφίνης τοποθετούμενα σε ξύλινο κιβώτιο· εν τούτοις, προκειμένου περί υπεροξειδίων κυκλοεξανόνης της 9°(α) το περιεχόμενο του δοχείου θα περιορίζεται στα 500 γραμμ. (Συνεχίζεται)

(5) Οι ύλες της IO° και I4° έως I8° μπορούν επίσης να συσκευάζονται σε δοχεία κατασκευασμένα από φύλλο-μετάλλου.

(6) Με εξαίρεση σάκκους κατασκευασμένους από πλαστική ύλη, τα δοχεία τα περιέχοντα υγρά ή γλοιώδη (σαν ζυμάρι) οργανικά υπεροξείδια δεν πρέπει να πληρούνται πέραν του 93 τοις εκατόν της χωρητικότητός των.

(7) Το κόλον δεν πρέπει να ζυγίζει περισσότερο των 50 KG. Κόλα ζυγίζοντα πάνω από I5 KG θα είναι εφοδιασμένα με χειρολαβήν.

β.- <u>Συσκευασία υλών της Ομάδος Β</u> 2555

(I) Δοχεία γεμισμένα με ύλες της 30°(α) και 3I°(α) θα είναι εφοδιασμένα με μηχανισμόν εξαερισμού επι-

τρέποντα αντιστάθμισιν μεταξύ της εσωτερικής πιέσεως και της ατμοσφαιρικής πιέσεως και σε κάθε περίπτωση - ακόμη και στη περίπτωση εκτονώσεως του υγρού δια θερμάνσεως- εμποδίζοντα το υγρό να εκτιναχθεί καθώς και ακαθαρσίες να εισέλθουν στο δοχείο. Για ύλες της 30°(β) και 31°(β), μόνον δοχεία έτσι κλεισμένα και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου θα γίνονται δεκτά. 2554 (Συνεχίζεται)

(2) Τα κόλα θα είναι εφοδιασμένα με βάσιν η οποία να τα κρατά όρθια χωρίς τον κίνδυνον να πέσουν.

(Ι) Οι ύλες των 30°(α) και 31°(α) θα συσκευάζονται:- 2556

(α) σε εμβαπτισμένα εν θερμώ κασσιτερωμένα ή εμβαπτισμένα εν θερμώ γαλβανισμένα δοχεία ή σε δοχεία κατασκευασμένα από αργύλιο (αλουμίνιο) όχι λιγώτερο του 99·5 τοις εκατόν καθαρό· ή

(β) σε δοχεία, κατασκευασμένα από κατάλληλο πλαστική ύλη, τοποθετούμενα σε προστατευτικές συσκευασίες. Η αντοχή των δοχείων αυτών θα είναι επαρκής ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου κατά την συνήθη μεταφοράν· ή

(γ) όχι άνω των 2 λιτρών ανά φιάλην, σε γυάλινες φιάλες, που θα ασφαλίζονται με αποσβεστικό υλικό σε προστατευτικές συσκευασίες ώστε να προστατεύονται από το σπάσιμο.

(2) Δοχεία περιέχοντα υγρά ή γλοιώδη (σαν ζυμάρι) οργανικά υπεροξείδια δεν πρέπει να γεμίζονται πέραν του 90 τοις εκατόν της χωρητικότητός των

(3) Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 40 KG. Κόλα ζυγίζοντα περισσότερο από 15 KG θα είναι εφοδιασμένα με χειρολαβήν. 2556 (Συνεχίζεται)

(4) Οι ύλες της 30°(β) και 31°(β) μπορούν να αποστέλονται μόνον σε ποσότητες μη υπερβαίνουσες τα 5 KG σε δοχεία ως ορίζεται εις (I) αλλά χωρίς να είναι εφοδιασμένα με μηχανισμόν εξαερισμού (σε γυάλινες φιάλες, μόνον σε ποσότητες μη υπερβαίνουσες το 1.5 λιτρο). Τα δοχεία δεν πρέπει να πληρούνται πέραν του 75τοκ εκατόν της χωρητικότητός των.

γ.- Συσκευασία υλών της Ομάδος Γ

(I) Οι ύλες της 35° και μίγματα περιέχοντα υπεροξικό δξύ θα συσκευάζονται, όχι περισσότερο από 25 KG ανά δοχείο, σε γυάλινα δοχεία με χονδρό τοίχωμα, ή σε δοχεία κατασκευασμένα από κατάλληλο πλαστική ύλη, εφοδιασμένα με ειδικό κλείσιμο κατασκευασμένο από κατάλληλη πλαστική ύλη, ικανό να σφραγισθεί (στεγανοποιηθεί), σε επικοινωνία με την ατμοσφαίρα δι'ανοίγματος κειμένου άνωθι της στάθμης του υγρού, και σε κάθε περίπτωση -ακόμη και στη περίπτωση εκτονώσεως του υγρού δια θερμάνσεως- εμποδίζοντα το υγρό να εκτιναχθεί και ακαθαρσίες να εισέλθουν στο δοχείο. 2557

(2) Τα γυάλινα δοχεία θα ασφαλίζονται σταθερά, με κόνιν (άλευρο) καθαράς μίκας ή υαλο-έριο χρησιμοποιούμενα ως αποσβεστικό υλικό, σε προστατευτικά είδη συσκευασίας κατασκευασμένα από φύλλο-χάλυβος ή αργύλιο, ικανά να κλείνουν, και εφοδιασμένα με χειρολαβήν και

με βάση διατηρούσα αυτά όρθια χωρίς τον κίνδυνον να πέσουν· τα δοχεία θα ασφαλίζονται ακόμη και εάν τα τοιχώματα των προστατευτικών συσκευασιών δεν είναι πλήρη. Δοχεία κατασκευασμένα από κατάλληλο πλαστική ύλη πρέπει να τοποθετούνται σε κλειστής-εφαρμογής προστατευτικά είδη συσκευασίας κατασκευασμένα από φύλλο-χάλυβος και ικανά να κλείνουν. 2557 (Συνεχίζεται)

δ.- Συσκευασία υλών της Ομάδος Δ

Οι ύλες της Ομάδος Δ θα συσκευάζονται, σε ποσότητες μη υπερβαίνουσες το I KG ανά κόλον, σε κασσιτερωμένα δι'εμβαπτίσεως εν θερμώ δοχεία, ή σε δοχεία κατασκευασμένα από αργύλιο (αλουμίνιο) όχι λιγότερο του 99.5 τοις εκατόν καθαρό, ή σε φιάλες κατασκευασμένες από κατάλληλο πλαστική ύλη καλουπιασμένες δι'εγχύσεως ή φυσημένες και έχουσαι κατάλληλον πάχος τοιχώματος, ή σε γυάλινες φιάλες τοποθετημένες σε προστατευτικά είδη συσκευασίας κατασκευασμένα από φύλλο-χάλυβος, αλουμίνιο ή ξύλο. Οι γυάλινες φιάλες θα ασφαλίζονται σταθερά στα προστατευτικά είδη συσκευασίας με κόνιν (άλευρον) καθαράς μίκας ή υαλο-έριο χρησιμοποιούμενα ως απορροφητικό υλικό. Στερεές ενώσεις μπορούν επίσης να συσκευάζονται σε σάκκους, κατασκευασμένους από κατάλληλο πλαστική ύλη επαρκούς πάχους, τοποθετούμενοι ομοίως σε προστατευτικά είδη συσκευασίας κατασκευασμένα από φύλλο-χάλυβος, αλουμίνιο ή ξύλο. Εάν τα υπεροξείδια βγάζουν αέρια σε θερμοκρασία κάτω των 40°C, τα δοχεία πρέπει να πληρούν τους όρους του περιθωρίου 2555. 2558

ε.- Συσκευασία υλών της Ομάδας Ε

(1) Κόλλα περιέχοντα ύλες της Ομάδας Ε θα εί- 2559
ναι εφοδιασμένα με μηχανισμόν εξαερισμού επιτρέποντα την αντιστάθμισιν μεταξύ της εσωτερικής πιέσεως και της ατμοσφαιρικής πιέσεως και σε κάθε περίπτωση -ακόμη και στη περίπτωση εκτονώσεως του υγρού δια θερμάνσεως- εμποδίζοντα το υγρό να εκτιναχθεί και ακαθαρσίες να εισέλθουν στο δοχείο.

(2) Δοχεία περιέχοντα υγρά οργανικά υπεροξείδια δεν πρέπει να πληρούνται πέραν του 95 τοις εκατόν της χωρητικότητός των.

(1) Ύλες της 45°, 51° και 54° θα συσκευάζον- 2560
ται, όχι περισσότερο από 50 KG ανά δοχείον ή σάκκον, σε δοχεία ή σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη, τα οποία ή οι οποίοι θα τοποθετούνται σε κατάλληλα προστατευτικά είδη συσκευασίας σε ποσότητες μη υπερβαίνουσες τα 50 KG ανά είδος συσκευασίας.

(2) Ύλες της 46°(α) θα συσκευάζονται, όχι περισσότερο από 5 KG ανά σάκκον, σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται, όχι άνω των 20 KG ανά είδος συσκευασίας και είτε ένας-ένας είτε ομαδικά, σε κατάλληλα προστατευτικά είδη συσκευασίας.

(3) Ύλες της 47°(α) θα συσκευάζονται:-

(α) όχι περισσότερον του 1 KG ανά δοχείον, σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη·

(β) όχι περισσότερον των 3 KG ανά μπώλ, σε μπώλ κατασκευασμένα από αργύλιον (αλουμίνιον) όχι λιγώτερο των 99.5 τοις εκατόν καθαρόν, με πλαστικά πώματα.

Το προστατευτικό είδος συσκευασίας δεν πρέπει να περιέχει περισσότερα των 10 KG της ύλης. 2560 (Συνεχίζεται)

(4) Οι ύλες των 46°(β) και (γ), 47°(β), 48°, 49°(β), 50°, 52°, 53° και 55° θα συσκευάζονται, όχι άνω των 25 KG ανά δοχείο, σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη, τα οποία θα τοποθετούνται, όχι άνω των 50 KG ανά συσκευασίαν (αλλά όχι άνω των 25 KG ανά συσκευασίαν προκειμένου περί υλών της 52°), σε προστατευτικές συσκευασίες.

(5) Οι ύλες της 49°(α) θα συσκευάζονται, όχι άνω των 10 KG ανά δοχείο, σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη, τα οποία θα τοποθετούνται, όχι άνω των 40 KG ανά συσκευασίαν, σε προστατευτικές συσκευασίες.

(6) Κόλλα ζυγίζοντα άνω των 35 KG, τα οποία περιέχουν ύλες της Ομάδας Ε, θα είναι εφοδιασμένα με χειρολαβήν.

στ.- Συσκευασία υλών σε μικρές ποσότητες

Ύλες των 1° έως 22°, 30° και 31°, αποστελλόμενες σε μικρές ποσότητες, μπορούν επίσης να συσκευάζονται ως κάτωθι:-

(α) υγρά

όχι άνω του 1 KG ανά κόλον, σε φιάλες, κατασκευασμένες από αργύλιον (αλουμίνιον), κατάλληλη πλαστική ύλη, ή ύαλο, με αναστολείς, κατασκευασμένους από κατάλληλη πλαστική ύλη, ή με κλεισίματα μοχλού ή κοχλιωτά κλεισίματα, έχοντα, και στη μία και στην

άλλη περίπτωση, ελαστικό παρέμβασμα. Οι φιάλες θα ασφαλίζονται με άλευρον καθαράς μίκας ή υαλοβάμβακος χρησιμοποιούμενα ως αποσβεστικό υλικό σε κυτία ινοσανίδος ή ξύλινα. Το υλικό πληρώσεως πρέπει να είναι επαρκές σε ποσότητα για να απορροφήσει ολόκληρο το υγρό. Οι φιάλες δεν πρέπει να γεμίζονται πέραν του 75 τοις εκατόν της χωρητικότητάς των. 2561 (Συνεχίζεται)

(β) σε κατάσταση ζύμης ή κονιοποιημένες ύλες

όχι άνω του I KG ανά κόλον, σε κυτία από αλουμίνιο ή από ινοσανίδα ή ξύλινα (των δύο τελευταίων επενδεδυμένων με αλουμίνιον ή με κατάλληλη πλαστική ύλη) με γερό κλείσιμον. Ελεύθερος χώρος εκ IO τοις εκατόν θα αφήνεται στα είδη συσκευασίας.

3.- Μικτή συσκευασία

Ύλες της Κλάσεως 5.2 μπορούν να εγκλείονται στο αυτό κόλον είτε με άλλες ύλες ή είδη της ADR είτε με άλλα εμπορεύματα. Ύλες της Ομάδας Γ δεν πρέπει να συμπεριλαμβάνονται στο αυτό κόλον με ύλες των Ομάδων Α, Β ή Ε. 2562

4.- Ενδείξεις (Μαρκάρισμα) και ετικέτες κινδύνου επί των κόλων (βλέπε Προσθήκην Α.9) 2563

(I) Κάθε κόλον περιέχον ύλες της Κλάσεως 5.2 θα φέρει ετικέτα σύμφωνα προς το μοντέλο No. 3.

Κόλα περιέχοντα ύλες των 46^{o}(α), 47^{o}(α) και 49^{o}(α) θα φέρουν επίσης ετικέτα σύμφωνα προς το μοντέλο No. I.

(2) Κόλα περιέχοντα εύθραυστα δοχεία αδρατα 2563
από έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο (Συνεχίζεται)
No. 9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα επιπροσθέτως, με εξαίρεση τος σφραγισμένες αμπούλες, θα φέρουνετικέτες σύμφωνες προς το μοντέλο No. 8· κόλα περιέχοντα ύλες των 30°, 31°, 35°, 40° και 45° έως 55° θα φέρουν επίσης ετικέτες σύμφωνες με το μοντέλο No. 8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

2564

Β.- Στοιχεία του εγγράφου μεταφοράς

Η περιγραφή των εμπορευμάτων στο έγγραφο μετα-2565
φοράς πρέπει να συμφωνεί προς μίαν των ονομασιών των υπογραμμισμένων στο περιθώριο 2551· πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 5.2, 8°(α), ADR).

2566-
2569

Γ.- Κενά είδη συσκευασίας

(1) Δοχεία και δεξαμενές της 99° πρέπει να κλεί-2570
νουν κατά τον αυτόν τρόπον και να είναι του αυτού βαθμού στεγανά ως εάν ήσαν πλήρη.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι: "Κενόν δοχείον, 5.2, 99° ADR (ή (RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

2571-
2599

ΚΛΑΣΗ 6.Ι ΤΟΞΙΚΕΣ ΥΛΕΣ

Ι.- Κατάλογος υλών

(Ι) Μεταξύ των υλών και ειδών των καλυπτομένων υπό τον τίτλον της Κλάσεως 6.Ι, οι αναγραφόμενες στο περιθώριο 2601 ή οι καλυπτόμενες υπό του συλλογικού τίτλου του ανωτέρω περιθωρίου υπόκεινται στις διατάξεις του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες και τα είδη αυτά που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θεωρούνται ως ύλες και είδη της ADR. 2600

(2) Ύλες της Κλάσεως 6.Ι που πολυμεροποιούνται ευκόλως δεν γίνονται δεκτές για μεταφορά εκτός εάν παρθούν αι απαραίτητοι προφυλάξεις ώστε να αποφεύγεται ο πολυμερισμός των διαρκούσης της μεταφοράς.

(3) Το παρακάτω αναφερόμενον σημείον-αναφλέξεως θα καθορίζεται κατά τον περιγραφόμενον στη Προσθήκη Α.3 τρόπον.

Α.- Τοξικές ύλες με σημείον-αναφλέξεως κάτω των 21°C και σημείον-βρασμού κάτω των 200°C 2601

Ι° Υδροκυανικό οξύ και εύφλεκτες πτητικές ύλες που έχουν όμοιο τοξικό αποτέλεσμα, όπως:-

(α) υδροκυανικό οξύ περιέχον όχι περισσότερο του 3 τοις εκατόν ύδωρ (απορροφούμενο από αδρανή πορώδη ύλη ή σε υγρή κατάσταση), υπό τον όρον ότι το γέμισμα των δοχείων εγένετο προ χρονικού διαστήματος μικροτέρου του ενός έτους·

Σημείωσις:- Υδροκυανικόν οξύ μή πληρούν τους όρους αυτούς δεν γίνεται δεκτό για μεταφορά.

(β) υδάτινα διαλύματα υδροκυανικού οξέος περιέχοντα 260Ι όχι περισσότερο του 20 τοις εκατόν υδροκυανικό οξύ (HCN). (Συνεχίζεται)

Σημείωσις:- Διαλύματα υδροκυανικού οξέος περιέχοντα άνω του 20 τοις εκατόν υδροκυανικού οξέος (HCN) δεν γίνονται δεκτά για μεταφορά.

2° Νιτρίλια (οργανικά κυανιούχα άλατα) (κυανίδια), όπως

(α) ακρυλονιτρίλιο

(β) ακετονιτρίλιο (μεθυλικό κυανίδιο)

(γ) ισοβουτυρονιτρίλιο (ισοβουτυρικόν νιτρίλιο)

3° Άλλες νιτρογενείς οργανικές ύλες με τοξικότητα όχι μικροτέραν εκείνης της αιθυλενεϊμίνης περιεχούσης όχι άνω των 0.003 τοις εκατόν ολικού χλωρίου και των υδατίνων αυτού διαλυμάτων.

Σημείωσις:- ETHYLENEIMINE (Αιθυλενεϊμίνη) οποιασδήποτε άλλης φύσεως δεν γίνεται δεκτή για μεταφορά.

4° Αλογονούχοι οργανικαί ύλαι, όπως:

(α) αλλυλικό χλωρίδιο

(β) χλωροφορμικό μεθύλιο

(γ) χλωροφορμικό αιθύλιο

5° Μεταλλικά ανθρακύλια, όπως:-

(α) νικελιούχο ανθρακύλιο (NICKEL TETRACARBONYL)

(β) σιδηρούχο ανθρακύλιο (IRON PENTACARBONYL)

Β.- Τοξικές ύλες με σημείο-αναφλέξεως 21° C και άνω, και μη-εύφλεκτοι τοξικές ύλες, έχουσαι αμφότεραι σημείο βρασμού κάτω των 200° C

ΤΙ° Αζωτούχοι οργανικές ύλες, όπως:-

(α) 2-CYANOPROPAN-2-OI (ακετονική κυανιδρίνη)

(β) ανιλίνη

Ι2° Αλογονούχοι οργανικές ύλες, όπως:-

(α) I-CHLORO-2,3-EXPOXYPROPANE (επιχλωροϊδρίνη)

(β) γλυκολική χλωροϊδρίνη (2-CHLOROETHANOL)

(γ) τετραχλωριούχο ακετυλένιο (I,I,2,2-TETRACHLORO-ETHANE)

(δ) χλωροπικρίνη

Σημείωσις:- Μίγματα χλωροπικρίνης με χλωριούχο μεθύλιο ή βρωμιούχο μεθύλιο είναι ύλες της Κλάσεως 2 εάν η πίεση ατμού του μίγματος στους 50°C υπερβαίνει τα 3 KG/CM^2 (βλέπε περιθώριο 2201 8°(α)).

(ε) χλωριούχο TRICHLOROMETHANESULPHENYL (τριχλωρομεθανιοθειοφαινόλιον ;)

(στ) 2,2-DICHLORODIETHYL ETHER, (χλωροαιθυλαιθέρας, 2-χλωροαιθυλαιθέρας)

Ι3° Οξυγονούχοι οργανικές ύλες, όπως:-

(α) πνεύμα αλλυλίου (αλλυλική αλκοόλη)

(β) θειϊκόν διμεθύλιον (DIMETHYL SULPHATE)

(γ) φαινόλη

Ι4° Αλκύλια μολύβδου, όπως τετρααιθυλικός μόλυβδος, τετραμεθυλικός μόλυβδος και μίγματα αλκυλίων μολύβδου με αλογονούχες οργανικές ενώσεις, π.χ. αιθυλικόν ρευστόν.

Γ.- Τοξικές οργανικές ύλες με σημείο βρασμού 200°C και άνω

2Ι° Αζωτούχοι οργανικές ύλες, όπως:-

(α) 2-βρωμοφαινολακετονιτρίλιο (βρωμοβενζοϋλικόν κυανίδιον)

(β) χλωριούχο φαινολανθρακυλαμίνιο (PHENYLCARBYLAMINE CHLORIDE) (Συνεχίζεται)

(γ) 2,4-DIISOCYANATOTOLUENE (διϊσοκυανατοτολουόλη)

(δ) ισοθειακυανικό αλλύλιο (ALLYL ISOTHIOCYANATE)

(ε) χλωροανιλίνες

(στ) μονονιτροανιλίνες και δινιτροανιλίνες

(ζ) ναφθυλαμίνες

(η) 2,4-διαμινοτολουόλη

(θ) δινιτροβενζόλια

(ι) χλωρονιτροβενζόλια

(κ) μονονιτροτολουόλαι

(λ) δινιτροτολουόλαι

(μ) νιτροξυλένια

(ν) τολουϊδίναι

(ξ) ξυλιδίναι

22° Οξυγονούχοι οργανικές ύλες μη καλυπτόμενες υπό των 21° και 23°, όπως:-

(α) κρεζόλαι

(β) ξυλενόλαι

23° Αλογονούχοι οργανικές ύλες μη καλυπτόμενες υπό της 21°, όπως:-

(α) βρωμιούχο ξυλύλιο

(β) χλωρομούχο φαινακύλιο (PHENACYL CHLORIDE) W-CHLOROACETOPHENONE)

(γ) βρωμιούχο φαινακύλιο (W-BROMOACETOPHENONE)

(δ) 4-χλωροακετοφαινόνη (4-CHLOROACETOPHENONE) (METHYL P-CHLOROPHENYLKETONE)

(ε) συμμετρική διχλωροακετόνη

Δ.- Ανόργανες ύλες που μπορούν να βγάζουν τοξικά αέρια σε επαφή με οξέα (αλλά βλέπε υπό στοιχείον Ε για κράματα πυριτίου) 2601 (Συνεχίζεται)

31° Ανόργανα κυανίδια:-

(α) κυανίδια και σύνθετα κυανίδια σε στερεά μορφή

(β) διαλύματα ανοργάνων κυανιδίων

(γ) παρασκευάσματα ανοργάνων κυανιδίων

Σημείωση:- Σιδηροκυανίδια και σιδηρικυανίδια δεν υπόκεινται στις διατάξεις της ADR.

32° Τα παρακάτω αζίδια:-

(α) αζίδιο του νατρίου

(β) αζίδιο του βαρίου με όχι λιγώτερο του 50 τοις εκατόν ύδωρ ή αλκοόλες, και υδάτινα διαλύματα αζιδίου του βαρίου.

Σημείωση:- Το αζίδιο του βαρίου σε ξηρά κατάσταση ή με λιγώτερο του 50 τοις εκατόν ύδωρ ή αλκοόλες δεν γίνεται δεκτό για μεταφορά.

33° Φωσφίδιο ψευδαργύρου

Σημείωση:- Φωσφίδιο ψευδαργύρου ικανό για στιγμιαία ανάφλεξη ή, υπό την επίδραση υγρασίας, να βγάζει τοξικά αέρια δεν γίνεται δεκτό για μεταφορά.

Ε.- Κράματα πυριτίου ικανά να βγάζουν τοξικά αέρια

41° (α) Σιδηρο-πυρίτιο και μαγγανο-πυρίτιο με άνω του 30 τοις εκατόν και κάτω του 70 τοις εκατόν πυρίτιο.

(β) κράματα σιδηρο-πυριτίου με αλουμίνιο, μαγγάνιο, ασβέστιο ή περισσότερα του ενός των μετάλλων αυτών, με ολικό περιεχόμενο πυριτίου και στοιχείων διαφόρων του σι-

σήρου και μαγγανίου μεγαλύτερο του 30% κατ' εκατόν αλλά λιγώτερο του 70% κατ' εκατόν, 260Ι (συνεχίζεται)

όλες οι ύλες της 41° να έχουν αποθηκευθεί για χρονικό διάστημα όχι μικρότερο των τριών ημερών σε ξηρό τόπο ανοικτό στον αέρα.

Σημείωσις:- Ι.- BRIQUETTES (πλινθάκια) σιδηροπυριτίου και μαγγανοπυριτίου, ανεξαρτήτως του περιεχομένου σε πυρίτιο, δεν υπόκεινται στις διατάξεις της ADR.

2.- Ύλες της 41° δεν υπόκεινται στις διατάξεις της ADR εάν δεν κινδυνεύουν να βγάλουν επικίνδυνα αέρια υπό την επίδραση υγρασίας κατά την μεταφορά και ο αποστολέας βεβαιοί τούτο στο έγγραφο μεταφοράς.

3.- Ύλες της 41° που δεν αποθηκεύθηκαν για χρονικό διάστημα λιγώτερο των τριών ημερών σε ξηρό τόπον ανοικτόν στον αέρα δεν γίνονται δεκτές για μεταφορά.

ΣΤ. Άλλες τοξικές ανόργανες ύλες

51° Βηρύλλιον υπό μορφήν κόνεως· ενώσεις βηρυλλίου υπό μορφήν κόνεως.

52° Αρσενικαί ενώσεις, όπως:-

(α) οξείδια αρσενικού

(β) σουλφίδια αρσενικού

Σημείωσις:- Αναφορικώς με αρσενικές ύλες και παρασκευάσματα χρησιμοποιούμενα ως παρασιτοκτόνα, ωλέπε υπό στοιχείον 81° (Ι), 82° (Ι) και 83° (Ι).

Ενώσεις υδραργύρου, όπως 2601 (Συνεχίζεται)

Χλωριούχος υδράργυρος (διχλωριούχος υδράργυρος), εκτός κινναβάρι και υποχλωριούχου υδραργύρου (CALOMEL).

Σημείωση:- Αναφορικώς με υδραργυρικές ύλες και παρασκευάσματα χρησιμοποιούμενα ως παρασιτοκτόνα, βλέπε υπό στοιχείον 8Ι°(στ), 82°(στ) και 83°(στ).

54° Ενώσεις θαλλίου

Σημείωση:- Αναφορικώς με ύλες και παρασκευάσματα περιέχοντα θάλλιον και χρησιμοποιούμενα ως παρασιτοκτόνα, βλέπε υπό στοιχείον 8Ι°(η), 82°(η) και 83°(η).

Ζ.- Αλογονούχες οργανικές ύλες με επιβλαβές ή ερεθιστικό αποτέλεσμα

6Ι° Αλογονούχες οργανικές ύλες, πτητικές, εύφλεκτοι ή μή-εύφλεκτοι, με σημείον-αναφλέξεως 2Ι°C και άνω και σημείον βρασμού κάτω των 200°C, όπως:-

(α) αιθυλενικό διβρωμίδιο (συμμετρικό διβρωμοαιθάνιο)

(β) χλωροακετόνη

(γ) βρωμοακετόνη

(δ) I,2-DIBROMOBUTAN-3-ONE

(ε) μεθυλικό χλωρο-οξικό άλας

(στ) αιθυλικό χλωρο-οξικό άλας

(ζ) μεθυλικό βρωμο-οξικό άλας

(η) αιθυλικό βρωμο-οξικό άλας

(θ) I,I-DICHLORO-I-NITROETHANE

(ι) χλωριούχο βενζύλιο (βενζυλοχλωρίδιο)

(κ) I-CHLORO-I-NITROPROPANE

69° Αλογονούχοι οργανικές ύλες χαμηλής πτητικότητος με σημείον βρασμού 200°C και άνω και μη καλυπτόμενες υπό της 23°, όπως:- 2601 (Συνεχίζεται)

(α) βενζυλο-ιωδίδιο (BENZYL IODIDE)

(β) τετραβρωμιούχο αιθυλένιο (1,1,2,2-TETRABROMOETHANE)

Η.- Ανόργανες ύλες με επιβλαβές αποτέλεσμα

71° Ενώσεις βαρίου, όπως οξείδιο του βαρίου, υδροξείδιο του βαρίου, σουλφίδιο του βαρίου και άλλα άλατα βαρίου (εκτός θειϊκού βαρίου και τιτανικού βαρίου).

Σημείωσις:- Χλωρικό βάριο, υπερχλωρικό, αζωτούχο, νιτρώδες, διοξείδιο του βαρίου, υπερμαγγανικό είναι ύλες της Κλάσεως 5.1 (βλέπε περιθώριο 2501 υπό στοιχείον 4° (α) και (β), 7° (γ), 8° και 9° (β) και (γ)).

72° Ενώσεις μολύβδου, όπως οξείδια μολύβδου, άλατα μολύβδου συμπεριλαμβανομένων του οξικού μολύβδου, χρωστικών μολύβδου (π.χ. λευκός μόλυβδος και χρωμικός μόλυβδος), εκτός τιτανικού μολύβδου και θειούχου μολύβδου (γαληνίτου).

Σημείωσις:- Χλωρικός μόλυβδος, υπερχλωρικός μόλυβδος και αζωτούχος μόλυβδος είναι ύλες της Κλάσεως 5.1 (βλέπε περιθώριο 2501 4° (α) και (β) και 7° (γ)).

73° Υπολείμματα και απορρίματα περιέχοντα ενώσεις αντιμονίου ή μολύβδου ή αμφότερα, π.χ. τέφρα μολύβδου ή αντιμονίου ή μολύβδου και αντιμονίου· ιλύς μολύβδου περιέχουσα λιγώτερο του 3 τοις εκατόν ελεύθερον οξύ.

Σημείωσις:- Ιλύς μολύβδου περιέχουσα 3 τοις εκατόν και άνω ελεύθερο οξύ είναι ύλες της Κλάσεως 8 (βλέπε περιθώριο 2801, 1° (ε)).

74° Ενώσεις βαναδίου υπό μορφήν κόνεως, όπως πεντοξείδιο βαναδίου και βαναδικά άλατα. 260Ι (Συνεχίζεται

Σημείωσις:- Χλωρικό βανάδιο και υπερχλωρικό βανάδιο είναι ύλες της Κλάσεως 5.Ι (βλέπε περιθώριο 250Ι, 4° (α) και (β)).

75° Ενώσεις αντιμονίου, όπως οξείδια αντιμονίου και άλατα αντιμονίου, εκτός αντιμονίτου.

Σημείωσις:- Χλωρικόν αντιμόνιον και υπερχλωρικόν αντιμόνιον είναι ύλες της Κλάσεως 5.Ι. (Βλέπε περιθώριο 250Ι, 4° (α) και (β)). Πενταχλωριούχο αντιμόνιο, τριχλωριούχο αντιμόνιο και πενταφθοριούχο αντιμόνιο είναι ύλες της Κλάσεως 8 (βλέπε περιθώριο 280Ι ΙΙ° (α), Ι2° και Ι5° (β)).

Θ.- Ύλες και παρασκευάσματα χρησιμοποιούμενα ως παρασιτοκτόνα

8Ι° Ύλες και παρασκευάσματα παρουσιάζοντα κίνδυνον πολύ σοβαράς δηλητηριάσεως:-

(α) Οργανο-φωσφορώδεις ενώσεις, όπως:- AZINPHOS-ETHYL, AZINPHOSMETHYL, DEMETON-I/S, DIMEFOX, ENDOTHION, HETP, MECARBAM, METHYLPARATHION, MEVINPHOS, PARATHION, PHOSPHAMIDON, SULFOTEP και TEPP, και παρασκευάσματα περιέχοντα άνω του Ι0 6τος εκατόν των υλών αυτών.

(β) Αλογονούχοι οργανικές συνθέσεις (ενώσεις), όπως:- ALDRIN, DIELDRIN, HEPTACHLOR, και παρασκευάσματα περιέχοντα άνω του Ι0 6τος εκατόν των υλών αυτών.

(γ) Αζωτούχοι οργανικές ενώσεις, όπως:- 4,6-DINITROPENOL,

DINOSEB, DINITROPHENYL ACETATE, DINOTRO-O-CRESOL, 2601 και παρασκευάσματα περιέχοντα άνω του 50 τοις εκατόν των υλών αυτών. (Συνεχίζεται)

(δ) Καρβαμιδικά και παράγωγα ουρίας, όπως: ANTU, ISOLAN, και παρασκευάσματα περιέχοντα άνω του 25 τοις εκατόν των υλών αυτών.

(ε) Αλκαλοϊδή, όπως: νικοτίνη, βρουκίνη, στρυχνίνη, ή τα άλατα αυτών, και παρασκευάσματα περιέχοντα άνω του 10 τοις εκατόν των υλών αυτών.

(στ) Οργανικές ενώσεις μετάλλων, όπως:-

1.- οργανικές υδραργυρικές ενώσεις, και παρασκευάσματα περιέχοντα άνω των 5 τοις εκατόν των υλών αυτών.

2.- τριαλκύλιαι και τριαρύλιαι ενώσεις κασσιτέρου, και παρασκευάσματα περιέχοντα άνω του 25 τοις εκατόν των υλών αυτών.

(ζ) Άλλες οργανικές ενώσεις, όπως: CUMACHLOR, SODIUM FLUORACETATE, FLUORACETAMIDE, PINDONE, WARFARIN, και παρασκευάσματα περιέχοντα άνω του 5 τοις εκατόν των υλών αυτών.

(η) Ανόργανες ενώσεις μετάλλων, όπως: ενώσεις θαλλίου, και παρασκευάσματα άνω του 10 τοις εκατόν των υλών αυτών.

(θ) Άλλες ανόργανες ενώσεις, όπως:- ενώσεις αρσενικού, και παρασκευάσματα περιέχοντα άνω του 10 τοις εκατόν των υλών αυτών.

82° Ύλες και παρασκευάσμα παρουσιάζοντα κίνδυνον σοβαράς δηλητηριάσεως:-

(α) Οργανο-φωσφορώδεις ενώσεις, όπως:- 2601 (Συνεχίζεται)

1.- DEMETON-O/S-METHYL, DIOXATION, ETHION, FENTHION, PHENKAPTON, THIOMETON, και παρασκευάσματα περιέχοντα άνω του 25 στα εκατόν των υλών αυτών·

2.- παρασκευάσματα AZINPHOS-ETHYL, AZINPHOS-METHYL, DEMETON-O/S, DIMEFOX, ENDOTHION, HETP, MECARBAM, METHYLPARATHION, MEVINPHOS, PARATHION, PHOSPHAMIDON, SULFOTEP και TEPP, περιέχοντα άνω του 2 στα εκατόν αλλά όχι άνω του 10 στα εκατόν ενεργόν ύλην.

(β) Αλογονούχοι οργανικές ενώσεις, όπως:-

1.- TOXAPHENE, PENTACHLOROPHENOL, και παρασκευάσματα περιέχοντα άνω του 20 στα εκατόν των υλών αυτών·

2.- GAMMA-BHC (GAMMEXANE), DDT, και παρασκευάσματα περιέχοντα άνω του 50 στα εκατόν των υλών αυτών.

(γ) Παρασκευάσματα αζωτούχων οργανικών ενώσεων, όπως:-

1.- παρασκευάσματα 4,6-DINITROPHENOL, DINOSEB, DINITROPHENYL ACETATE και DINITRO-O-CRESOL, περιέχοντα άνω του 10 στα εκατόν αλλά όχι άνω του 50 στα εκατόν ενεργόν ύλην·

2.- παρασκευάσματα BINAPACRYL, περιέχοντα άνω του 50 στα εκατόν ενεργόν ύλην.

(δ) Καρβαμιδικά και παράγωγα ουρίας, όπως:-

1.- DIMETHAN, URBAZID, και παρασκευάσματα περιέχοντα άνω του 25 στα εκατόν των υλών αυτών·

2.- παρασκευάσματα της ANTU και ISOLAN, περιέχοντα άνω του 5 στα εκατόν αλλά όχι άνω του 25 στα εκατόν ενεργόν ύλην.

(ε) Παρασκευάσματα αλκαλοϊδών, όπως: παρασκευάσμα- 2601
τα νικοτίνης, βρουκίνης, και στρυχνίνης, ή (Συνεχίζε-
τα άλατα αυτών, περιέχοντα άνω του 2.5 6τοκ εκα- ται)
τόν αλλά όχι άνω του 10 6τοκ εκατόν ενεργόν ύλην.

(στ) Παρασκευάσματα οργανικών ενώσεων μετάλλων, όπως:

(1) οργανικά παρασκευάσματα υδραργύρου, περιέχοντα άνω του 1 6τοκς εκατόν αλλά όχι άνω του 5 6τοκ εκατόν ενεργόν ύλην·

(2) παρασκευάσματα τριαλκυλικών και τριαρυλικών ενώσεων κασσιτέρου, περιέχοντα άνω του 5 6τοκ εκατόν αλλά όχι άνω του 25 6τοκς εκατόν ενεργόν ύλην.

(ζ) Παρασκευάσματα άλλων οργανικών ενώσεων, όπως:-

1.- παρασκευάσματα CUMACHLOR, SODIUM FLUORACETATE, PINDONE και WARFARIN, περιέχοντα άνω του 1 6τοκ εκατόν αλλά όχι άνω του 5 6τοκ εκατόν ενεργόν ύλην.

2.- παρασκευάσματα FLUORACETAMIDE, περιέχοντα όχι άνω του 5 6τοκ εκατόν ενεργόν ύλην.

(η) Παρασκευάσματα ανοργάνων ενώσεων μετάλλων, όπως:- παρασκευάσματα ενώσεων θαλλίου, περιέχοντα άνω του 2.5 6τοκ εκατόν αλλά όχι άνω του 10 6τοκ εκατόν ενεργόν ύλην.

(θ) Παρασκευάσματα άλλων ανοργάνων ενώσεων, όπως:- παρασκευάσματα ενώσεων αρσενικού, περιέχοντα όχι άνω του 2.5 6τοκ εκατόν αλλά όχι άνω του 10 6τοκς εκατόν ενεργόν ύλην.

83° Επιβλαβείς ύλες και παρασκευάσματα:- 2601 (Συνεχίζεται)

(α) Οργανο-φωσφορώδεις ενώσεις, όπως:-

1.- DIAZINON, DIMETHOATE, TRICHLORFON, MALATHION, και παρασκευάσματα περιέχοντα άνω του 5% κατ' όγκον των υλών αυτών·

2.- παρασκευάσματα DEMETON-O/S-METHYL, DIOXATHION, ETHION, FENTHION, PHENKAPTON και THIOMETON, περιέχοντα άνω του 2.5% κατ' όγκον αλλά όχι άνω του 25% κατ' όγκον ενεργόν ύλην·

3.- παρασκευάσματα AZINPHOS-ETHYL, AZINPHOS-METHYL, DEMETON-O/S, DIMEFOX, ENDOTHION, HETP, MECARBAM, METHYLPARATHION, MEVINPHOS, PARATHION, PHOSPHAMIDON, SULFOTEP και TEPP, περιέχοντα όχι άνω του 2.5% κατ' όγκον ενεργόν ύλην.

(β) Παρασκευάσματα αλογονούχων οργανικών ενώσεων, όπως:-

1.- παρασκευάσματα TOXAPHENE και PENTACHLOROPHENOL, περιέχοντα άνω του 5% κατ' όγκον αλλά όχι άνω του 20% κατ' όγκον ενεργόν ύλην·

2.- παρασκευάσματα GAMMA-BHC (GAMMEXANE) και DDT, περιέχοντα άνω του 10% κατ' όγκον αλλά όχι άνω του 50% κατ' όγκον ενεργόν ύλην.

3.- παρασκευάσματα ALDRIN, DIELDRIN και HEPTACHLOR, περιέχοντα άνω του 2.5% κατ' όγκον αλλά όχι άνω του 10% κατ' όγκον ενεργόν ύλην.

(γ) Παρασκευάσματα αζωτούχων οργανικών ενώσεων, όπως:

1.- παρασκευάσματα BINAPACRYL, περιέχοντα άνω του 10% κατ' όγκον αλλά όχι άνω του 50% κατ' όγκον ενεργόν ύλην·

2.- παρασκευάσματα 4,6-DINITROPHENOL, DINOSEB, DINITROPHENYL ACETATE και DINITRO-O-CRESOL, περιέχοντα άνω του 2.5% εκατόν και όχι άνω του 10% εκατόν ενεργόν ύλην. 2601 (Συνεχίζεται)

(δ) Παρασκευάσματα καρβαμιδικών και παραγώγων ουρίας, όπως:-

1.- παρασκευάσματα ANTU και ISOLAN, περιέχοντα άνω του 1% εκατόν αλλά όχι άνω του 5% εκατόν ενεργόν ύλην·

2.- παρασκευάσματα DIMETHAN και URBAZID, περιέχοντα άνω του 2.5% εκατόν αλλά όχι άνω του 25% εκατόν ενεργόν ύλην.

(ε) Παρασκευάσματα αλκαλοϊδών, όπως:- παρασκευάσματα νικοτίνης, βρουκίνης και στρυχνίνης, ή τα άλατα αυτών, περιέχοντα όχι άνω του 2.5% εκατόν ενεργόν ύλην.

(στ) Παρασκευάσματα οργανικών ενώσεων μετάλλων, όπως:-

1.- παρασκευάσματα οργανικών υδραργυρικών ενώσεων, περιέχοντα όχι άνω του 1% εκατόν ενεργόν ύλην·

2.- παρασκευάσματα τριαλκυλικών και τριαρυλικών ενώσεων κασσιτέρου, περιέχοντα άνω του 1% εκατόν αλλά όχι άνω του 5% εκατόν ενεργόν ύλην.

(ζ) Παρασκευάσματα άλλων οργανικών ενώσεων, όπως:- παρασκευάσματα CUMACHLOR, SODIUM FLUORACETATE, PINDONE και WARFARIN, περιέχοντα όχι άνω του 1% εκατόν ενεργόν ύλην.

(η) Παρασκευάσματα ανοργάνων ενώσεων μετάλλων, όπως:- παρασκευάσματα ενώσεων θαλλίου, περιέχοντα όχι άνω του 2.5% εκατόν ενεργόν ύλην.

Παρασκευάσματα άλλων ανοργάνων ενώσεων, όπως:- 2601 (Συνεχίζεται)

παρασκευάσματα ενώσεων αρσενικού, περιέχοντα όχι άνω του 2.5 στα εκατόν ενεργόν ύλην.

84°(α) κόκκοι δημητριακών και σπόροι εμποτισμένοι με ένα ή περισσότερα παρασιτοκτόνα ή άλλες τοξικές ουσίες της Κλάσεως 6.Ι, χρησιμοποιούμενες ως παρασιτοκτόνα.

(β) σπόροι χρησιμοποιούμενοι με παρασιτοκτόνα ή με αλλες τοξικές ύλες της Κλάσεως 6.Ι, αλλά μη χρησιμοποιούμενοι ως παρασιτοκτόνα. αναθάριστου (DRESSED SEEDS)

Ι.- Κενά είδη συσκευασίας:

91° Κενά είδη συσκευασίας, αναθάριστα, κενές δεξαμενές, αναθάριστες, και κενοί σάκκοι, αναθάριστοι, που περιείχαν ύλες των 1° - 5°, 11° - 14°, 21° - 23°, 31° - 33°, 41°, 51° - 54°, 81° και 82°.

92° Κενά είδη συσκευασίας, αναθάριστα, κενές δεξαμενές, αναθάριστες, και κενοί σάκκοι, αναθάριστοι, που περιείχαν ύλες των 61°, 62°, 71° - 75°, 83° και 84°.

Σημείωσις:- 91° και 92°. Κενά είδη συσκευασίας με υπολείμματα του προηγουμένου περιεχομένου των κολλημένα εξωτερικώς δεν γίνονται δεκτά για μεταφορά.

2.- Διατάξεις

Α.- Κόλα 2602

Ι.- Γενικοί όροι συσκευασίας

(Ι) Τα είδη συσκευασίας θα είναι έτσι κλεισμένα και διευθετημένα ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου. Για την ειδική διάταξη την αναφε-

ρομένην στις ύλες της 4Ι° βλέπε περιθώριο 2618. 2602

(2) Τα υλικά από τα οποία τα είδη συσκευασίας και τα κλεισίματά των είναι κατασκευασμένα δεν πρέπει να κινδυνεύουν να προσβληθούν από το περιεχόμενο ή να σχηματίζουν με αυτό επιβλαβείς ή επικινδύνους ενώσεις. (Συνεχίζεται)

(3) Τα είδη συσκευασίας, περιλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη των ώστε να εμποδίζεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και να πληρούν τους συνήθεις όρους μεταφοράς. Ειδικώτερα, οσάκις οι ύλες είναι σε υγρά κατάσταση η σε διάλυμα, ή έχουν υγροποιηθεί με υγρό, τα δοχεία και τα κλεισίματά των πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης" προβλέπει άλλως, να είναι σε θέση να ανθίστανται σε οποιαδήποτε πίεση η οποία, λαμβανομένης επίσης υπόψη της υπάρξεως αέρος, μπορεί να εγερθεί εσωτερικώς των δοχείων κατά την συνήθη μεταφοράν. Για τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά το γέμισμα και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μεταφοράς. Οι εσωτερικές συσκευασίες θα είναι θετικά ασφαλισμένες στις εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται στις εξωρικές, είτε μία-μία είτε ομαδικά.

(4) Φιάλες και άλλα γυάλινα δοχεία πρέπει να είναι ελεύθερα από βλάβες ικανές να εξασθενήσουν την αντοχήν τους ειδικώτερα, πρέπει να αίρονται καταλλήλως οι εσωτερικές τάσεις. Το πάχος των τοιχωμάτων πρέπει να μήν είναι λιγώτερο των 3 ΜΜ (χιλ.) προκειμένου περί δοχείων τα οποία, μαζί με το περιεχόμενό τους, ζυγίζουν άνω των 35 ΚG, και πάχος όχι μικρότερο των 2 ΜΜ (χιλ.) προκειμένου περί άλλων δοχείων. 2602 (Συνεχίζεται)

Η στεγανότητα του συστήματος κλεισίματος πρέπει να εξασφαλίζεται με πρόσθετον μηχανισμόν (πώμα, στέμμα (κορώνα), σφραγίδα, δέσιμο, κλπ.)) ικανόν να εμποδίζει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της μεταφοράς, εκτός εάν το αναφερόμενο κλείσιμον αποτελούν δύο πώματα, το ένα επάνω στο άλλο, το ένα των οποίων να είναι κοχλιωτό.

(5) Οσάκις δοχεία κατασκευασμένα από ύαλον, πορσελάνη, είδη κεραμεικής ή παρόμοιο υλικό προβλέπονται ή επιτρέπονται, πρέπει να ασφαλίζονται με αποσβεστικό υλικό σε προστατευτικά είδη συσκευασίας. Το αποσβεστικό υλικό θα ταιριάζει με την φύση του περιεχομένου· ειδικώτερα, θα είναι απορροφητικό όταν το περιεχόμενο είναι υγρόν.

(6) Όταν παραδίδονται για μεταφορά, τα κόλα δεν πρέπει να έχουν μολυνθεί εξωτερικώς από τοξικές ύλες.

2.- <u>Συσκευασία μιάς ύλης</u> 2603

(Ι) Το υδροκυανικό οξύ και εύφλεκτοι πτητικαί

ύλες έχουσες όμοιο τοξικό αποτέλεσμα (I°(α)) θα συσκευάζονται:- 2603 (Συνεχίζεται)

(α) όταν απορροφούνται πλήρως από αδρανές πορώδες υλικό: σε γερά κυτία από φύλλο-μετάλλου, με χωρητικότητα όχι μεγαλυτέρα των 7.5 λιτρών, εξ ολοκλήρου γεμισμένα με το πορώδες υλικό, το οποίο πρέπει να είναι τέτοιας φύσεως ώστε να μή στοιβάζεται κουνώντας το ή σχηματίζει επικινδύνους χώρους, ακόμη και μετά από παραταθείσαν χρήσιν ή υπό πρόσκρουσιν, σε θερμοκρασίες μέχρι 50°C. Τα κυτία πρέπει να είναι σε θέση να ανθίστανται σε πίεση 6 KG/CM^2 και πρέπει, όταν γεμισθούν στούς I5°C, να εξακολουθούν να είναι στεγανά στούς 50°C. Η ημερομηνία του γεμίσματος θα σταμπάρεται στό κάλυμμα κάθε κυτίου. Τα κυτία θα τοποθετούνται σε κιβώτια συσκευασίας με πλευρές πάχους όχι μικροτέρου των I8 MM (χιλ.) κατά τοιούτον τρόπον ώστε να μη μπορούν να έλθουν σε επαφή το ένα με τό άλλο. Η ολική χωρητικότητα των κυτίων σε ένα κιβώτιο συσκευασίας δεν πρέπει να υπερβαίνει τα I20 λίτρα και το κόλον δεν πρέπει να ζυγίζει πάνω από I20 KG.

(β) όταν υγρές αλλά χωρίς να έχουν απορροφηθεί από πορώδες υλικό: σε δοχεία από ανθρακο-χάλυβα (CARBON-STEEL RECEPTALS). Αυτά θα είναι σύμφωνα προς το πνεύμα των διατάξεων που διέπουν τα τέτοια δοχεία της Κλάσεως 2, περιθώρια 22II, 22I2(I), 22I3, 22I5 και 22I8, μετά των παρακάτω ανακλήσεων και ειδικών όρων:-

Η εσωτερική πίεση η οποία θα εφαρμοσθεί για τον

έλεγχο υδραυλικής πιέσεως πρέπει να είναι 100 KG/CM^2. 2603

Ο έλεγχος της πιέσεως θα επαναλαμβάνεται κάθε δύο χρόνια, ότε και υπερβολικά λεπτολόγος επιθεώρησις του εσωτερικού των δοχείων θα διεξάγεται είσης και θα καθορίζεται το βάρος του δοχείου. (Συνεχίζεται)

Επιπροσθέτως των ενδείξεων των προβλεπομένων στο περιθώριο 2218(I)(α)-(γ) και (ε)-(ζ), τα δοχεία πρέπει να φέρουν την ημερομηνίαν (μήνα, έτος) του πιό τελευταίου γεμίσματος.

Το ανώτατο επιτρεπόμενο γέμισμα για τα δοχεία είναι 0.55 KG υγρό ανά λίτρο χωρητικότητας.

(γ) Αναφορικώς με τα στοιχεία του εγγράφου μεταφοράς, βλέπε περιθώριο 2634(2).

(2) Υδάτινα διαλύματα του υδροκυανικού οξέος (I°(β)) θα συσκευάζονται εντός φλογοστεγανών υαλίνων αμπουλών περιεχουσών όχι περισσότερα των 50 γραμμ., ή εντός υαλίνων με αναστολέα φιαλών πλεισμένων κατά τρόπον ώστε να είναι στεγανές και να περιέχουν όχι περισσότερα των 250 γραμμαρίων. Οι αμπούλες και φιάλες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε κυτία από πλάνα-κασσιτέρου μαλακής συγκολλήσεως ή σε προστατευτικά κιβώτια με επένδυση πλανός-κασσιτέρου μαλακής συγκολλήσεως. Κόλον αποτελούμενον από κυτίον εκ πλάνας-κασσιτέρου δεν πρέπει να ζυγίζει περισσότερο των 15 KG ή να περιέχει περισσότερο από 3 KG διάλυμα υδροκυανικού οξέος· κόλον αποτελούμενον από κιβώτιον δεν πρέπει να ζυγίζει περισσότερο των 75 KG.

(I) Οι ύλες της 2ο θα συσκευάζονται:- 2604

(α) I.- σε κάνιστρα από φύλλο-χάλυβος με τοιχώματα πάχους όχι μικροτέρου του I MM (χιλ.) και χωρητικότητας μη επερβαίνούσας τις 60 λίτρες, των ανοιγμάτων κλειομένων με δύο πώματα, το ένα τοποθετημένο πάνω από το άλλο, του ενός τούτων όντος κοχλιωτού. Τα από φύλλο-χάλυβος κάνιστρα πρέπει να έχουν συγκολλημένες κατά μήκος ραφές, δύο ενισχυτικές δοκίδες στα τοιχώματα, και προστατευτικήν στεφάνην κάτω από τον αρμόν του πυθμένος. Κάνιστρα χωρητικότητας 40 - 60 λιτρών πρέπει να έχουν τους πυθμένες τους συγκολλημένους και να διαθέτουν χειρολαβήν στο πλευρόν· ή

2.- σε εξ ολοκλήρου συγκολλημένα βαρέλια από χάλυβα με τοιχώματα πάχους όχι μικροτέρου των I.25 MM (χιλ.), εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) και ενισχυτικές δοκίδες, και τα ανοίγματά τους να κλείνουν με δύο πώματα, το ένα τοποθετούμενο πάνω στο άλλο, του ενός τούτων όντος κοχλιωτού.

(β) Το ακρυλονιτρίλιο μπορεί επίσης να συσκευάζεται:-

I.- σε φιάλες από αργύλιο (αλουμίνιο) χωρητικότητας μη υπερβαινούσας τα 2 λίτρα, ασφαλισμένες με τριπολική γή ως αποσβεστικό υλικό εντός δοχείων από φύλλο-μετάλλου των οποίων τα πώματα (καλύμματα) θα κολλούν σταθερά με κατάλληλες κολλητικές λωρίδες. Τα από φύλλο-μετάλλου δοχεία θα τοποθετούνται, με

το υλικό γεμίσματος, σε ξύλινα κιβώτια. Το κόλον 2604 δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή (Συνεχίζεται)

2.- σε μή-επιστρεπτέα μεταλλικά βαρέλια (των καινουργών συσκευασιών προοριζομένων όπως χρησιμοποιηθούν μόνον μία φορά)· τα βαρέλια αυτά, των οποίων τα τοιχώματα δεν θα έχουν πάχος μικρότερον των I.2 MM (χιλ.), θα είναι εφοδιασμένα με κοχλιωτό πώμα διαθέτον παρέμβασμα. Το πώμα θα ευρίσκεται επί του ενός των άκρων και θα προστατεύεται από την στεφάνην του βαρελιού. Τα βαρέλια μπορεί να έχουν κορμόν με έχοντα υποδοχήν άκρα και αρμούς ενισχυμένους με ούγια· εάν δεν διαθέτουν κυλιόμενες στεφάνες θα εφοδιασθούν με ενισχυτικές δοκίδες. Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 200 KG. Η μεταφορά μη-επιστρεπτέων βαρελιών θαλαμβάνει χώραν μόνον ως πλήρες φορτίο πάνω σε ανοικτά οχήματα· ή

3.- σε μη-επιστρεπτέα βαρέλια από χάλυβα (των καινουργών συσκευασιών προοριζομένων να χρησιμοποιηθούν μόνον μία φορά) έχοντα πλευρές κατασκευασμένες από φύλλο μετάλλου πάχους I.24 MM (χιλ.), άκρα κατασκευασμένα από φύλλο μετάλου πάχους I.5 MM (χιλ.), και απόβαρο βάρους 22.5 KG· τα βαρέλια πρέπει να είναι εφοδιασμένα με ενισχυτικές δοκίδες. Η ραφή του κορμού θα συγκολλείται και τα άκρα θα έχουν διπλή ραφή δια συγκολλήσεως με τον κορμόν , με εσωτερικήν ενίσχυσιν πολυαιθυλενίου. Δύο μονάδες πλεισίματος κοχλιωτού πώματος, της μιάς 50.8 MM (χιλ.) (2" :ιντσών)

και μιάς I9.05 MM (χιλ.) (3/4":ιντσών), θα διπλο- 2604
συρραφούν δια συγκολλήσεως σε ένα από τα άκρα, με (Συνεχίζε-
εσωτερικήν ενίσχυσιν συνθετικού ελαστικού. Κυάθια ται)
από λεπτό φύλλο-μετάλλου θα τοποθετούνται πάνω από
τις μονάδες κλεισίματος.

(γ) το ακετονιτρίλιο μπορεί επίσης να συσκευασθεί σε δο-
χεία από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια
υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητος
μη-υπερβαινούσης το I λίτρο, με τα ανοίγματα κλεισμέ-
να με δύο πώματα, τοποθετημένα το ένα πάνω στο άλλο,
το ένα εκ των δύο κοχλιωτό.. Τα δοχεία αυτά θα ασφαλί-
ζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κι-
βώτιο ή κάποια άλλη εξωτερική συσκευασία καταλλήλου
αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω
από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG, πλήν των
αποστελομένων ως πλήρες φορτίο, θα είναι εφοδιασμένα
με χειρολαβή.

(2) Δοχεία περιέχοντα ακρυλονιτρίλιο ή ακε-
τονιτρίλιο δεν πρέπει να γεμίζονται πέραν του 93 τοις εκα-
τόν, και δοχεία περιέχοντα ισοβουτυρονιτρίλιο όχι πέραν
του 92 τοις εκατόν, της χωρητικότητός των.

(I) Ύλες της 3° θα συσκευάζονται σε δοχεία 2605
κατασκευασμένα από φύλλο-μετάλλου (χάλυβος) επαρκούς πάχους, τα οποία
θα κλείνουν με κοχλιωτό πώμα στεγανόν τόσον για υγρά όσον
και για ατμό δι'ενός καταλλήλου παρεμβάσματος. Τα δοχεία
πρέπει να είναι σε θέση να αντέχουν σε εσωτερική πίεση 3 KG/
CM^2. Το κάθε δοχείο θα ασφαλίζεται με απορροφητικό αποσβεστι-
κό υλικό σε γερή και στεγανή προστατευτική μεταλλική συ-

συσκευασία. σε γερή και στεγανή προστατευτική μεταλλική συσκευασία. Η προστατευτική συσκευασία θα είναι ερμητικά κλεισμένη και το κλείσιμό της θα ασφαλίζεται κατά οποιουδήποτε εξ απροσεξίας ανοίγματος. Ο βαθμός του γεμίσματος δεν θα υπερβαίνει τα 0.67 KG ανά λίτρο χωρητικότητος του δοχείου. 2605 (Συνεχίζεται)

(2) Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν.

Ύλες της 4ου θα συσκευάζονται:- 2606

(α) σε δοχεία από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλο πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 5 λίτρα, με τα ανοίγματα κλεισμένα δια δύο πωμάτων, το ένα τοποθετημένο επάνω στο άλλο, του ενός τούτων όντος κοχλιωτού. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 93τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν εκείνων που αποστέλονται ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν, ή

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι περισσότερα των 100 γραμμ., οι οποίες θα ασφαλίζον-

ται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κι- 2606
βώτιο ή κάποια άλλη εξωτερική συσκευασία επαρ- (Συνεχίζεται)
κούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 93έτως εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν των αποστελομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν· ή

(γ) σε μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν, των δοχείων εχόντων χωρητικότητα μη υπερβαίνουσαν τα 15 λίτρες και ανοίγματα κλειδμενα με δύο πώματα, το ένα τοποθετημένο πάνω στο άλλο, του ενός τούτων όντος κοχλιωτού. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία πρέπει να μη γεμίζονται πέραν του 93έτως εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέι να ζυγίζει περισσότερο από 100 KG· ή

(δ) σε συγκολλημένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν, των βαρελίων εχόντων ανοίγματα κλειδμενα δια δύο πωμάτων, το ένα τοποθετημένο επάνω στο άλλο, του ενός τούτων όντος κοχλιωτού. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 93έτως εκατόν της χωρητικότητός των. Εάν μαζί με το περιεχόμενόν τους, ζυγίζουν πάνω από 275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(ε) σε δοχεία κατασκευασμένα από γερό μαύρο φύλλο- 2606
σιδήρου ή πλάκα κασσιτέρου και ερμητικώς κλει- (συνεχίζε-
σμένα. Το δοχείο από πλάκα-κασσιτέρου δεν πρέπει ται)
μαζί με το περιεχόμενό του να ζυγίζει πάνω από 6KG.
Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό
αποσβεστικό υλικό, είτε ένα-ένα είτε ομαδικά, σε
ξύλινο κιβώτιο συσκευασίας. Ένα τέτοιο κόλον δεν
πρέπει να ζυγίζει περισσότερο από 75 KG.

(Ι) Οι ύλες της 5° θα συσκευάζονται σε μεταλ- 2607
λικά δοχεία. Τα δοχεία πρέπει να είναι εφοδιασμένα με πλήρως στεγανούς μηχανισμούς κλεισίματος, οι οποίοι θα ασφαλίζονται για μηχανική βλάβη με προστατευτικά κυάθια (πώματα). Τα εκ χάλυβος δοχεία πρέπει να έχουν τοιχώματα πάχους όχι μικρότερου των 3 MM (χιλ.) και δοχεία κατασκευασμένα από άλλα υλικά πρέπει να έχουν τοιχώματα πάχους ικανού να εξασφαλίζει ισοδύναμον μηχανικήν αντοχήν. Το κόλον δεν πρέπει να περιέχει περισσότερο των 25 KG υγρόν. Το επιτρεπόμενον ανώτατον γέμισμα θα είναι Ι KG υγρού ανά λίτρον χωρητικότητος.

(2) Τα δοχεία θα ελέγχονται προτού τεθούν σε υπηρεσία για πρώτη φορά. Η εφαρμοστέα πίεση ελέγχου για τον έλεγχο της υδραυλικής πιέσεως θα είναι όχι μικροτέρα των ΙΟ KG/CM^2. Κατόπιν ο έλεγχος της πιέσεως θα επαναλαμβάνεται κάθε πέντε έτη και θα περιλαμβάνει πολύ λεπτολόγο επιθεώρηση του εσωτερικού του δοχείου καί έλεγχον του βάρους του αποβάρου. Τα μεταλλικά δοχεία θα φέρουν τα παρακάτω στοιχεία με γράμματα ευανάγνωστα και ανεξίτηλα.

(α) την πλήρη ονομασία του προϊόντος (οι ονομασίες αμφοτέρων των υλών μπορούν επίσης να εικονίζονται η μία πλάϊ στην άλλη)· 2607 (Συνεχίζεται)

(β) το όνομα του ιδιοκτήτου του δοχείου·

(γ) το απόβαρον του δοχείου, συμπεριλαμβανομένων τοιούτων εξαρτημάτων ως βαλβίδων, προστατευτικών κυαθίων (πωμάτων), κλπ.·

(δ) την ημερομηνίαν (μήνα, έτος) του ελέγχου αποδοχής και των μεταγενεστέρων ελέγχων, και την σφραγίδα του εμπειρογνώμονος·

(ε) το ανώτατο επιτρεπτό γέμισμα ανά δοχείο σε κιλά (KG)·

(στ) την εσωτερική πίεση (πίεση δοκιμής/ελέγχου) την εφαρμοστέα για τον έλεγχο της υδραυλικής πιέσεως.

(Ι) Οι Ύλες της ΙΙ°(α) θα συσκευάζονται: 2608

(α) σε κάνιστρα από φύλλο-μετάλλου με τοιχώματα πάχους όχι μικροτέρου του Ι ΜΜ (χιλ.) και χωρητικότητος μη υπερβαίνουσας τις 60 λίτρες, των ανοιγμάτων κλειομένων δια δύο πωμάτων, του ενός επάνω στο άλλο, και του ενός αυτών κοχλιωτού. Τα από φύλλο-χάλυβος κάνιστρα πρέπει να έχουν συγκολλημένες κατά μήκος ραφές, δύο ενισχυτικές δοκίδες στα τοιχώματα, και προστατευτικήν στεφάνην κάτω του φέροντος υποδοχήν αρμού στον πυθμένα. Τα κάνιστρα με χωρητικότητα 40 - 60 λιτρών πρέπει να έχουν τους πυθμένας αυτών συγκολλημένους και πρέπει να φέρουν χειρολαβές στις πλευρές αυτών· ή

(β) σε εξ ολοκλήρου συγκολλημένα βαρέλια εκ χάλυβος με

τοιχώματα πάχους όχι μικροτέρου των I.25 MM (χιλ.), εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) και ενισχυτικές δοκίδες και έχοντα τα ανοίγματα κλεισμένα δια δύο πωμάτων, τοποθετημένων τό ένα επάνω στο άλλο, του ενός τούτων όντος κοχλιωτού. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποιες άλλες εξωτερικές συσκευασίες επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητός των. 2608 (Συνεχίζεται)

Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα άνω των 30 KG, πλην των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν· ή

(β) σε μεταλλικά δοχεία έχοντα, εάν χρειασθεί, καταλληλον επένδυσιν, των δοχείων εχόντων χωρητικότητα μη υπερβαίνουσαν τις I5 λίτρες και εχόντων δύο ανοίγματα κλεισμένα δια δύο πωμάτων, το ένα επάνω στο άλλο, και το ένα τούτων κοχλιωτό. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από I00 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, καταλληλον επένδυσιν. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενόν των,

πάνω από 275 KG, θα είναι εφοδιασμένα με κυλιό- 2608
μενες στεφάνες· ή (Συνεχίζεται)

(δ) σε ερμητικώς-κλεισμένους ξύλινος κάδους (βαρέλια) επαρκούς αντοχής, με κατάλληλον επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG.

(I) Οι ύλες της Π2°(α) και (β) θα συσκευάζον- 2609
ται:-

(α) Όχι περισσότερες των 5 λιτρών ανά φιάλην, σε γυάλινες φιάλες τοποθετημένες χωριστά, με απορροφητικό υλικό, σε γερό από πλάκα-κασσιτέρου δοχείο· στη περίπτωση του I-CHLORO-2,3-EPOXYPROPANE, μαύρο φύλλο-σιδήρου μπορεί να χρησιμοποιηθεί αντί πλάκας-κασσιτέρου. Τα δοχεία θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο συσκευασίας. Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(β) Όχι περισσότερες των 5 λιτρών ανά δοχείον, σε δοχεία, κατασκευασμένα από γερή πλάκα-κασσιτέρου, με στεγανά κλεισίματα· στη περίπτωση του I-CHLORO-2,3-EPOXYPROPANE μαύρο φύλλο-σιδήρου μπορεί να χρησιμοποιηθεί αντί της πλάκας-κασσιτέρου. Τα δοχεία θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό ή αποσβεστικό υλικό από ξυλ-έριον (WOOD-WOOL) σε ξύλινο κιβώτιο συσκευασίας. Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(γ) σε συγκολλημένα βαρέλια από χάλυβα με ανοίγματα

κλειδμενα με δύο πώματα, το ένα επάνω στο άλλο, και το ένα τούτων κοχλιωτό, και τα βαρέλια θα είναι εφοδιασμένα με κυλιδμενες στεφάνες. Στη περίπτωση της GLYCOL CHLOROHYDRIN (γλυκόλης χλωροϋδρίνης) (2-CHLOROETHANOL) επιτρέπεται επίσης να χρησιμοποιούνται συγκολλημένα κάνιστρα με τα ανοίγματά των κλειδμενα με δύο πώματα, το ένα επάνω στο άλλο, και το ένα από αυτά κοχλιωτό, και τα κάνιστρα θα είναι εφοδιασμένα με χειρολαβάς, και θα κατασκευάζονται από φύλλο-χάλυβος πάχους I MM (χιλ.) γαλβανισμένο σε αμφότερες τις πλευρές, και θα έχουν χωρητικότητα μη υπερβαίνουσαν τα 60 λίτρα·

2609 (Συνεχίζεται)

(δ) τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοκ εκατόν της χωρητικότητός των.

(2) Οι ύλες της I2°(γ) θα συσκευάζονται:-

(α) σε ερμητικώς-κλεισμένα δοχεία κατασκευαζόμενα από ύαλο, πορσελάνην, είδη κεραμεικής, ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοκ εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν ή

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες 2609
δχι άνω των 100 γραμμ., οι οποίες θα ασφαλίζονται (Συνεχίζεται)
με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG. πλήν των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν· ή

(γ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο μέταλλο, συγκολλημένα ή συγκολλημένα με σκληρή-συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα τα 60 λίτρα, και εφοδιασμένα με χειρολαβήν. Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των, ή

(δ) σε ερμητικώς-κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον εσωτερικήν επένδυσιν. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητός των. Εάν ζυγίζουν, μαζί με το περιεχόμενό τους, περισσότερο των 275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS).

(3) Οι ύλες της 12°(δ) και (ε) θα συσκευάζονται:-

(α) σε ερμητικώς-κλεισμένα δοχεία κατασκευασμένα από ύαλον, πορσελάνην, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται

με απορροφητικό αποσβεστικό υλικόσε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα άνω των 30 KG πλην των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν· 2609 (Συνεχίζεται)

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι περισσότερα των 100 γραμμ., οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζόνται περισσότερο από 30 KG, πλην των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, καπάλληλον επένδυσιν, και έχοντα χωρητικότητα μη υπερβαίνουσα τα 15 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(δ) σε ερμητικά κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, καταλληλον επένδυση. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενόν τους, περισσότερο από 375 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS). 2609 (Συνεχίζεται)

(4) Οι ύλες της I2°(ε) μπορούν επίσης να συσκευάζονται σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από καταλληλο μέταλλο, συγκολλημένα με μαλακή ή σκληρή συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, και εφοδιασμένα με χειρολαβήν. Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των.

(5) Οι ύλες της I2°(στ) θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, καταλληλον επένδυση, και έχοντα χωρητικότητα μη υπερβαίνουσαν τις I5 λίτρες. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 93 τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από I00 KG· ή

(β) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από καταλληλο μέταλλο, συγκολλημένα με μαλακή ή σκληρή συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα

τις 60 λίτρες, και εφοδιασμένα με χειρολαβήν. Τα 2609
κάνιστρα δεν πρέπει να γεμίζονται πέραν του 93τοις (Συνεχίζεται)
εκατόν της χωρητικότητάς των· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 93τοις εκατόν της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενό τους, περισσότερο των 275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS).

(Ι) Ύλες της Ι3°(α) και (β) θα συσκευάζονται:- 26Ι0

(α) σε φλογο-στεγανές γυάλινες αμπούλες ή σε ερμητικώς κλεισμένες γυάλινες φιάλες· για τον σκοπόν αυτόν μπορεί να χρησιμοποιηθεί αναστολεύς (STOPPER) κατασκευασμένος από φελλόν επενδυμένον με κηρόν παραφίνης, ή γυάλινος (GROUND-GLASS) αναστολεύς. Οι αμπούλες και οι φιάλες δεν πρέπει να γεμίζονται πέραν του 93 τοις εκατόν της χωρητικότητάς των και δεν πρέπει να ζυγίζουν, μαζί με το περιεχόμενό τους, περισσότερο από 3 KG. Θα τυλίγονται σε κυματοειδή ινοδανίδα και ασφαλίζονται με κατάλληλο ποσότητα αδρανούς και απορροφητικού αποσβεστικού υλικού (τριπολιτική γή ή παρεμφερές υλικό) σε μαλακώς συγκολληθέντα κυτία από πλάκα κασσιτέρου ή σε ξύλινα κιβώτια επενδυμένα με επένδυσιν συναρμολογούμενα πλάκας-κασσιτέρου διά μαλακής συγκολλήσεως. Κόλον αποτελούμενον από κυτίον εκ πλάκας-κασσιτέρου δεν πρέπει να ζυγίζει περισσότερο από Ι5 KG και κόλον αποτελούμενον από ξύλινο κιβώτιο όχι περισσότερο

από 75 KG· ή 2610

(β) σε συγκολληθέντα ή άνευ-ραφών δοχεία από φύλλο-μετάλλου ή σε δοχεία κατασκευασμένα από κατάλληλο πλαστική ύλη. Τα δοχεία αυτά θα είναι ερμητικώς κλεισμένα· δεν πρέπει να γεμίζονται πέραν του 936τοι εκατόν της χωρητικότητός των και δεν πρέπει να ζυγίζουν, μαζί με το περιεχόμενό τους, περισσότερο των 50 KG· εάν είναι κατασκευασμένα από λεπτό φύλλο-μετάλλου, π.χ. πλάκα-κασσιτέρου, δεν πρέπει να ζυγίζουν, μαζί με το περιεχόμενό τους, περισσότερο από 6 KG. Τα από φύλλο μετάλλου ή από πλαστική ύλη δοχεία θα ασφαλίζονται με κατάλληλο ποσότητα αδρανούς και απορροφητικού αποσβεστικού υλικού (π.χ. τριπολική γή ή παρόμοιο υλικό) σε προστατευτικά δοχεία εφοδιασμένα με χειρολαβή. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή (Συνεχίζεται)

(γ) σε ερμητικώς κλεισμένα συγκολλημένα ή άνευ ραφών μεταλλικά βαρέλια εφοδιασμένα με ταινίες στα άκρα και κυλιόμενες στεφάνες (ROLLING HOOPS) και μη γεμιζόμενα πέραν του 936τοι εκατόν της χωρητικότητάς των.

(2) Οι ύλες της 13°(γ) θα συσκευάζονται:-

(α) σε ερμητικώς-κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερή υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερα των 5 KG το καθένα. Δοχεία, κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλονται ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG της ύλης.

Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό υλικό σε ξύλινο δοχείο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή 26IO (Συνεχίζεται)

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλη επένδυση και τα οποία δεν πρέπει να περιέχουν περισσότερα των I5 KG το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από I00 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλη επένδυση. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες· ή

(δ) σε ερμητικώς κλεισμένους ξυλίνους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG· ή

(ε) σε κάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη, έτσι κλεισμένους ώστε να είναι αδιαπέραστοι, και τοποθετουμένους σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

OI ύλες της I4^{ο} θα συσκευάζονται:- 26II

(α) σε συγκολλημένα από χάλυβα βαρέλια με ανοίγματα

κλειδμενα με δύο πώματα, το ένα επάνω στο άλλο, το ένα από τα πώματα κοχλιωτό, και τα βαρέλια εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS). Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των· ή 26II (Συνεχίζεται)

(β) σε δοχεία κατασκευασμένα από γερό μαύρο φύλλο σιδήρου ή πλάκα-κασσιτέρου και ερμητικώς κλεισμένα. Δοχείο από φύλλο-κασσιτέρου δεν πρέπει, μαζί με το περιεχόμενό του, να ζυγίζει περισσότερο από 6 KG. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο συσκευασίας. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

(I) Ύλες των 2I°(α), (β), (γ) και (δ), και υγρά της 2I° (ε) και (στ), θα συσκευάζονται:- 26I2

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλην των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβήν· ή

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες 2612
όχι περισσότερα από 100 γραμμ. οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα είναι εφοδιασμένα με χειρολαβήν· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, καταλληλον επένδυσιν, και έχοντα χωρητικότητα μη υπερβαίνουσα τις 15 λίτρες. Τά δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, καταλληλον επένδυσιν. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενό τους, περισσότερο από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS).

(2) Ύλες της 21°(β), (γ) και (δ) και υγρά της 21°(ε) και (στ) μπορούν επίσης να συσκευασθούν σε ερμη-

τικώς κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα τα 60 λίτρα, και εφοδιασμένα με χειρολαβήν. Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. 2612 (Συνεχίζεται)

(3) Οι ύλες της 21°(ε) και (στ) σε στερεά κατάσταση, και οι ύλες της 21°(ζ), (η), (θ) και (ι), θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής και παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποσταλούν ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν και τα οποία δεν πρέπει να περιέχουν περισσότερον από 15 KG το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν. Εάν τα βαρέλια ζυ-

γίζουν, μαζί με το περιεχόμενό τους, περισσότερο 2612
από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφά- (Συνεχίζε-
νες (ROLLING HOOPS). ται)

(4) Οι ύλες της 21°(ε) και (στ) σε στερεά κατάσταση, και οι ύλες της 21°(ζ) και (η), μπορούν επίσης να συσκευασθούν:-

(α) σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη, έται κλεισμένους ώστε να είναι στεγανοί, και τοποθετημένους σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν μπορεί να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένα ξύλια βυτία (βαρέλια, κάδους) επαρκούς αντοχής με κατάλληλην επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG.

(5) Οι ύλες της 21°(ζ) μπορούν επίσης να συσκευασθούν σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσης τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποιο άλλο υλικό επαρκούς αντοχής.

(6) Οι ύλες της 21°(λ), (μ), (ν), (ξ) και (ο) θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμευτικής ή παρόμοια υλικά, ή από κατάλληλο πλαστική ύλη, χωρητικότητας μη υπερβαίνούσης τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφη-

τικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κά- 2612
ποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. (Συνεχίζε-
Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 ται)
τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβήν· ή

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι περισσότερο από 100 γραμμ., οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβήν· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλη επένδυση, και έχοντα χωρητικότητα μη υπερβαίνουσαν τις 15 λίτρες. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(δ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, και εφοδιασμένα με χειρολαβάς. Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των· ή 2612 (Συνεχίζεται)

(ε) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλη επένδυση. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενό τους, παρισσότερο από 275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες.

(7) Η 4-NITROTOLUENE (Νιτροτολουόλη) (2Ι°(Ι))

μπορεί επίσης να συσκευασθεί:

(α) σε σάκκους κατασκευασμένους από κατάλληλο πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, και τοποθετημένους σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250KG· ή

(γ) σε σάκκους κατασκευασμένους από γερό τετράφυλλο χαρτί, επενδεδυμένους με σάκκον καταλλήλου πλαστικής ύλης, έτσι κλεισμένοι ώστε να είναι στεγανοί. Ένας τέτοιος σάκκος (κόλον) δεν πρέπει να ζυγίζει περισσότερο από 55 KG.

(8) Οι ύλες της 21°(ξ) σε νιφάδες (FLAKES) μπο- 2612
ρουν επίσης να συσκευάζονται σε σάκκους κατασκευασμένους (Συνεχίζεται).
από γερό τετράφυλλο χαρτί, επενδεδυμένους με σάκκον κατασκευασμένον από κατάλληλο πλαστική ύλη και έτσι κλεισμένοι ώστε να είναι στεγανοί. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 55 KG.

Οι ύλες της 22° θα συσκευάζονται:- 2613

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλο πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν και τα οποία δεν πρέπει να περιέχουν περισσότερο από 15 KG το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG,

θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή 26Ι3 (Συνεχίζεται)

(β) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαινούσης τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς αντοχής· ή

(ε) σε σάκκους κατασκευασμένους από κατάλληλο πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, και τοποθετημένους σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG, ή

(στ) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG.

(Ι) Υγρά της 23° θα συσκευάζονται:- 26Ι4

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από γυαλό, πορσελάνη, είδη κεραμικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαινούσης τις 5 λίτρες. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητας των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν εκείνων που

αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή

26I4 (Συνεχίζεται)

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι άνω των I00 γραμμ., οι οποίες θα α-σφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζονται άνω από 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλη επένδυση, και έχοντα χωρητικότητα μη υπερβαίνουσαν τις I5 λίτρες. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από I00 KG· ή

(δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλη επένδυση. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Εάν ζυγίζουν, μαζί με το περιεχόμενό τους περισσότερο από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS).

(2) Στερεά της $23^{ο}$ θα συσκευάζονται κατά τον ίδιο τρόπον όπως οι ύλες της $22^{ο}$.

(I) Οι ύλες της 31°(α) και τα στερεά παρασκευά-2615
σματα της 31°(γ) θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένα δοχεία έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν, και τα οποία δεν πρέπει να περιέχουν περισσότερον από 15 KG το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν άνω των 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευα-

σμένα από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς 26Ι5 αντοχής· ή (Συνεχίζεται)

(ε) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250KG.

(2) Οι ύλες της 3Ι°(β) και τα υγρά παρασκευάσματα της 3Ι°(γ) θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από γυαλο, πορσελάνη, είδη κεραμευτικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζονται άνω των 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι περισσότερο από 100 γραμμ., οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζονται περισσότερο από 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν, και έχοντα χωρητικότητα μη υπερβαίνουσαν τις 15 λίτρες. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή 2615 (Συνεχίζεται)

(δ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο μέταλλο, συγκολλημένα με μαλακή ή σκληρή συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, και εφοδιασμένα με χειρολαβήν. Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των· ή

(ε) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS).

(1) Το αζίδιο του νατρίου (32°(α)) θα συσκευάζεται σε δοχεία κατασκευασμένα από μαύρο φύλλο σιδήρου ή πλάκα- 2616 κασσιτέρου.

(2) Οι ύλες της 32°(β) θα συσκευάζονται σε δοχεία κατασκευασμένα από ύαλο ή κατάλληλη πλαστική ύλη. Το δοχείο δεν πρέπει να περιέχει περισσότερο από 10 KG αζίδιο του βα-

ρίου ούτε περισσότερο από 20 λίτρες διάλυμα αζιδίου του 2616
βαρίου. Τα δοχεία θα ασφαλίζονται χωριστά, με απορρο- (Συνεχίζε-
φητικό αποσβεστικό υλικό, σε κιβώτια ή σιδηρο-καλάθους ται)
με πλήρεις πλευρές· ο όγκος του αποσβεστικού υλικού πρέ-
πει να είναι τουλάχιστον ίσος με το περιεχόμενο του δο-
χείου. Οσάκις χρησιμοποιούνται κάλαθοι, το αποσβεστικό
υλικό, εάν ευχερώς εύφλεκτον, θα φλογο-στεγανοποιείται
επαρκώς ώστε να αποφεύγεται η ανάφλεξις σε επαφή με τη
φλόγα.

Ο φωσφορούχος ψευδάργυρος (33°) θα συσκευάζεται 2617
σε μεταλλικά δοχεία ασφαλισμένα σε ξύλινα κιβώτια. Το
κάλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

Οι ύλες της 41° θα εγκλείονται σε ξύλινα ή μεταλ- 2618
λικά είδη συσκευασίας τα οποία μπορούν να εφοδιάζονται με
μηχανισμόν επιτρέποντα τα αέρια να διαφύγουν. Λεπτώς κοκκο-
ποιημένες ύλες μπορούν επίσης να συσκευάζονται σε σάκκους.

Οι ύλες της 51° θα συσκευάζονται:- 2619

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύα-
λο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή
από κατάλληλο πλαστική ύλη, τα οποία δεν πρέπει να
περιέχουν άνω των 5 KG το καθένα. Δοχεία κατασκευα-
σμένα από πλαστική ύλη μπορούν, εάν αποσταλούν ως
πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης. Τα δο-
χεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε
ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευα-
σία επαρκούς αντοχής. Ένα τέτοιο κάλον δεν πρέπει
να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, καταλληλον επένδυσιν, και τα οποία δεν πρέπει να περιέχουν περισσότερο από 15 KG το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή 2619 (Συνεχίζεται)

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, καταλληλον επένδυσιν. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από καταλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσας τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς αντοχής· ή

(ε) σε σάκκους κατασκευασμένους από καταλληλο πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(στ) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια), έτσι κλεισμένους ώστε να είναι στεγανοί, επαρκούς αντοχής, με καταλληλον επένδυσιν. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG· ή

(I) Οι ύλες της 52° θα συσκευάζονται:- 2620

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από γυαλο, πορσελάνη, είδη κεραμεικής, ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα· δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποσταλούν ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG ύλης. Τα δοχεία θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον επένδυση και τα οποία δεν πρέπει να περιέχουν περισσότερο από 15 KG το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς αντοχής· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον επένδυση. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS), ή

(ε) σε σάκκους κατασκευασμένους από κατάλληλο πλαστική 2620
ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, οι (Συνεχίζεται)
οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(στ) σε δοχεία κατασκευασμένα από ξύλο ή χαρτοσανίδα, επενδεδυμένα με ατμο-στεγανή πλαστική ύλη και ερμητικώς κλεισμένα. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(ζ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

(2) Όταν αποστέλλονται ως πλήρες φορτίο, οι ύλες μπορούν επίσης να συσκευάζονται:-

(α) σε ερμητικώς κλεισμένους ξυλίνους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG· ή

(β) σε σάκκους κατασκευασμένους από γερό τετράφυλλο χαρτί, επενδεδυμένους με σάκκον κατασκευασμένον από κατάλληλη πλαστικήν ύλην, έτσι κλεισμένους ώστε να είναι στεγανοί. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 55 KG.

(Ι) Στερεά της 53° θα συσκευάζονται:- 2621

(α) όχι περισσότερα από 10 KG ανά σάκκον, σε σάκκους κατασκευασμένους από δί-φυλλο χαρτί· ή

(β) σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη· ή

(γ) σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κε- 2621
ραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική (Συνεχίζε-
ύλη· ή ται)

(δ) σε χαλύβδινα δοχεία ή σε γερούς ξύλινους κάδους (βυ-
τία, βαρέλια) εφοδιασμένους με ενισχυτικές ταινίες.

Περί: (α), (β) και (γ):- Τα δοχεία και οι σάκκοι θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινες εξωτερικές συσκευασίες.

(2) Υγρά ή ύλες σε διάλυμα της 53° θα συσκευάζονται:-

(α) σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε προστατευτικές συσκευασίες οι οποίες, εάν δεν είναι κιβώτια, θα είναι εφοδιασμένες με χειρολαβές· ή

(β) σε μεταλλικά δοχεία.

(3) Κάλον περιέχον εύθραυστα δοχεία ή σάκκους κατασκευασμένους από πλαστική ύλη δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

Οι ενώσεις θαλλίου (54°) θα συσκευάζονται:- 2622

(α) σ ε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλο πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG. το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν άνω των 10 KG ύλης. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο

ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή 2622 (Συνεχίζεται)

(β) σε δοχεία από πλάκα-κασσιτέρου· ή

(γ) σε ξύλινα κιβώτια εφοδιασμένα με ενισχυτικές ταινίες· ή

(δ) σε ξύλινους κάδους (βυτία, βαρέλια) με σιδηρές στεφάνες ή γερές ξύλινες στεφάνες (HOOPS).

(I) Οι ύλες των 6I° και 62°, πλήν των υλών της 6I°(I), θα συσκευάζονται:- 2623

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τις 5 λίτρες. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβάς· ή

(β) σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι περισσότερα από 100 γραμμ., οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν

2623
(Συνεχίζεται)

πρέπει να ζυγίζει περισσότερο από 75 KG. Κάλα ζυγίζοντα περισσότερο από 30 KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν, και έχοντα χωρητικότητα μη υπερβαίνουσαν τας 15 λίτρες. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κάλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

(δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG πρέπει να εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(ε) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο μέταλλο, συγκολλημένα με μαλακή ή σκληρή συγκόλληση, έχοντα χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, και εφοδιασμένα με χειρολαβάς. Τα κάνιστρα δεν πρέπει να γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των· ή

(στ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλο πλαστική ύλη, χωρητικότητας μη υπερβαίνου-

σης τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούν- 2623
ται ένα-ένα και σφιχτά σε προστατευτική συσκευασί(Συνεχίζε-
α με πλήρεις πλευρές, κατασκευασμένη από χαρτοσα- ται)
νίδα ή από κάποια άλλη ύλη επαρκούς αντοχής. Τα δο-
χεία δεν πρέπει να γεμίζονται πέραν του 95 τοις ε-
κατόν της χωρητικότητός των.

(2) Οι ύλες της 61°(I) θα συσκευάζονται:-

(α) σε εξ ολοκλήρου συγκολλημένα χαλύβδινα βαρέλια με τοιχώματα πάχους όχι μικροτέρου των I.25 MM (χιλ.), εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS) και ενισχυτικές δοκίδες και έχοντα τα ανοίγματα κλεισμένα με δύο πώματα, το ένα επάνω στο άλλο, το ένα τούτων κοχλιωτό, ή

(β) σε κάνιστρα από φύλλο-μετάλλου με τοιχώματα πάχους όχι μικροτέρου του I MM (χιλ.) και χωρητικότητα μη υπερβαίνουσα τις 60 λίτρες, τα ανοίγματα κλειόμενα με δύο πώματα, το ένα πάνω στο άλλο, του ενός τούτων κοχλιωτού. Τα κάνιστρα από φύλλο-μετάλλου πρέπει να έχουν συγκολλημένες κατά μήκος ραφές, δύο ενισχυτικές δοκίδες στα τοιχώματα, και προστατευτική στεφάνη (RIM) κάτω από τον φέροντα υποδοχήν αρμόν του πυθμένος. Τα κάνιστρα χωρητικότητος 40 έως 60 λιτρών πρέπει να έχουν συγκολλημένους τους πυθμένας των και να είναι εφοδιασμένα με χειρολαβές στις πλευρές· ή

(γ) σε φιάλες αλουμινίου χωρητικότητος μη υπερβαινούσης τις 2 λίτρες, ασφαλισμένες με αποσβεστικό υλικό από

πολική γή σε δοχεία από φύλλο-μετάλλου των οποί- 2623
ων τα πώματα θα κολλούνται σταθερά με κατάλληλες (Συνεχίζε-
κολλητικές λωρίδες. Τα από φύλλο-μετάλλου δοχεία ται)
θα τοποθετούνται, μαζί με το υλικό πληρώσεως, σε
ξύλινα κιβώτια. Το κόλον δεν πρέπει να ζυγίζει πε-
ρισσότερο από 75 KG.· ή

(δ) σε μη-επιστρεπτέα μεταλλικά βαρέλια (καινουργή εί-
δη συσκευασίας προοριζόμενα να χρησιμοποιηθούν μό-
νο μία φορά)· τα βαρέλια αυτά, των οποίων τα τοιχώ-
ματα θα έχουν πάχος όχι μικρότερο των I.2 MM (χιλ.),
θα είναι εφοδιασμένα με κοχλιωτό πώμα εφαρμοσμένο
με παρέμβυσμα. Το πώμα θα ευρίσκεται σε ένα από τα
άκρα του βαρελιού και θα προστατεύεται από την στε-
φάνη. Τα βαρέλια μπορούν να έχουν κορμόν με άκρα φέ-
ροντα υποδοχήν, και αρμούς ενισχυμένους με ούγιες·
εάν δεν διαθέτουν κυλιόμενες στεφάνες (ROLLING HOOPS)
πρέπει να είναι εφοδιασμένα με ενισχυτικές δοκίδες. Το
κόλον δεν πρέπει να ζυγίζει περισσότερο από 200 KG.
Η μεταφορά σε μη-επιστρεπτέα βαρέλια θα λαμβάνει χώ-
ραν μόνον ως πλήρες φορτίο πάνω σε ανοικτά οχήματα· ή

(ε) σε μη-επιστρεπτέα χαλύβδινα βαρέλια (καινουργή είδη
συσκευασίας προοριζόμενα να χρησιμοποιηθούν μόνο μία
φορά) έχοντα πλευρές κατασκευασμένες από φύλλο-χάλυβος
πάχους I.24 MM (χιλ.), άκρα κατασκευασμένα από φύλλο
χάλυβος πάχους I.5 MM (χιλ.), καί απόβαρον 22.5 KG·
τα βαρέλια πρέπει να είναι εφοδιασμένα με ενισχυτικές
δοκίδες. Η ραφή του κορμού θα συγκολλείται και τα

άκρα θα διπλο-συρράπτονται δια συγκολλήσεως με τον κορμό, μετ'εσωτερικής επενδύσεως πολυαιθυλενίου. 2623 (Συνεχίζεται)

Δύο μονάδες κλεισίματος δια κοχλιωτών πωμάτων, μία των 50.8 MM (2") και μία των 19.05 MM (3/4"), θα διπλο-συρράπτονται δια συγκολλήσεως εις ενα των άκρων, μετ'εσωτερικής επενδύσεως εκ συνθετικού καουτσούκ. Κυάθια εκ λεπτού φύλλου χάλυβος θα τοποθετούνται υπεράνω των μονάδων κλεισίματος.

(3) Τα δοχεία τα αναφερόμενα υπό στοιχείον (2) (α) έως (ε) δεν πρέπει να γεμίζονται πέραν του 93% των εκατόν της χωρητικότητάς των.

ΟΙ ύλες της 71° θα συσκευάζονται:- 2624

(α) σε σιδηρά ή ξύλινα είδη συσκευασίας· ή

(β) σε σάκκους κατασκευασμένους από γερό δί-φυλλο χαρτί, ή κατασκευασμένους από γιούτα, επενδεδυμένους με σάκκον κατασκευασμένον από κατάλληλον πλαστικήν ύλην, έτσι κλεισμένους ώστε να είναι στεγανοί.

(Ι) Οι ύλες των 72° και 73° θα συσκευάζονται: 2625

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG της ύλης. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλο δεν πρέπει να ζυγί-

ζει περισσότερο από 75 KG· ή 2625

(β) σε χαλύβδινα ή ξύλινα είδη συσκευασίας· ή (Συνεχίζεται)

(γ) σε σάκκους κατασκευασμένους από γερό δί-φυλλο τουλάχιστο χαρτί. Εν τούτοις, οι σάκκοι για οξικό μόλυβδο πρέπει να κατασκευάζονται:-

I.- από κάνναβη επενδεδυμένη με κατάλληλη πλαστική ύλη ή με γερό κρέπ χαρτί κολλημένο με βιτούμιον (πίσσα)· ένας τέτοιος σάκκος, μαζί με το περιεχόμενό του, δεν πρέπει να ζυγίζει περισσότερο από 30 KG· ή

2.- από γερό χαρτί τουλάχιστο δί-φυλλο, επενδεδυμένο με σάκκον κατασκευασμένον από κατάλληλη πλαστική ύλη· ένας τέτοιος σάκκος, μαζί με το περιεχόμενό του, δεν πρέπει να ζυγίζει περισσότερο από 30 KG· ή

3.- από γερό χαρτί τουλάχιστο πεντά-φυλλο, επενδεδυμένο με σάκκον κατασκευασμένον από κατάλληλη πλαστική ύλη· ένας τέτοιος σάκκος, μαζί με το περιεχόμενό του, δεν πρέπει να ζυγίζει περισσότερο από 55 KG· ή

4.- από γερό χαρτί τουλάχιστο τρί-φυλλο, τοποθετημένο σε σάκκους από γιούτα· ένας τέτοιος σάκκος, μαζί με το περιεχόμενό του, δεν πρέπει να ζυγίζει περισσότερο από 55 KG· ή

(δ) σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κό-

λον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. 2625

(2) Οι ύλες της 72° μπορούν επίσης να συσκευασθούν σε δοχεία κατασκευασμένα από πλάκα κασσιτέρου ή από φύλλο χάλυβος. (Συνεχίζεται)

Οι ύλες των 74° και 75° θα συσκευάζονται:- 2626

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα από πλαστική ύλη μπορούν, εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν μέχρι 10 KG της ύλης. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(β) σε χαλύβδινα ή ξύλινα είδη συσκευασίας· ή

(γ) σε σάκκους κατασκευασμένους από γερό χαρτί τουλάχιστο δί-φυλλο, ή σε σάκκους από γιούτα· ή

(δ) σε δοχεία κατασκευασμένα από πλάκα-κασσιτέρου ή από φύλλο-μετάλλου.

Τα παρασιτοκτόνα της 81° θα συσκευάζονται:- 2627

(αα) υπό στερεάν/ή υπό μορφήν μορφήν ζύμης (PASPE FORM):-

I.- σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν περισσότερο από 5 KG το καθένα. Δοχεία κατασκευασμένα από πλαστικήν ύλην μπορούν,

εάν αποστέλλονται ως πλήρες φορτίο, να περιέχουν 2627
μέχρι 10 KG της ύλης. Τα δοχεία αυτά θα ασφαλίζονται (Συνεχίζεται)
με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG ή

2.- σε ερμητικώς κλεισμένα μεταλλικά δοχεία έχοντα, εάν χρειασθεί, καταλληλον επένδυσιν, και τα οποία δεν πρέπει να περιέχουν περισσότερο από 15 KG το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100KG· ή

3.- σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, καταλληλον επένδυσιν. Εάν τα βαρέλια, μαζί με το περιεχόμενόν τους, ζυγίζουν περισσότερο από 275 KG, θα εφοδιάζονται με κυλισμένες στεφάνες (ROLLING HOOPS)· ή

4.- σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από καταλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσης τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς αντοχής· ή

5.- σε σάκκους κατασκευασμένους από καταλληλη πλαστική ύλη, έτσι κλεισμένους ώστε να είναι στεγανοί, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια

άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή 2627 (Συνεχίζεται)

6.- σε δοχεία κατασκευασμένα από ξύλο ή χαρτοσανίδα, επενδεδυμένα με ατμο-στεγανή πλαστική ύλη και ερμητικώς κλεισμένα. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

7.- σε ερμητικώς κλεισμένα μεταλλικά δοχεία. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG·

8.- αρσενικαί ενώσεις αποστελλόμεναι ως πλήρες φορτίο μπορούν επίσης να συσκευάζονται σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) επαρκούς αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 250 KG·

9.- παρασκευάσματα μπορούν επίσης να εγκλείονται σε συσκευασίες έτοιμα προς χρήσιν, τα οποία θα συσκευάζονται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG·

(β) υπό υγράν μορφήν:-

I.- σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαινούσης τις 5 λίτρες, με τα ανοίγματα κλεισμένα με δύο πώματα, το ένα πάνω στο άλλο, και το ένα από αυτά κοχλιωτό. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό απο-

σβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξω- 2627
τερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέ- (Συνεχίζε-
πει να γεμίζονται πέραν του 93ου εκατόν της χωρητι- ται)
κότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30KG πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή

2.- σε φλογο-στεγανές γυάλινες αμπούλες περιέχουσες όχι περισσότερο από 50 γραμμ., οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Οι αμπούλες δεν πρέπει να γεμίζονται πέραν του 93ου εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 30 KG. Πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, κόλα ζυγίζοντα περισσότερο από 30 KG θα εφοδιάζονται με χειρολαβές· ή

3.- σε μεταλλικά δοχεία έχοντα, εάν χρειασθεί, κατάλληλον επένδυσιν, έχοντα χωρητικότητα μη υπερβαίνουσαν τις 15 λίτρες και έχοντα ανοίγματα κλεισμένα με δύο πώματα, το ένα τοποθετημένο πάνω στο άλλο, και το ένα από αυτά κοχλιωτό. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 93ου εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG· ή

4.- σε κάμιστρα κατασκευασμένα από κατάλληλο μέταλλο, συγ-

κολλημένα με μαλακή ή σκληρή συγκόλληση, με τοιχώματα 2627
πάχους όχι μικροτέρου των 0.5 MM (χιλ.) και χωρητικό- (Συνεχίζε-
τητα μη υπερβαίνουσα τις 60 λίτρες, και ανοίγματα ται)
κλεισμένα με δύο πώματα, τό ένα τοποθετημένο επάνω
στο άλλο, και τό ένα από αυτά τα πώματα κοχλιωτό, και
εφοδιασμένα με χειρολαβές. Τα κάλιστρα δεν πρέπει να
γεμίζονται πέραν του 93 τοις εκατόν της χωρητικότη-
τος των· ή

5.- σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα, εάν χρειασθεί, κατάλληλη επένδυση. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν περισσότερο από 275 KG, θα εφοδιάζονται με κυλισμένες στεφάνες (ROLLING HOOPS). Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 93 τοις εκατόν της χωρητικότητάς των· ή

6.- σε δοχεία κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τις 60 λίτρες, με ανοίγματα κλεισμένα με δύο πώματα, το ένα τοποθετημένο πάνω στό άλλο, και το ένα από τα πώματα κοχλιωτό. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 93 τοις εκατόν της χωρητικότητάς των.

Τα παρασιτοκτόνα της 82° θα συσκευάζονται:- 2628

(α) υπό στερεάν μορφήν:

I.- κατά τον αυτόν τρόπον όπως τα στερεά της 81°.

2.- όταν αποστέλλονται ως πλήρες φορτίο, επίσης σε σάκκους κατασκευασμένους από γερό τετρά-φυλλο χαρτί

επενδεδυμένους με σάκκον κατασκευασμένον από κατάλληλη πλαστικήν ύλην, έτσι κλεισμένους ώστε να είναι στεγανοί. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 55 KG. 2628 (Συνεχίζεται)

(β) υπό υγράν μορφήν:

κατά τον ίδιο τρόπον όπως τα υγρά της 81°.

Τα παρασιτοκτόνα της 83° θα συσκευάζονται: 2629

(α) υπό στερεάν μορφήν:

1.- κατά τον ίδιο τρόπον όπως τα στερεά της 81°· ή

2.- σε σάκκους από γιούτα καταστάντας αδιαπεράστους από την υγρασία δι'επενδύσεως γενομένης από κατάλληλο υλικό, κολλημένο με βιτούμιον (πίσσα), ή σε σάκκους από γιούτα επενδεδυμένους με σάκκον κατασκευασμένον από κατάλληλον πλαστικήν ύλην, έτσι κλεισμένοι ώστε να είναι στεγανοί. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 55 KG· ή

3.- στη περίπτωση των παρασκευασμάτων, και άλλων παρασιτοκτόνων, εάν αποστέλλονται ως πλήρες φορτίο, σε σάκκους κατασκευασμένους από γερό τετρά-φυλλο χαρτί, επενδεδυμένους με σάκκον κατασκευασμένον από κατάλληλον πλαστικήν ύλην και ερμητικώς κλεισμένοι. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 55KG· ή

4.- στη περίπτωση τερεών αρσενικών ενώσεων:

I.- σε ξύλινους κάδους (βυτία, βαρέλια) με διπλά τοιχώματα, επενδεδυμένους με γερό χαρτί· ή

II.- σε κυτία από ινοσανίδα τοποθετημένα σε ξύλινο κιβώτιο· ή

III.- όχι άνω των 12.5 KG ανά σάκκον, σε διπλούς σάκκους, κατασκευασμένους από γερό χαρτί ή κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται είτε σε ξύλινο κιβώτιο επενδεδυμένο με χονδρό χαρτί ή σφιχτά σε γερό κιβώτιο κατασκευασμένο από διπλής-όψης κυματοειδούς ινοσανίδος ή στερεάς ινοσανίδος ισοδυνάμου αντοχής, του κιβωτίου επενδεδυμένου με γερό χαρτί. Όλοι οι αρμοί και πτερύγια θα καλύπτονται με κολλητικές λωρίδες. Κόλον αποτελούμενον από κιβώτιον ινοσανίδος δεν πρέπει να ζυγίζει περισσότερο από 30 KG. 2629 (Συνεχίζεται)

5.- στη περίπτωση αρσενικών ενώσεων αποστελλομένων ως πλήρες φορτίον:-

I.- σε συνήθη ξύλινα είδη συσκευασίας επενδεδυμένα με γερό χαρτί· ή

II.- όχι περισσότερον των 25 KG ανά σάκκον, σε σάκκους από δί-φυλλο χαρτί, ή σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται χωριστά σε σάκκους κατασκευασμένους από γιούτα ή παρόμοιο υλικό επενδεδυμένους με κρέπ χαρτί· ή

III.- σε σάκκους κατασκευασμένους από χαρτί τουλάχιστον τρί-φυλλο ή σε σάκκους από δί-φυλλο χαρτί επενδεδυμένους με σάκκον κατασκευασμένον από κατάλληλον πλαστικήν ύλην. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 20 KG· ή

IV.- σε σάκκους από δί-φυλλο χαρτί ή σε σάκκους κατα- 2629
σκευασμένους από κατάλληλη πλαστική ύλη, οι ο- (Συνεχί-
ποίοι θα τοποθετούνται σε σάκκους από τετρά- ζεται)
φυλλο χαρτί. Ένα τέτοιο κόλον δεν πρέπει να ζυ-
γίζει περισσότερο από 60 KG.

Στις περιπτώσεις των III και IV ανωτέρω, κάθε αποστολή πρέπει να συνοδεύεται από κενούς σάκκους εν αναλογία I για κάθε 20 σάκκους περιέχοντας αρσενικάς ύλας (ύλες αρσενικού), οι κενοί δε αυτοί σάκκοι προορίζονται να περιλάβουν ποσότητες των υλών που ενδέχεται να διαφύφουν από σάκκους καταστραφέντας κατά την μεταφοράν.

(β) υπό υγράν μορφήν:-

I.- κατά τον ίδιον τρόπον όπως τα υγρά της 81°· ή

2.- στη περίπτωση των παρασκευασμάτων:-

I.- σε ερμητικώς κλεισμένα κυλινδρικά δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρόμοια υλικά, χωρητικότητος μη υπερβαινούσης τις 25 λίτρες. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία επαρκούς αντοχής. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοκ εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

II.- σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, χωρητικότητας μη υπερβαινούσης τις 25 λίτρες, οι οποίες θα ασφαλίζονται με απορροφητικό απο-

σβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη 2629
εξωτερική συσκευασία επαρκούς αντοχής, ή οι οποίες (Συνεχίζεται)
θα ασφαλίζονται σε σιδηρούς ή φαθωτούς καλάθους.
Οι ναμιζάνες δεν πρέπει να γεμίζονται πέραν του
95τοι εκατόν της χωρητικότητάς των. Ένα τέτοιο
κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή
III.- σε δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, με τοιχώματα πάχους όχι μικρότερου των 4 MM (χιλ.) και χωρητικότητα μη υπερβαίνουσαν τις 60 λίτρες, των ανοιγμάτων κλειομένων με δύο πώματα, το ένα τοποθετημένο πάνω στο άλλο, του ενός των πωμάτων κοχλιωτού, των δοχείων μη εχόντων προστατευτικήν συσκευασίαν εάν η αρμόδια αρχή της χώρας της αναχωρήσεως το επιτρέπει. Τα δοχεία δεν πρέπει να γεμίζονται πέραν του 95τοι εκατόν της χωρητικότητάς των. Το τοιούτο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG.

ΟΙ ύλες της 84° θα συσκευάζονται:- 2630

(α) κατά τον ίδιον τρόπον όπως τα στερεά της 81°· ή

(β) στη περίπτωση υλών της 84° (α) λίαν εμφανώς εγχρώμων, σε σάκκους κατασκευασμένους από χαρτί τουλάχιστον δίφυλλον, ή σε κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται σε υφασματένιους σάκκους· ή

(γ) στη περίπτωση υλών της 84°, σε στενά-υφασμένους σάκκους από γιούτα.

3.- Μικτή συσκευασία 2631

(Ι) Ύλες ομαδοποιημένες υπό τον αυτόν αριθμόν

είδους μπορούν να συμπεριλαμβάνονται στο αυτό κόλον. 2631
Οι εσωτερικές συσκευασίες θα είναι σύμφωνοι με ό,τι προβλέπεται για κάθε ύλη, και η εξωτερική συσκευασία θα είναι η οριοθείσα για τις ύλες του εν θέματι αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται υπό του άρθρου του τιτλοφορουμένου "Συσκευασία μιάς ύλης", οι ύλες της παρούσας Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG στη περίπτωση στερεών ή τις 3 λίτρες στη περίπτωση των υγρών γιαόλες τις ύλες τις αναγραφόμενες υπό τον αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν να εγκλείονται στο αυτό κόλον είτε με ύλες άλλου αριθμού είδους ή άλλου γράμματος της αυτής Κλάσεως, η με επικίνδυνους ύλες ανήκουσες σε άλλες Κλάσεις (εάν μικτή συσκευασία ομοίως επιτρέπεται στη περίπτωση τοιούτων υλών), ή με άλλα εμπορεύματα, υπό την επιφύλαξη των παρακάτω ειδικών όρων:-

Οι εσωτερικές συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους συσκευασίας. Επιπροσθέτως, οι γενικοί όροι των περιθωρίων 2001(5) και 2002 (6) και (7) πρέπει να τηρούνται.

Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 150 KG, ή περισσότερο από 75 KG εάν περιέχει εύθραυστα δοχεία.

2631
(Συνεχίζεται)

Ειδικοί όροι:-

Αριθμός Είδους	Περιγραφή Ύλης	Ανώτατη Ποσότητα ανά δοχείον	Ανώτατη Ποσότητα ανά πόλον	Ειδικές Διατάξεις
Ι°(α)	Υδροκυανικό οξύ	Μικτή σθσκευασία δεν επιτρέπεται		
Ι°(β)	Διαλύματα υδροκυανικού οξέος περιέχοντα όχι άνω του 4°/ο υδροκυανικόν οξύ (διαλύματα περιέχοντα άνω του 4°/ο απαγορεύονται)	Ι λίτρα	Ι λίτρα	Δεν πρέπει να συσκευάζονται με οποιοδήποτε άλλο οξύ
2°	Ακρυλονιτρίλιο, ακετονιτρίλιο, ισοβουτυρονιτρίλιο	Ι λίτρα	Ι λίτρα	Δεν πρέπει να συσκευάζονται μαζί με ύλες της Κλάσεως 5.Ι Και Κλάσεως 8. Γυάλινα δοχεία πρέπει να ασφαλίζονται με αποσβεστικό υλικό σε

263Ι
(Συνεχίζεται)

Αριθμός Είδους	Περιγραφή Ύλης	Ανώτατη ανά δοχείο	Ποσότητα ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			προστατευτικά δοχεία
5°(α)	Καρβονύλιο Νικελίου	Μικτή συσκευασία απαγορεύεται		
ΙΙ°(α)	2-CYANOPROPAN-2-oI	Ι λίτρα	Ι λίτρα	Δεν πρέπει να συσκευάζονται μαζί με ύλες των Κλάσεων 5.Ι και 8. Γυάλινα δοχεία πρέπει να ασφαλίζονται με αποσβεστικό υλικό σε προστατευτικά δοχεία
Ι3°(β)	Θειϊκό Διμεθύλιο (DIMETHYL SULPHATE)	Ι λίτρα	3 λίτρες	
3Ι°(α)	Κυανίδια σε στερεά μορφή			Δεν πρέπει να
	- σε εύθραυστα δοχεία	500 γραμ.	500 γραμ.	συσκευάζονται
	- σε συνήθη δοχεία	5 KG	5 KG	μαζύ με ύλες φύσεως οξέος
3Ι°(β)	Διαλύματα ανοργάνων κυανιδίων	Ι λίτρα	3 λίτρες	
4Ι°(β)	Κράματα σιδηρο-πυριτίου με αλουμίνιο	2.5KG	2.5 KG	

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου επί των κόλων (βλέπε Προσθήκην Α.9) 2632

(1) Κόλα περιέχοντα ύλες των 1° - 5°, 11° - 14°, 21° - 23°, 31° - 33°, 41°, 51° - 54°, 81° και 82° θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No.4· κόλα περιέχοντα ύλες των 2°, 4°(α), 5° και 11°(α) θα φέρουν, επιπροσθέτως, ετικέτα σύμφωνον προς το μοντέλο No. 2Α. Κόλα περιέχοντα ύλες των 61°, 62°, 71° - 75°, 83° και 84° θα φέρουν ετικέτα σύμφωνον προς το μοντέλο 4Α.

Κόλα περιέχοντα χρωμικά άλατα μολύβδου (χρωμικό μόλυβδο), μίνιον (κόκκινος μόλυβδος), κυανούν μολύβδου της 72°, ή ύλες της 83° ή 84°, θα φέρουν ετικέτα σύμφωνον με το μοντέλο 4Α.

(2) Κόλα περιέχοντα εύθραυστα δοχεία αδρανή από έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No. 9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα επιπροσθέτως, πλήν της περιπτώσεως των σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνες προς το μοντέλο No. 8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

(3) Προκειμένου περί φορτώσεων αποστελλομένων ως πλήρες φορτίον, οι ετικέτες 2Α, 4 ή 4Α δεν χρειάζεται να τοποθετούνται στα κόλα έάν το όχημα φέρει την ένδειξιν την προβλεπομένην υπό του Παραρτήματος Β, περιθώριον 10.500.

Β.- Στοιχεία εγγράφου μεταφοράς 2633

(Ι) Προκειμένου περί υλών που αναφέρονται με 2634
την ονομασία του καταλόγου υλών (περιθώριον 2601), η περιγραφή των εμπορευμάτων στο έγγραφο μεταφοράς πρέπει να συμφωνεί με την ονομασίαν την υπογραμμιζομένην στο περιθώριο 2601. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 6.1, 1°(α), ADR).

Προκειμένου περί υλών που δεν αναφέρονται με την ονομασίαν του καταλόγου υλών (περιθώριον 2601), η εμπορική ονομασία ή η χημική ονομασία πρέπει να χρησιμοποιείται. Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα στοιχεία της Κλάσεως και τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα) της ύλης της παρουσιαζούσης συγκρινόμενον (ανάλογον) βαθμόν κινδύνου, και τα αρχικά "ADR" ή "RID" (π.χ. 6.1, 21°(μ), ADR).

(2) Προκειμένου περί του υδροκυανικού οξέος (1°(α)) τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς: "Η φύσις των εμπορευμάτων, και το είδος της συσκευασίας, συμφωνούν με τις διατάξεις της ADR".

(3) Προκειμένου περί των υλών της 41°, τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς:- "Αποθηκευμένα στον ανοικτόν αέρα και σε ξηρόν τόπον όχι λιγώτερο από τρείς ημέρες".

(4) Προκειμένου περι αποστολών υλών που πολυ- 2634
μεροποιούνται ευχερώς, τα παρακάτω πρέπει να βεβαι- (Συνεχίζε-
ούνται στο έγγραφο μεταφοράς: "Πάρθηκαν τα απαραίτητα ται)
μέτρα για την αποφυγήν πολυμερισμού διαρκούσης της μεταφοράς".

2635-
2642

Γ.- Κενά είδη συσκευασίας

(I) Οι σάκκοι της 9I° και 92° πρέπει να συ- 2643
σκευάζονται σε κιβώτια ή σε αδιαπέραστους σάκκους προς αποφυγήν οιασδήποτε απώλειας των υλών.

(2) Άλλα είδη συσκευασίας και δεξαμενές της 9I° και 92° πρέπει να κλείνονται κατα τον ίδιο τρόπον και και με τον αυτόν βαθμόν στεγανότητας ως εάν ήσαν πλήρεις.

(3) Κόλα αποστελλόμενα όχι ως πλήρες φορτίο, δεξαμενές, και συσκευασθέντες σάκκοι της 9I° θα φέρουν ετικέτες σύμφωνες προς το μοντέλο No. 4 συσκευασμένοι σάκκοι της 92° θα φέρουν ετικέτες σύμφωνες προς το μοντέλο No. 4A (βλέπε Προσθήκην Α.9).

(4) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι: "Κενή συσκευασία. 6.I, 9I° (ή 92°), ADR (ή RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

2644-
2649

ΚΛΑΣΗ 6.2 ΑΠΕΧΘΕΙΣ ΥΛΕΣ ΚΑΙ ΥΛΕΣ ΠΟΥ ΜΠΟΡΟΥΝ ΝΑ ΠΡΟΚΑΛΕΣΟΥΝ ΜΟΛΥΝΣΗ

I.- Κατάλογος υλών

Μεταξύ των υλών και ειδών που καλύπτονται υπό τον τίτλον Κλάσις 6.2, μόνον εκείνες που αναγράφονται στο περιθώριο 2651 γίνονται δεκτές προς μεταφοράν, και μόνον υπό την επιφύλαξη των διατάξεων του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θεωρούνται ως ύλες και είδη της ADR. 2650

1° (α) Νωποί τένοντες, ξακρίδια νωπών δερμάτων, μη αβεστωμένων ή αλατισμένων, απορρίμματα από νωπούς τένοντες ή από ξακρίδια νωπών δερμάτων· 2651

Σημείωσις:- Ξακρίδια υγρών νωπών δερμάτων, ασβεστομένων ή αλατισμένων, δεν υπόκεινται στις διατάξεις της ADR.

(β) νωπά κέρατα, ή οπλές μη καθαρισμένες από κόκκαλο και μαλακά συναφή μέρη, νωπά κόκκαλα μη καθαρισμένα από το κρέας ή άλλα μαλακά συναφή μέρη·

(γ) ακατέργαστες γουρουνότριχες και μαλλί.

2° Νωπά δέρματα, μη αλατισμένα ή αλατισμένα, από τα οποία προκληθείσες ποσότητες αίματος ή άλμης στάζουν.

Σημείωσις:- Κανονικώς αλατισμένα δέρματα περιέχοντα μικράν μόνον ποσότητα υγρασίας δεν υπόκεινται στις διατάξεις της ADR.

3° Καθαρισμένα ή ξηραμένα κόκκαλα, καθαρισμένα ή ξηραμένα κέρατα και οπλές.

Σημείωση:- Ξηρά κόκκαλα από τα οποία αφαιρέθηκε 2651
λίπος, μή αναδύοντα βρώμικη (σάπια) οσμή, δεν υπό- (Συνεχίζε-
κεινται στις διατάξεις της ADR. ται)

4° Νωπές ρενέτες μοσχαριού, καθαρισμένες από όλα τα ίχνη εδωδίμου ύλης.

Σημείωση:- Ξηραμένες ρενέτες μοσχαριού (CALF RENNETS) που δεν αναδύουν προκλητικήν οσμήν δεν υπόκεινται στις διατάξεις της ADR.

5° Πεπιεσμένα υπολείμματα εκ της κατασκευής δερματόκολλας (ασβεστούχα υπολείμματα, υπολείμματα από το ασβέστωμα ξακριδιών δερμάτων, ή υπολείμματα χρησιμοποιούμενα ως λιπάσματα).

6° Μή-πεπιεσμένα υπολείμματα εκ της κατασκευής δερματόκολλας.

7° Μή-μολυβδένια ούρα προστατευόμενα κατά της αποσυνθέσεως.

8° Ανατομικά τεμάχια, εντόσθια και αδένες.

(α) μη-μολυβδένια

(β) μολυβδένια

9° Κοπριά

10° Περιττώματα

11° Άλλες ύλες ζώων, απεχθείς ή δυνάμενες να προκαλέσουν μόλυνσιν, μη ήδη ειδικώς αναφερθείσαι εις I° έως 10°.

12° Κενά είδη συσκευασίας και νεκροί σάκκοι που περιείχαν ύλες των I° έως 8°, 10° και 11°, και φύλλα που χρησιμοποιήθηκαν για κάλυμμα των υλών της Κλάσεως 6.2.

Σημείωση:- Εάν δεν εκκαθαρίσθηκαν, τα είδη αυτά της συσκευασίας, σάκκοι και φύλλα δεν γίνονται δεκτά για

μεταφορά.

2.- Διατάξεις

Α.- Κδλα

Ι.- Γενικοί δροι συσκευασίας

(Ι) Τα είδη συσκευασίας θα είναι έτσι κλεισμέ- 2652
να και στεγανά ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου.

(2) Τα είδη συσκευασίας, συμπεριλαμβανομένων των κλεισιμάτων των, πρέπει να είναι επαρκώς άκαμπτα και γερά σε όλα τα μέρη τους για να αποφεύγεται οποιαδήποτε χαλάρωση διαρκούσης της μεταφοράς και πρέπει να τηρούν τους συνήθεις δρους μεταφοράς. Ειδικώτερα οσάκις οι ύλες είναι σε υγρά κατάσταση ή είναι υποκείμενες σε ζυμώσεις, τα δοχεία και τα κλεισίματα αυτών πρέπει, εκτός εάν το άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης" προβλέπει άλλως, να είναι σε θέση να ανθίστανται σε οποιαδήποτε πίεση η οποία, λαμβανομένης επίσης υπόψη της παρουσίας του αέρος, ενδέχεται να εγερθεί εσωτερικώς των δοχείων κατά την συνήθη μεταφοράν. Για τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπόψη της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά τον χρόνον της πληρώσεως και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μεταφοράς.

(3) Ουδέν ίχνος του περιεχομένου πρέπει να κολλά στο εξωτερικό των κόλων.

2.- Συσκευασία μιάς ύλης

Οι ύλες της Ι° θα συσκευάζονται:- 2653

(α) εάν δεν αποστέλλονται ως πλήρες φορτίο:- 2653
(Συνεχίζεται)

I.- σε μεταλλικά δοχεία εφοδιασμένα με ασφαλές κλείσιμο ικανό να λειτουργεί σε εσωτερική πίεση, ή σε κάδους, μικρά βυτία (λεκάνες)/ή νιβώτια· ή-

2.- στη περίπτωση των υλών της I°(γ) σε ξηρά κατάσταση, επίσης σε σάκκους, υπό τον όρον ότι η καυτή οσμή μπορεί να αφαιρεθεί δι'απολυμάνσεως. Στη περίπτωση υλών όχι σε ξηρά κατάσταση, η συσκευασία σε σάκκους επιτρέπεται μόνον από της Ιής Νοεμβρίου μέχρι της I5ης Απριλίου·

(β) εάν αποστέλλονται ως πλήρες φορτίο:

I.- σε είδη συσκευασίας οριζόμενα εν (α)I. ανωτέρω· ή

2.- υπό τον όρον ότι η καυτή οσμή μπορεί να αφαιρεθεί δι'απολυμάνσεως, σε σάκκους εμποτισμένους με κατάλληλα απολυμαντικά.

Οι ύλες της 2° θα συσκευάζονται: 2654

(α) εάν δεν αποστέλλονται ως πλήρες φορτίο:-

I.- σε κάδους, μικρές λεκάνες ή νιβώτια· ή

2.- κατά τους μήνες από Νοεμβρίου μέχρι Φεβρουαρίου συμπεριλαμβανομένων, σε σάκκους εμποτισμένους με κατάλληλα απολυμαντικά, υπό τον όρον ότι η καυτή οσμή μπορεί να αφαιρεθεί δι'απολυμάνσεως·

(β) εάν αποστέλλονται ως πλήρες φορτίο:-

I.- σε είδη συσκευασίας οριζόμενα εν (α) I. ανωτέρω· ή

2.- υπό τον όρον ότι η καυτή οσμή μπορεί να αφαιρεθεί

δι' απολυμάνσεως σε σάκκους εμποτισμένους με κατάλ- 2654
ληλα απολυμαντικά. ((Συνεχίζε-
ται)

ΟΙ ύλες της 3ο θα συσκευάζονται σε κάδους, μι- 2655
κρές λεκάνες, νιβώτια, μεταλλικά δοχεία ή σάκκους.

Οι ύλες της 4ο θα συσκευάζονται:- 2656

(α) εάν δεν αποστέλλονται ως πλήρες φορτίο:-
σε κάδους, μικρές λεκάνες, νιβώτια, μεταλλικά δο-
χεία ή σάκκους·

(β) εάν αποστέλλονται ως πλήρες φορτίο: σε οποιαδήποτε
κατάλληλα είδη συσκευασίας.

Οι ύλες της 5ο και 6ο θα συσκευάζονται σε κά- 2657
δους (βυτία, βαρέλια), μικρές λεκάνες, νιβώτια ή μεταλ-
λικά δοχεία.

Οι ύλες της 7ο θα συσκευάζονται σε ερμητικώς 2658
κλεισμένα δοχεία κατασκευασμένα από γαλβανισμένο φύλλο-
μετάλλου.

(1) Οι ύλες της 8ο θα συσκευάζονται σε μεταλλι- 2659
κά δοχεία εφοδιασμένα με κατάλληλο κλείσιμο ικανό να
λειτουργεί σε εσωτερική πίεση, σε κάδους ή μικρές λε-
κάνες· οι ύλες της 8ο(α) μπορούν επίσης να συσκευασθούν
σε νιβώτια.

(2) Οι ύλες της 8ο μπορούν επίσης να συσκευά-
ζονται ως κάτωθι:-

(α) ύλες της 8ο(α), σε δοχεία κατασκευασμένα από ύαλο,
πορσελάνη, είδη κεραμεικής, μέταλλο ή κατάλληλο
πλαστική ύλη. Τα δοχεία αυτά θα τοποθετούνται, είτε
ένα-ένα είτε ομαδικά, σε γερό ξύλινο νιβώτιο, με

απορροφητικό αποσβεστικό υλικό εάν τα δοχεία εί- 2659
ναι εύθραυστα. Εάν οι προς μεταφοράν ύλες έχουν (Συνεχίζε-
εμβυθισθεί σε διατηρητικό ρευστό, οι απορροφητι- ται)
κές ύλες θα είναι επαρκούς ποσότητος ώστε να απορροφηθεί όλο το ρευστό. Το διατηρητικό ρευστό δεν πρέπει να είναι εύφλεκτο. Κόλα ζυγίζοντα πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβάς·

(β) ύλες της 8°(β), σε κατάλληλα δοχεία τοποθετημένα με αποσβεστικό υλικό σε γερό ξύλινο κιβώτιο έχον μεταλλικήν επένδυσιν καταστάσαν στεγανήν π.χ. δια συγκολλήσεως. Κόλα ζυγίζονται πάνω από 30 KG θα είναι εφοδιασμένα με χειρολαβάς·

Οι ύλες της 9° θα αποστέλλονται μόνον χύμα. 2660

Οι ύλες της 10° θα συσκευάζονται σε δοχεία 2661
κατασκευασμένα από φύλλο-μετάλλου.

Οι ύλες της 11° θα συσκευάζονται σε μεταλλικά 2662
δοχεία εφοδιασμένα με κλείσιμο ασφαλείας ικανό να λειτουργεί σε εσωτερική πίεση, ή σε κάδους, μικρές λεκάνες ή κιβώτια.

3.- Μικτή συσκευασία

Ύλες αναγραφόμενες υπό αριθμόν είδους του πε- 2663
ριθωρίου 2651 μπορούν να συμπεριληφθούν στο αυτό κόλον μόνον με ύλες αναγραφόμενες υπό τον αυτόν αριθμόν είδους, και τότε μόνον υπό τον όρον ότι θα χρησιμοποιηθούν τα είδη συσκευασίας τα προβλεπόμενα υπό των άρθρων Α.1 και 2 ανωτέρω.

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου επί των κόλων (βλέπε Προσθήκην Α.9).

Κόλα περιέχοντα εύθραυστα δοχεία αόρατα από 2664
έξω θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα, επιπροσθέτως, εκτός της περιπτώσεως των σφραγισμένων αμπουλών, θα φέρουν ετικέτες σύμφωνες προς το μοντέλο No. 8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον όταν χρησιμοποιούνται άλλα είδη συσκευασίας.

2665

Β.- Στοιχεία εγγράφου μεταφοράς 2666

Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφοράς πρέπει να συμφωνεί με μία των ονομασιών των υπογραμμισμένων στο περιθώριο 2651. Οσάκις η ονομασία της ύλης δεν σημειούται, θα χρησιμοποιείται η εμπορική ονομασία. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 6.2, I°(α), ADR).

Γ.- Κενά είδη συσκευασίας

(1) Τα είδη της I2° θα καθαρίζονται και επεξεργά- 2673
ζονται με κατάλληλα απολυμαντικά.

(2) Η περιγραφή στο έγγραφο μεταφοράς πρέπει να είναι: "Κενή συσκευασία (ή κενός σάκκος, ή φύλλον), 6.2, I2°, ADR (ή RID)". Η περιγραφή αυτή πρέπει να υπογραμμίζεται με κόκκινο.

2674-
2699

ΚΛΑΣΙΣ 7

ΡΑΔΙΕΝΕΡΓΕΙΣ ΥΛΕΣ

Εισαγωγή.-

(1) Αντικείμενον 2700

(α) Μεταξύ των υλών με ειδικήν ενέργειαν άνω των 0.002 MICROCURIE ανά γραμμάριον και ειδών περιεχόντων τέτοιες ύλες, μόνον εκείνες και εκείνα που σημειούνται στους πίνακες του περιθωρίου 2703 γίνονται δεκταί για μεταφοράν και τότε μόνον υπό τους όρους τους ανεφερομένους στους καταλλήλους πίνακες του ρηθέντος περιθωρίου και στη προσθήκη Α.6 (περιθώρια 3600 - 3699).

(β) Οι εν (α) ανωτέρω ύλες και είδη είναι ύλες και είδη της ADR.

ΣΗΜΕΙΩΣΙΣ:- Καρδιακοί βηματοδότες περιέχοντες ραδιενεργείς ύλες, όταν έχουν χειρουργικώς εμφυτευθεί σε ασθενείς ή μεταφέρονται εντός των ασθενών κατά την ιατρικήν των θεραπείαν, δεν υπόκεινται στην ADR.

(2) Ορισμοί και επεξηγήσεις

A_I και A_2

"A_I" σημαίνει την ανωτάτη ενέργεια ειδικής μορφής ραδιενεργών υλών που επιτρέπεται για κόλον Τύπου Α. "A_2" σημαίνει την ανωτάτη ενέργεια ραδιενεργών υλών, πλήν των ειδικής μορφής ραδιενεργών υλών, που επιτρέπεται για κόλον Τύπου Α. Οι τιμές αυτές είτε απαριθμούνται στη Προσθήκη Α.6 Πίναξ XXI είτε μπορούν να εξαχθούν σύμφωνα με τη διαδικασία την περιγραφομένην στα περιθώρια 3690 και 3691 της Προσθήκης Α.6.

Επιτρεπτέος αριθμός κόλων 2700

(Συνεχίζεται)

"Επιτρεπτέος αριθμός I/ κόλων" σημείνει τον ανώτατον αριθμόν κόλων Διασπαστής Κλάσεως II ή Διασπαστής Κλάσεως III που μπορούν να ομαδοποιηθούν σε ένα μέρος κατά την διάρκεια της μεταφοράς ή διακούσης της αποθηκεύσεως κατά την διαμετακόμισιν (TRANSIT STORAGE).

I/ Όταν η ομάδα αποτελείται από κόλα διαφόρων σχεδίων, ο ανώτατος αριθμός κόλων θα είναι τέτοιος ώστε να ικανοποιείται ο παρακάτω τύπος

$\frac{\nu_1}{N_1} + \frac{\nu_2}{N_2} + \frac{\nu_3}{N_3} + \ldots\ldots\ldots$ δεν θα υπερβαίνει την I. Στον τύπο αυτόν τα ν_1, ν_2, ν_3 ..... είναι οι αριθμοί των κόλων για τα οποία οι αντίστοιχοι επιτρεπτέοι αριθμού είναι τα N_1, N_2, N_3 ..... αντιστοίχως.

Σύστημα Συστολής

"Σύστημα συστολής" σημαίνει τα συστατικά στοιχεία της συσκευασίας τα οριζόμενα υπό του σχεδιαστού και προοριζόμενα να συγκρατήσουν την ραδιενεργό ύλη διαρκούσης της μεταφοράς.

Σχέδιο

"Σχέδιο" σημαίνει την περιγραφή ύλης ειδικής μορφής, ή κόλου ή συσκευασίας συγκεκριμένου είδους, η οποία παρέχει τη δυνατότητα της πλήρους αναγνωρίσεως αυτών. Η περιγραφή μπορεί να περιλαμβάνει προδιαγραφές, μηχανικά σχέδια, εκθέσεις δεικνύουσες τη συμμόρφωση προς τους κανονιστικούς (ρυθμιστικούς) όρους, και λοιπά σχετικά έγγραφα.

Διασπαστές Ύλες

2700
(Συνεχίζεται)

"Διασπαστή ύλη" σημαίνει πλουτόνιο-238, πλουτόνιο-239, πλουτόνιο-241, ουράνιο-233, ουράνιο-235, και όλες οι ύλες που περιέχουν οιαδήποτε των ραδιοπυρηνικών αυτών. Μη-ακτινοβόλον φυσικόν και εξασθενημένον ουράνιον δεν συμπεριλαμβάνονται στον ορισμόν αυτόν.

Χαμηλής-στάθμης στερεές ραδιενεργείς ύλες

"Χαμηλής στάθμης στερεά ραδιενεργός ύλη" (LLS) σημαίνει οιαδήποτε των κατωτέρω:-

(α) Στερεά (π.χ. ενοποιημένα υπολείμματα, ενεργείς ύλες) στα οποία:-

(I) η ενέργεια κατά την συνήθη μεταφοράν είναι και παραμένει κατανεμημένη σε ολόκληρο το στερεό ή τη συλλογή στερεών ή είναι και παραμένει ομοιόμορφα κατανεμημένη σε στερεό συμπαγή άγοντα συνδέσεως (όπως σκυρόδεμα, βιτούμιον, κεραμικόν)·

(II) η ενέργεια είναι και παραμένει αδιάλυτος σε τρόπον ώστε ακόμη και επί απωλείας του κόλου η απώλεια της ραδιενεργού ύλης ανά κόλον προερχομένη εκ των επιδράσεων του ανέμου, βροχής, κλπ., ή και από ολικήν βύθισιν στο νερό να περιορίζεται κάτω των 0.I A_2 σε χρονική περίοδο μιας εβδομάδας· και

(III) η μέση ενέργεια ολοκλήρου της ραδιενεργού ύλης δεν υπερβαίνει 2×10^{-3} A_2/Γραμμ.

(β) Είδη μη-ραδιενεργού ύλης τα οποία μολύνονται με ραδιενεργόν ύλην, υπό τον όρον ότι η ραδιενεργός μόλυνσις είναι μορφής μη δυναμένης ευχερώς να διασπαρεί και ότι

το μέσόν επίπεδον μολύνσεως σε Ι μ^2 (ή σε χώρο επιφα- 2700
νείας εάν ο χώρος είναι κάτω του Ι μ^2) δεν υπερβαί- (Συνεχίζε-
νει τα:- ται)

20 μCI/CM^2 για πομπούς β και γ και τους χαμηλής-τοξικότητας πομπούς α τους σημειουμένους στον Πίνακα XIX της Προσθήκης Α.6· και τα 2 μCI/CM^2 για άλλους πομπούς α.

Ύλες Χαμηλής Ειδικής Ενεργείας (Ι)

"Ύλες χαμηλής ειδικής ενεργείας (Ι)" (LSA) σημαίνει οιαδήποτε των κάτωθι:-

(α) Μεταλλεύματα ουρανίου ή θορίου και φυσικά ή χημικά συμπυκνώματα των μεταλλευμάτων αυτών·

(β) Μη-ακτινοβόλον φυσικόν ή εξασθενημένον ουράνιον ή μη-ακτινοβόλον φυσικόν θόριον·

(γ) Οξείδιο του τριτίου σε υδατώδη διαλύμματα, υπό τον όρον ότι το συμπύκνωμα δεν υπερβαίνει τα CI/LITRE·

(δ) Ύλες στις οποίες η ενέργεια είναι ομοιόμορφα κατανεμημένη και οι οποίες εάν εμειούντο στον κατώτατο όγκο αυτών υπό συνθήκας προφανώς αντιμετωπιζομένας κατά την μεταφορά, όπως διάλυσις στο ύδωρ και μετέπειτα επαναπρυστάλλωσις· καταπρήμνισις (καθίζημα)· καύσις· απόξεσις (εκτριβή) · κλπ., θα είχαν μέσην ειδικήν ενέργειαν όχι μεγαλυτέραν των 10^{-4} A_2/G (γραμμ.)·

(ε) Είδη μη-ραδιενεργού ύλης τα οποία μολύνονται με ραδιενεργό ύλην, υπό τον όρον ότι ή μη-καθορισμένη μόλυνσις επιφανείας δεν υπερβαίνει δέκα φορές τις τιμές του Πίνακας XIX της Προσθήκης Α.6 και ότι το μολύνθέν

2700
(Συνεχίζεται)

~~Εδος~~ ή η επ'αυτού μόλυνσις, εάν εμειούτο στον κατώτατο όγκο αυτής υπό συνθήκας προφανώς αντιμετωπιζομένας κατά την μεταφοράν, όπως διάλυσις στο ύδωρ και μετέπειτα επανακρυστάλλωσις· καταχρήμνισις (καθίζημα)· καύσις· απόξεσις (εκτριβή)· κλπ. θα είχε μέσην ειδικήν ενέργειαν όχι μεγαλυτέραν των 10^{-4} A_2/G (γραμμ.).

Ύλες Χαμηλής Ειδικής Ενεργείας (ΙΙ)

"Ύλες χαμηλής ειδικής ενεργείας (ΙΙ)" σημαίνει οιονδήποτε των κατωτέρω:-

(α) Ύλες στις οποίες η ενέργεια κατά την συνήθη μεταφοράν είναι και παραμένει ομοιόμορφα κατανεμημένη και στις οποίες η μέση ειδική ενέργεια δεν υπερβαίνει τα 10^{-4} A_2/G (γραμμ.)·

(β) Είδη μη-ραδιενεργού ύλης που μολύνονται με ραδιενεργόν ύλην, υπό τον όρον ότι η ραδιενεργός μόλυνσις είναι μορφής μη ευχερώς δυναμένης να διασπαρεί και ότι το επίπεδον μέσης μολύνσεως σε Ι μ^2 (ή σε χώρον επιφανείας εάν ο χώρος αυτός είναι κάτω του Ι μ^2) δεν υπερβαίνει τα:

Ι μCI/CM^2 για πομπούς β και γ και χαμηλής τοξικότητος πομπούς α αναφερομένους στον Πίνακα XIX της Προσθήκης Α.6· και 0.Ι μCI/CM^2 για άλλους πομπούς α.

Ανωτάτη πίεσις κανονικής λειτουργίας

"Ανωτάτη πίεσις κανονικής λειτουργίας" σημαίνει την ανωτάτη πίεσιν άνω της ατμοσφαιρικής πιέσεως σε μέσον επίπεδον θαλάσσης η οποία θα μπορούσε να αναπτυχθεί στο

αύστηρες σύστολής σε χρονική περίοδον ενός έτους υπό 2700
συνθήκες θερμοκρασίας και ηλιακής ακτινοβολίας αντι- (Συνεχίζε-
στοιχούσες στις περιβαλλοντικές συνθήκες μεταφοράς ται)
ελλείψει εξαερισμού, εξωτερικής ψύξεως δι'επικουρικού
συστήματος, ή μοχλών λειτουργίας κατά την διάρκεια της
μεταφοράς.

Πολύπλευρος Έγκρισις

"Πολύπλευρος έγκρισις" σημαίνει έγκρισις της αρμόδιας αρχής της χώρας προελεύσεως και της αρμόδιας αρχής κάθε χώρας στην επικράτεια της οποίας πρόκειται να διεξαχθεί η αποστολή.

Κόλον

"Κόλον Τύπου Α" σημαίνει συσκευασία Τύπου Α με το περιωρισμένο ραδιενεργό περιεχόμενό του. Επειδή το περιεχόμενο ενός κόλου Τύπου Α περιορίζεται σε A_1 ή A_2, ένα τέτοιο κόλον δεν χρειάζεται την έγκρισιν της αρμόδιας αρχής.

"Κόλον Τύπου Β(U)" σημαίνει συσκευασία Τύπου Β, μαζί με το ραδιενεργό περιεχόμενό του, το οποίον εφ'όσον έχει σχεδιασθεί σύμφωνα με καθορισμένο σχέδιο και τα κριτήρια συστολής απαιτεί ετερόπλευρον (μονόπλευρον) έγκρισιν μόνον του σχεδίου του κόλου και οιωνδήποτε όρων στοιβασίας που ενδέχεται να είναι απαραίτητοι για διάχυση της θερμότητος.

"Κόλον Τύπου Β(Μ)" σημαίνει συσκευασία Τύπου Β, μαζί με το ραδιενεργό περιεχόμενό του, εφ'όσον το σχέδιό του δεν πληροί ένα ή περισσότερα ειδικά συμπληρωματικά κριτήρια σχεδιάσεως για κόλα Τύπου Β(U) (βλέπε περιθώριο

3603 της Προσθήκης Α.6) απαιτεί πολύπλευρη έγκριση του σχεδίου του κόλου και, υπό ωρισμένες συνθήκες, των όρων προωθήσεως. 2700 (Συνεχίζεται)

Συσκευασία

"Συσκευασία" σημαίνει την συναρμολόγηση συστατικών μερών απαραιτήτων να εξασφαλίσουν την συμμόρφωση προς τους όρους συσκευασίας της παρούσας Κλάσεως. Μπορεί, ειδικότερα, να αποτελείται από ένα ή περισσότερα δοχεία, απορροφητικό υλικό, χωρίσματα, προστασία (θωράκισις) κατά της ακτινοβολίας, και μηχανισμούς ψύξεως, για την απορρόφηση μηχανικών κρούσεων (σόκ) και για θερμική μόνωση. Οι μηχανισμοί αυτοί περιλαμβάνουν το όχημα με το σύστημα στερεώσεως (ακινητοποιήσεως) (TIE-DOWN SYSTEM) όταν προορίζονται να αποτελέσουν αναπόσπαστον τμήμα της συσκευασίας.

"Συσκευασία Τύπου Α" σημαίνει συσκευασία η οποία κατά τη συνήθη μεταφορά είναι ικανή να εμποδίσει οιανδήποτε απώλειαν ή διασποράν του ραδιενεργού περιεχομένου και συγκρατήσει την προστατευτική του λειτουργία. Οι όροι της κανονικής μεταφοράς θα ανατυπούνται βάσει των ελέγχων των προβλεπομένων υπό του περιθωρίου 3635 και 3636 της Προσθήκης Α.6, τους οποίους ελέγχους η συσκευασία θα εικονίζει ότι διεξήλθε.

"Συσκευασία Τύπου Β" σημαίνει συσκευασία η οποία είναι ικανή να ανθέξει όχι μόνον στους όρους της κανονικής μεταφοράς, όπως η συσκευασία Τύπου Α, αλλά και (συνθήκες)
και σε ατύχημα μεταφοράς. Οι όροι/ενός τέτοιου ατυχήματος

θα ανατυπούνται βάσει των των ελέγχων των προβλεπομένων υπό των περιθωρίων 3635 έως 3637 της Προσθήκης Α.6, τους οποίους ελέγχους η συσκευασία, θα εικονίζεται ότι διεξήλθε υπό τας ομοίως προβλεπομένας συνθήκας (όρους). 2700 (Συνεχίζεται)

Επίπεδον Ακτινοβολίας

"Επίπεδον Ακτινοβολίας" σημαίνει την αντίστοιχον ισοδύναμον προς ραδιενεργόν δόσιν τιμήν εκφραζομένην εις MILLIREM ωριαίως. Τα επίπεδα ακτινοβολίας μπορούν να καθορίζονται δι'οργάνων, σε συνδυασμό με την χρήσιν πινάκων μετατροπής οσάκις απαιτείται ή με υπολογισμόν. Μετρημένες ή υπολογισθείσες πυκνότητες ροής ουδετερονίου μπορούν να μετατρέπονται σε επίπεδα ακτινοβολίας με την χρήση των στοιχείων των διδομένων στον παρακάτω πίνακα.

Πυκνότητες ροής ουδετερονίου θεωρούμενες ως ισοδύναμες προς επίπεδο ακτινοβολίας των I MREM/H (ωριαίως)

Ενέργεια ουδετερονίου	Πυκνότης ροής ισοδύναμος προς I MREM/H (N/CM^2 . S)
Θερμική (THERMAL)	268
5 KEV	228
20 KEV	II2
I00 KEV	32
500 KEV	I2
I MEV	7.2
5 MEV	7.2
I0 MEV	6.8

Σημείωση:- Ισοδύναμες πυκνότητες ροής για ενέργειες μεταξύ των ανωτέρω αναφερομένων θα λαμβάνονται δια γραμμικής παρεμβολής. 2700 (Συνεχίζεται)

Ραδιενεργόν περιεχόμενον

"Ραδιενεργόν περιεχόμενον"σημαίνει την ραδιενεργόν ύλην μαζί με οποιαδήποτε μολυνθέντα στερεά, υγρά ή αέρια τού κόλου.

Ραδιενεργός ύλη ειδικής μορφής

"Ραδιενεργός ύλη ειδικής μορφής" σημαίνει είτε μη-δυναμένη να διασπαρεί στερεά ραδιενεργός ύλη είτε σφραγισμένη κάψουλα περιέχουσα ραδιενεργόν ύλην. Η σφραγισμένη κάψουλα θα είναι έτσι κατασκευασμένη ώστε να μπορεί να ανοιχθεί μόνον με την καταστροφήν αυτής. Η ραδιενεργός ύλη ειδικής μορφής θα πληροί τους κάτωθι όρους:-

(α) Θα έχει τουλάχιστον μίαν διάστασιν όχι κάτω των 5 χιλ.· και

(β) Θα πληροί τους σχετικούς όρους ελέγχου τους οριζομένους υπό των περιθωρίων 3640 έως 3642 της Προσθήκης Α.6.

Γενικώς, ή έννοια "Ειδικής μορφής" παρέχει την δυνατότητα στις ύλες που παρουσιάζουν υψηλότερον επίπεδον ενεργείας να συμπεριλαμβάνονται σε κόλον Τύπου Α.

Ειδική ενέργεια

Η "ειδική ενέργεια" ραδιοπυρηνικού σημαίνει την ενέργειαν ραδιοπυρηνικού ανά μάζαν μονάδος. Η ειδική ενέργεια ύλης στην οποία τα ραδιοπυρηνικά έχουν βασικώς ομοιομόρφως κατανεμηθεί είναι η ενέργεια της ύλης αυτής

ανά μάζα μονάδος. 2700

Δείκτης Μεταφοράς (Συνεχίζεται).

Ο "δείκτης μεταφοράς" ενός κόλου σημαίνει:-

(α) Τον αριθμόν ο οποίος εκφράζει το επίπεδον της ανωτάτης ακτινοβολίας σε MILLIREM ωριαίως σε Ι μ. εκ της εξωτερικής επιφανείας του κόλου· ή

(β) Προκειμένου περί κόλων της Διασπαστής Κλάσεως ΙΙ ή Διασπαστής Κλάσεως ΙΙΙ, τον ανώτερον των παρακάτω αριθμών:

ο αριθμός ο οποίος εκφράζει το επίπεδον της ανωτάτης ακτινοβολίας, ως υπό στοιχείον (α) ανωτέρω, και ο αριθμός ο λαμβανόμενος δια διαιρέσεως του 50 με τον επιτρεπόμενον αριθμόν τοιούτων κόλων.

Ο "δείκτης μεταφοράς" δοχείου σημαίνει <u>είτε</u>:

το άθροισμα των δεικτών μεταφοράς όλων των κόλων εντός του δοχείου, πλήν των δοχείων των μεταφερόντων κόλα Διασπαστής Κλάσεως ΙΙΙ, ο δείκτης μεταφοράς θα είναι 50 εκτός εάν το άθροισμα των δεικτών μεταφοράς των κόλων αναγκαιοί υψηλότερον αριθμόν.

<u>είτε</u> για δοχεία μη μεταφέροντα κόλα των Διασπαστών Κλάσεων ΙΙ ή ΙΙΙ και υπό πλήρες φορτίον, ο αριθμός ο οποίος εκφράζει το επίπεδον ανωτάτης ακτινοβολίας εις MREM/H (ωριαίως) σε Ι μ. εκ της εξωτερικής επιφανείας του δοχείου πολλαπλασιαζόμενος επί της τιμής του παρακάτω πίνακος της

κάταλλήλου δια την ανωτάτην επιφάνειαν εγκαρσίας τομής του δοχείου. 2700 (Συνεχίζεται)

Συντελεστές Πολλαπλασιασμού

Μέγεθος φορτίου	Συντελεστής Πολλαπλασιασμού
Μέτρησις (μετρήσεως επιφανείας εγκαρσίας τομής του φορτίου καθέτως προς την ενδιαφερομένην κατεύθυνσιν)	
Ι μ^2 και κάτω	Ι
> Ι μ^2 έως 5 μ^2	3
> 5 μ^2 έως 20 μ^2	6
> 20 μ^2 έως Ι00 μ^2	Ι9

(γ) Ο αριθμός ο οποίος εκφράζει τον δείκτην μεταφοράς θα στρογγυλεύεται προς τα άνω μέχρι του πρώτου δεκαδικού ψηφίου.

Μη-πεπιεσμένον αέριον

"Μη-πεπιεσμένον αέριον" σημαίνει αέριον σε πίεση μη υπερβαίνουσα την ατμοσφαιρική πίεση του περιβάλλοντος όταν το σύστημα συστολής είναι κλειστό.

Ετερόπλευρος (μονόπλευρος) έγκρισις

"Ετερόπλευρος (μονόπλευρος) έγκρισις" σημαίνει την έγκρισιν της αρμόδιας αρχής της χώρας προελεύσεως και μόνον. Εάν η χώρα προελεύσεως δεν είναι συμβληθέν μέρος της ADR, η έγκρισις θα απαιτεί επικύρωσιν της αρμόδιας αρχής της πρώτης χώρας ADR εις την οποίαν θα φθάσει η αποστολή.

2700
(Συνεχίζεται)

Μη-ακτινοβόλον ουράνιον

"Μη-ακτινοβόλον ουράνιον" σημαίνει ουράνιον περιέχον όχι άνω των 10^{-6} G (γραμμ.) πλουτονίου ανά G (γραμμ.) ουρανίου-235 και ενέργειαν προϊόντος διασπάσεως όχι μεγαλυτέραν των 0.25 MCI ανά G (γραμμ.) ουρανίου-235.

Μη-ακτινοβόλον θόριον

"Μη-ακτινοβόλον θόριον" σημαίνει θόριον περιέχον όχι άνω των 10^{-7} G (γραμμ.) ουρανίου-233 ανά G (γραμμ.) θορίου-232.

Ουράνιον· εξασθενημένον, εμπλουτισμένον, φυσικόν

"Φυσικόν ουράνιον" σημαίνει χημικώς-διαχωρισμένον ουράνιον με την φυσικώς-προκύπτουσα κατανομήν των ισοτόπων ουρανίου (περίπου 99.28 τοις εκατόν ουρανίου-238 και 0.72 τοις εκατόν ουρανίου-235). "Εξασθενημένον ουράνιον" σημαίνει ουράνιον περιέχον κάτω των 0.72 τοις εκατόν ουρανίου-235, του υπολοίπου όντος ουρανίου-238. "Εμπλουτισμένον ουράνιον" σημαίνει ουράνιον περιέχον άνω των 0.72 τοις εκατόν ουρανίου-235, του υπολοίπου όντος ουρανίου-238. Σε όλες τις περιπτώσεις υπάρχει μία πολύ μικρή ποσότης ουρανίου-234.

(3) Απαγορεύσεις επί μικτής φορτώσεως

Ύλες της Κλάσεως 7 περιεχόμενες σε πόλα φέροντα ετικέτα σύμφωνον προς τα μοντέλα 6Α, 6Β ή 6Γ δεν θα φορτώνονται στο αυτό όχημα μαζί με ύλες και είδη της Κλάσεως Ια (περιθώριο 2ΙΟΙ), Ιβ (περιθώριο 2Ι3Ι) ή Ιγ (περιθώριο

[illegible] περιεχόμενα σε κόλα φέροντα μίαν ή δύο ετικέτες σύμφωνες προς το μοντέλο No. I. 2700 (Συνεχίζεται)

Οι ύλες και είδη της παρούσης Κλάσεως περιέχουν ένα ή περισσότερα των ραδιοπυρηνικών των αναφερομένων στο κεφάλαιον VI της Προσθήκης Α.6 (περιθώρια 3690 και 3691). 2701

Ο κατωτέρω κατάλογος καθορίζει τους διαφόρους τύπους αποστολής: 2702

1.- Κενά κόλα που περιείχαν ραδιενεργείς ύλες·

2.- Είδη κατασκευασμένα από φυσικόν ή εξασθενημένον ουράνιον ή φυσικόν θόριον·

3.- Μικρές ποσότητες ραδιενεργών υλών·

4.- Όργανα και βιομηχανοποιηθέντα είδη·

5.- Ύλες χαμηλής ειδικής ενεργείας LSA (I)

6.- Ύλες χαμηλής ειδικής ενεργείας LSA (II)

7.- Χαμηλής-στάθμης (επιπέδου) στερεές ραδιενεργείς ύλες·

8.- Ραδιενεργείς ύλες σε κόλα Τύπου Α·

9.- Ραδιενεργείς ύλες σε κόλα Τύπου B(U)·

10.- Ραδιενεργείς ύλες σε κόλα Τύπου B(M)·

11.- Διασπαστές ύλες·

12.- Ραδιενεργείς ύλες μεταφερόμενες υπό ειδικήν διευθέτησιν.

	Πίναξ I	2703
I.- Ύλες	Ετικέτες κινδύνου επί των κόλων	
Κενά κόλα: που περιείχαν ραδιενεργείς ύλες.	Ουδεμία	

Πίνακας Ι (Συνεχίζεται) 2703 (Συνεχίζεται)

2.- Συσκευασία/Κδλον

(α) Η συσκευασία θα είναι σύμφωνη με τους δρους του περιθωρίου 3600 της Προσθήκης Α.6, και θα κλείνεται ασφαλώς και σε καλή κατάσταση.

(β) Επιτρεπόμενα επίπεδα εσωτερικής μολύνσεως: δχι περισσότερον από 100 φορές τα επίπεδα τα αναγραφόμενα στη παράγραφο 5.

(γ) Οσδηις κενή συσκευασία περιλαμβάνει φυσικόν ή εξασθενημένον ουράνιον ή φυσικόν θόριον στη κατασκευή της, η επιφάνειά της θα καλύπτεται από ουσιαστικήν, μή-ενεργόν προστασίαν από μέταλλο ή από κάποιο άλλο ανθεκτικό υλικό.

Σημείωση: Οιαδήποτε ετικέτα σημειούσα κίνδυνον θα είναι καλυμμένη ή θα αφαιρείται

3.- Ανώτατον επίπεδον ακτινοβολίας κόλου

0.5 MREM/H (ωριαίως) στην επιφάνεια του κόλου.

4.- Μικτή συσκευασία

Ουδεμία διάταξις.

5.- Αλλαγές επί κόλων — Πίναξ I — 2703

(Συνεχίζεται) (Συνεχίζεται)

Μη-ωρισμένα όρια εξωτερικής μολύνσεως:

β/ γ/ χαμηλής-τοξικότητας		
α, πομποί	10^{-4}	MCI/CM^2
Φυσικόν/εξασθενημένον ουράνιον/φυσικόν θόριον	10^{-3}	MCI/CM^2
Άλλοι α πομποί	10^{-5}	MCI/CM^2

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) κόλων

(α) Τα κόλα θα μαρκάρονται καθαρά και ανεξίτηλα με το βάρος εάν τούτο είναι άνω των 50 KG.

(β) Πάσα ένδειξις αναφέρουσα ραδιενεργόν κίνδυνον δεν θα είναι ορατή.

7.- Έγγραφα μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν "Ραδιενεργείς ύλες (Κενά κόλα), 7, πίναξ I, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο.

8.- Αποθήκευσις και προώθησις

Ουδεμία διάταξις.

9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)

Ουδεμία διάταξις.

10.- Μεταφορά σε χύμα με οχήματα και δοχεία (CONTAINERS)

Δεν έχει εφαρμογήν.

Πίνακας Ι (Συνεχίζεται) (Συνεχίζεται)

I2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS).

Ουδεμία

I3.- Απαγορεύσεις επί μικτής φορτώσεως

Ουδεμία διάταξις

I4.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Ουδεμία διάταξις

I5.- Άλλες διατάξεις

Ουδεμία.

Πίνακας 2

Ετικέτες κινδύνου επί των κόλων

I.- Ύλες

Είδη κατασκευασθέντα από φυσικό ή εξασθενημένο ουράνιο ή φυσικό θόριο.

Ουδεμία

Η εξωτερική επιφάνεια του ουρανίου ή θορίου θα καλύπτεται από ουσιαστικήν, ανενεργόν προστασίαν (θωράκισιν) από μέταλλο ή κάποιο άλλο ανθεκτικό υλικό.

ΣΗΜΕΙΩΣΙΣ:- Τέτοια είδη μπορεί π.χ. να είναι αχρησιμοποίητες συσκευασίες προο-

διαδικασίες για τη μεταφορά ραδιενεργών υλών.	Πίνακας 2 (Συνεχίζεται)	2703 (Συνεχίζεται)

2.- Συσκευασία/Κόλον

Η συσκευασία θα είναι συμφώνως προς τους όρους του περιθωρίου 3600 της Προσθήκης Α.6.

3.- Επίπεδον ανωτάτης ακτινοβολίας Κόλου

0.5 MREM/H (ωριαίως) στην επιφάνεια του κόλου.

4.- Μικτή συσκευασία

Ουδεμία διάταξις.

5.- Μόλυνσις επί των κόλων

Μη-ωρισμένα όρια εξωτερικής μολύνσεως:

β/γ/χαμηλής-τοξικότητος α πομποί	10^{-4}	MCI/CM^2
φυσικόν/εξασθενημένον ουράνιον/ φυσικόν θόριον	10^{-3}	MCI/CM^2
Άλλοι α πομποί	10^{-5}	MCI/CM^2

Για πλήρεις λεπτομέρειες βλέπε περιθώριο 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (Μαρκάρισμα) επί των κόλων

Ουδεμία.

7.- Έγγραφα μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφή "Ραδιενεργείς Ύλες (Βιομηχανοποιημένα/Κατασκευασθέντα Είδη), 7, πίναξ 2, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο.

8.- Αποθήκευσις και προώθησις

Ουδεμία διάταξις.

Πίναξ 2 (Συνεχίζεται)

Πίναξ 2 (Συνεχίζεται)

9.- Μεταφορά πόλων με οχήματα και δοχεία (CONTAINERS)

Ουδεμία διάταξις.

IO.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Δεν έχει εφαρμογήν.

II.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS.

Δεν έχει εφαρμογήν.

I2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Ουδεμία.

I3.- Απαγορεύσεις επί μικτής φορτώσεως

Ουδεμία διάταξις.

I4.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Ουδεμία διάταξις.

I5.- Άλλαι διατάξεις

Ουδεμία.

Πίναξ 3

I.- Ύλες

Μικρές ποσότητες ραδιενεργών υλών σε ποσότητες που δεν υπερβαίνουν τους αριθμούς τους διδομένους στον κατωτέρω πίνακα και οι οποίες δεν περιέχουν άνω των I5 G (γραμμαρίων) ουρανίου-235.

Ετικέτες κινδύνου επί των πόλων

Ουδεμία (αλλά βλέπε παράγραφον I5).

2703 (Συνεχίζεται)

Φύσις ύλων	Όρια Κόλου
Στερεά και αέρια	
Ειδικής μορφής	10^{-3}A1
Άλλων μορφών	10^{-3}A2
Τρίτιον	20 CI β/
Υγρά	
Οξείδιο Τριτίου σε υδατώδη διαλύμματα	
κάτω των 0.1 CI/l	1000 CI
μεταξύ 0.1 CI/l και 1.0 CI/l	100 CI
άνω των 1.0 CI/l	1 CI
Άλλα υγρά	10-4A2

Για μίγματα ραδιοπυρηνικών, βλέπε περιθώριο 3691 της Προσθήκης Α.6.

β/ Οι τιμές για το τρίτιο ισχύουν επίσης για τρίτιον ενεργού φωτεινού χρώματος και τρίτιον απορροφούμενον επί στερεών μεταφορέων.

2.- Συσκευασία/Κόλον

(α) Η σύσκευασία θα είναι συμφώνως προς τους όρους του περιθωρίου 3600 της Προσθήκης Α.6.

(β) Κατά την μεταφοράν δεν θα υπάρχει διαρροή ραδιενεργού ύλης.

3.-Ανώτατον επίπεδον ακτινοβολίας κόλου

0.5 MREM/H στην επιφάνεια του κόλου.

4.- Μικτή συσκευασία

Ουδεμία διάταξις.

Πίναξ 3 (Συνεχίζεται) 2703 (Συνεχίζεται)

5.- Μόλυνσις (επί) των κόλων

Μη-ωρισμένα όρια εξωτερικής μολύνσεως:

β/γ/χαμηλής-τοξικότητος		
α πομποί	10^{-4}	MCI/CM^2
φυσικόν/εξασθενημένον ουράνιον/ φυσικόν θόριον	10^{-3}	MCI/CM^2
Άλλοι α πομποί	10^{-5}	MCI/CM^2

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) επί των κόλων

Η εξωτερική επιφάνεια του σωστήματος συστολής θα φέρει την ένδειξιν "ΡΑΔΙΕΝΕΡΓΟΝ" ως προειδοποίησιν για το άνοιγμα του κόλου.

7.- Έγγραφα μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν "Ραδιενεργείς ύλες (Μικρές ποσότητες), 7, πίναξ 3, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο.

8.- Αποθήκευσις και προώθησις

Ουδεμία διάταξις.

9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)

Ουδεμία διάταξις.

10.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Δεν επιτρέπεται.

11.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν επιτρέπεται.

12.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων,

CONTAINERS και δοχείων (CONTAINERS). Πίνακας 3 (Συνεχίζεται) 2703 (Συνεχίζεται)

συστήματα.

I3.- Απαγορεύσεις επί μικτής φορτώσεως

Ουδεμία διάταξη.

I4.- Απολύμανση οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695 (3) της Προσθήκης Α.6.

I5.- Άλλες διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695 (I) της Προσθήκης Α.6.

(β) Απολύμανση εν αποθηκεύσει - βλέπε περιθώριο 3695 (2) της Προσθήκης Α.6.

(γ) Ραδιενεργείς ύλες που έχουν άλλες επικινδύνους ιδιότητες θα συμμορφούνται επίσης με τις διατάξεις της καταλλήλου κλάσεως.

Πίνακας 4

Ετικέτες κινδύνου επί των κόλων

I.- Ύλες

Όργανα και Βιομηχανοποιηθέντα Είδη

Ουδεμία

όπως, ωρολόγια τοίχου, ηλεκτρονικές λυχνίες (λυχνίες ασυρμάτου) ή συσκευαί, που έχουν ραδιενεργείς ύλες ως συστατικόν μέρος αυτών , η ενέργεια των οποίων δεν υπερβαίνει τα ποσά που δίδονται στον παρακάτω πίνακα και οι οποίες δεν περιέχουν άνω των I5 G. (γραμμαρίων) ουρανίου-235.

Πίνακας 4 2703

(Συνεχίζεται)(Συνεχίζεται)

Φύσις υλών	Όρια Είδους	Όρια Κόλου
Στερεά		
Ειδικής μορφής	$10^{-2}A_1$	A_1
Άλλων μορφών	$10^{-2}A_2$	A_2
Υγρά	$10^{-3}A_2$	$10^{-1}A_2$
Αέρια		
Τρίτιον	20 CI$^{\phi}$	200 CI$^{\phi}$
Ειδικής μορφής	$10^{-3}A_1$	$10^{-2}A_1$
Άλλων μορφών	$10^{-3}A_2$	$10^{-2}A_2$

Για μίγματα ραδιοπυρηνικών, βλέπε περιθώριο 3691 της Προσθήκης Α.6.

$^{\phi}$ Οι τιμές για το τρίτιο θα ισχύουν και για τρίτιο ενεργού φωτεινού χρώματος και τρίτιον απορροφούμενον επί στερεών μεταφορέων.

2.- Συσκευασία/Κόλον

(α) Η συσκευασία θα είναι συμφώνως προς τους όρους του περιθωρίου 3600 της Προσθήκης Α.6.

(β) Τα όργανα και είδη θα συσκευάζονται ασφαλώς.

3.- Ανώτατον επίπεδον ακτινοβολίας Κόλου

0.5 MREM/H στην επιφάνεια του κόλου και 10 MREM/H σε 10 CM από οποιοδήποτε σημείο επί της εξωτερικής επιφανείας οιουδήποτε μη-συσκευασμένου οργάνου ή είδους.

4.- Μικτή συσκευασία

Ουδεμία διάταξις.

5.- Μόλυνσις πλοίων Πίναξ 4 2703

Μη-ωρισμένα όρια εξωτερικής μολύνσεως: (Συνεχίζεται) (Συνεχίζεται)

β/γ/χαμηλής-τοξικότητος α πομποί 10^{-4} μCI/CM^2

Φυσικόν/εξασθενημένον ουράνιον/φυσικόν θόριον 10^{-3} μCI/CM^2

Άλλοι α πομποί 10^{-5} μCI/CM^2

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) επί των πλοίων

Κάθε όργανον ή είδος (πλήν ραδιαιγνοβόλων τεμαχίων χρονισμού ή συσκευών)) θα φέρει την ένδειξιν "ΡΑΔΙΕΝΕΡΓΟΝ".

7.- Έγγραφα Μεταφοράς

Το έγγραφον μεταφοράς θα περιλαμβάνει την περιγραφήν "Ραδιενεργείς ύλες (Όργανα) ή (Βιομηχανοποιηθέντα είδη), 7, πίναξ 4, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο.

8.- Αποθήκευσις και προώθησις

Ουδεμία διάταξις.

9.- Μεταφορά πλοίων με οχήματα και δοχεία (CONTAINERS)

Ουδεμία διάταξις.

10.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Δεν έχει εφαρμογήν.

11.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν έχει εφαρμογήν.

12.- Επιγραφές και Ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS).

Ουδεμία.

13.- Απαγορεύσεις επί μικτής φορτώσεως

Ουδεμία διάταξις.

14. Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS, δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

Πίναξ 4 (Συνεχίζεται) 2703 (Συνεχίζεται)

15.- Άλλες διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695(I) της Προσθήκης Α.6.

(β) Απολύμανσις εν αποθηκεύσει - βλέπε περιθώριο 3695(2) της Προσθήκης Α.6.

Πίναξ 5

I.- Ύλες

Ύλες χαμηλής ειδικής ενέργειας LSA(I), ανήκουσες σε μία των παρακάτω ομάδων ως ορίζονται πλήρως στο περιθώριο 2700(2):

(I) μεταλλεύματα ουρανίου ή θορίου ή συμπυκνώματα (εδάφιο (α) του ορισμού)

(II) μη-ακτινοβόλον φυσικόν ή εξασθενημένον ουράνιον ή μη-ακτινοβόλον φυσικόν θόριον (εδάφιον (β) του ορισμού)

(III) οξείδιο του τριτίου σε υδατώδη διαλύματα - συμπύκνωμα IOCI/I και κάτω. (εδάφιο (γ) του ορισμού)

(IV) ύλες με ομοιόμορφον ενέργειαν υπό συνθήκες κατωτάτου όγκου όχι μεγαλυτέρου των IO-4 A2/G (εδάφιο (δ) του ορισμού).

(V) Μη-ραδιενεργά είδη μολυνθέντα όχι περισσότερο από IO φορές τα όρια κόλου τα αναφερόμενα στη παρακάτω παράγραφο 5

Ετικέτες κινδύνου επί των κόλων
(Βλέπε Προσθήκην Α.9)

Εκτός εάν μεταφέρονται ως πλήρες φορτίο, ετικέτες των μοντέλων 6Α, 6Β ή 6Γ θα τοποθετούνται εξωτερικώς σε δύο αντίθετες πλευρές, βλέπε περιθώρια 3655 έως 3655 της Προσθήκης Α6 για κατηγορία κόλου. Το περιεχόμενο θα περιγράφεται επί των ετικετών ως "Ραδιενεργόν LSA". Δευτερεύουσες ετικέτες:

(I) για νιτρικόν θόριον και νιτρικόν ουράνιον - απαιτούνται ετικέτες μοντέλου No.3.

(II) για φθοριούχο ουράνιο - απαι-

Πίνακας 5 2703
(Συνεχίζεται) (Συνεχίζεται)

(V)..και κατά τρόπον ώστε η ειδική ενέργεια υπό συνθήκες κατωτάτου όγκου ουδέποτε να υπερβαίνει τα IO-4 A2/G (βλέπε σημείωμα (ε) του ορισμού). τούνται επικέτες No.4.

Εάν υπάρχουν διασπαστές ύλες οι όροι του πίνακος II θα τηρούνται επιπροσθέτως των όρων του παρόντος πίνακος.

2.- Συσκευασία/Κόλον

Κόλα μεταφερόμενα όχι ως συσκευασία πλήρους φορτίου θα είναι συμφώνως προς το περιθώριο 3600, περιθώριο 3650 έως 2655 και περιθώριο 3656(I) έως (4) της Προσθήκης A.6.

Ύλες της ανωτέρω παραγράφου I(II) υπό μαζική στερεά μορφή θα συσκευάζονται κατά τρόπον ώστε να αποφεύγεται η απόξεσις (εκτριβή), και υπό άλλες στερεές μορφές θα περιέχονται σε ουσιαστική θωράκιση.

3.- Ανώτατο επίπεδο ακτινοβολίας Κόλου

200 MREM/H στην επιφάνεια του κόλου και IO MREM/H σε I μέτρο από την επιφάνεια αυτή (βλέπε περιθώρια 3653 έως 3655 της Προσθήκης A.6).

εκτός της περιπτώσεως πλήρους φορτίου οπότε το όριον είναι I,000 MREM/H στην επιφάνεια του κόλου και μπορεί να υπερβεί τα IO MREM/H σε I μέτρο από την επιφάνεια αυτή (βλέπε περιθώριο 3659(7) της Προσθήκης A.6).

4.- Μικτή συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης A.6.

5.- Μόλυνσις επί των κόλων Πίναξ 5 2703

(Συνεχίζεται) (Συνεχίζεται)

(α) Μη-ορισμένα όρια εξωτερικής μολύνσεως για κόλα μεταφερόμενα όχι ως πλήρες φορτίο.

β/γ/χαμηλής-τοξικότητος α πομποί	10^{-4} UCI/CM^2
Φυσικόν/εξασθενημένον ουράνιον/ φυσικόν θόριον	10^{-3} UCI/CM^2
Άλλοι α πομποί	10^{-5} UCI/CM^2

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 365I της Προσθήκης Α.6.

(β) Για κόλα μεταφερόμενα ως πλήρες φορτίο - Ουδεμία διάταξις.

6.- Ενδείξεις (μαρκάρισμα) επί των κόλων

Κόλα μεταφερόμενα ως πλήρες φορτίο - πολυγραφημένη ή άλλως σημειουμένη ένδειξις "ΡΑΔΙΕΝΕΡΓΟΝ LSA".

Κόλα μεταφερόμενα όχι ως πλήρες φορτίο - θα μαρκάρεται καθαρά και ανεξίτηλα το βάρος εάν υπερβαίνει τα 50 KG.

7.- Έγγραφα μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την επιγραφήν "Ραδιενεργείς ύλες (Χαμηλής ειδικής ενεργείας LSA(I)), 7, πίναξ 5, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα περιθώρια 3680 και 368I της Προσθήκης Α.6.

8.- Αποθήκευσις και προώθησις

(α) Αποθήκευσις και διαχωρισμός από άλλα επικίνδυνα εμπορεύματα - βλέπε περιθώριο 3658(I) της Προσθήκης Α.6.

(β) Αποθήκευσις και διαχωρισμός από κόλα (Συνεχίζεται)(Συνεχίζεται) φέροντα ετικέτα "FOTO" - βλέπε περιθώριο 240 001 της Προσθήκης Β.4 για τον πίνακα διαχωρισμού.

(γ) Όριο δείκτου ολικής μεταφοράς για αποθήκευση, ουδέν όριον εκτός της περιπτώσεως κόλων Διασπαστής Κλάσεως II ή III, βλέπε περιθώριο 3658(2) έως (5) της Προσθήκης Α.6.

9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)

(α) Διαχωρισμός από κόλα φέροντα ετικέτα "FOTO" - βλέπε περιθώριο 240 001 της Προσθήκης Β.4 για τον Πίνακα διαχωρισμού.

(β) Όριο δείκτου ολικής μεταφοράς - 50. Το όριο αυτό δεν ισχύει για πλήρες φορτίο, υπό τον όρον ότι εάν υπάρχουν κόλα Διασπαστής Κλάσεως II ή III δεν θα υπερβαίνεται ο επιτρεπόμενος αριθμός, (βλέπε περιθώριον 3659(5) της Προσθήκης Α.6).

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και μεγάλα δοχεία (CONTAINERS) προκειμένου περί πλήρους φορτίου

200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια.

(βλέπε περιθώριο 3659(1) της Προσθήκης Α.6)

Επίσης, για οχήματα - 2 MREM/H σε οποιαδήποτε κανονικώς καταληφθείσα θέσιν - βλέπε περιθώριο 3659(8) της Προσθήκης Α.6.

(δ) Κόλα μη συμμορφούμενα προς τους όρους του περιθωρίου 3600 θα μεταφέρονται ως πλήρες φορτίο, και δεν θα υπερβαίνονται τα όρια του παρακάτω πίνακος:-

Πίναξ 5 (Συνεχίζεται) 2703 (Συνεχίζεται)

Φύσις Υλών	Όριο Ενεργείας Οχήματος ή μεγάλου δοχείου (CONTAINER)
Στερεά	Ουδέν όριον
Οξείδιο του Τριτίου σε υδατώδη διαλύματα	50,000 CI
Άλλα υγρά και αέρια	100 X A_2

10.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Επιτρέπεται υπό πλήρες φορτίο υπό τον όρον ότι, μετά την φόρτωσιν, οι εξωτερικές επιφάνειες των οχημάτων θα έχουν προσεκτικώς καθαρισθεί υπό του αποστολέως και εφ'όσον ουδεμία διαρροή μπορεί να προκύψει υπό κανονικήν μεταφοράν. Ποσοτικά όρια ως εις τον πίνακα της ανωτέρω παραγράφου 9.

11.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Επιτρέπεται υπό ωρισμένας συνθήκας (όρους) ως η ανωτέρω παράγραφος 10, και υπό τους όρους των περιθωρίων 3660 και 3661, εκτός για ύλες που έχουν κριτικήν θερμοκρασίαν κάτω των 50°C ή, στη θερμοκρασία αυτή, πίεση ατμού άνω των 3 KG/CM^2, οι οποίες υπόκεινται σε στιγμιαία καύση.

Μόνον στερεές ή υγρές χαμηλής ειδικής ενεργείας ύλες, συμπεριλαμβανομένου κατά παρέκβασιν του περιθωρίου 2I2 I00, φυσικού ή εξασθενημένου εξαφλοριούχου ουρα-

μπορούν να μεταφέρονται σε TANK CONTAINERS (Δεξαμενοδοχεία). Πίνακας (Συνεχίζεται) 2703 (Συνεχίζεται)

12.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS) (Βλέπε Προσθήκες Α.9 και Β.4)

Δοχεία (CONTAINERS) - ετικέτες μοντέλων 6Α, 6Β ή 6Γ επί όλων των τεσσάρων πλευρών. Οχήματα και μεγάλα δοχεία (CONTAINERS) - επιγραφές σωμφώνως προς το μοντέλο της Προσθήκης Β.4 περιθώριον 240 010 σε κάθε πλευρά και οπίσθιο τοίχωμα του οχήματος (βλέπε περιθώρια 3659(6) και 71 500).

Δευτερεύουσες ετικέτες

(I) για νιτρικό θόριο και νιτρικό ουράνιο - απαιτούνται ετικέτες μοντέλου No.3

(II) για εξαφθοριούχο ουράνιο - απαιτούνται ετικέτες μοντέλου No. 4.

I/ Για εμπλουτισμένο εξαφθοριούχο ουράνιο, βλέπε πίνακα II.

13.- Απαγορεύσεις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

14.- Απολύμανση οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

(α) Για αποστολές πλήρους φορτίου, μετά την εκφόρτωση, τα οχήματα θα απολυμαίνονται υπό του παραλήπτου στα επίπεδα του Πίνακος XIX της Προσθήκης Α.6 εκτός εάν χρησιμοποιηθούν για τη μετα-

φορά των ίδιων υλών. Βλέπε επίσης περιθώριο 3695(4) της Προσθήκης Α.6.

(β) Για αποστολές όχι-πλήρους φορτίου, βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

Πίνακας 5 (Συνεχίζεται)

Πίνακας 5 (Συνεχίζεται)

15.- Άλλες διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695(1) της Προσθήκης Α.6.

(β) Απολύμανση εν αποθηκεύσει - βλέπε περιθώριο 3695(2) της Προσθήκης Α.6.

Πίνακας 6

Ετικέτες κινδύνου επί των κόλων

Ουδεμία απαιτείται εκτός εάν υπάρχουν διασπαστές ύλες. (βλέπε Πίνακα ΙΙ)

1.- Ύλες

Ύλες χαμηλής ειδικής ενεργείας LSA(II) ανήκουσαι σε οποιαδήποτε των παρακάτω ομάδων ως ορίζονται πλήρως στο περιθώριο 2700(2):

(Ι) ύλες με ομοιόμορφον ενέργειαν όχι μεγαλυτέραν των 10^{-4} A2/G. (εδάφιον (α) του ορισμού).

(ΙΙ) μη-ραδιενεργά είδη μολυνθέντα σε επίπεδο μη υπερβαίνον το 1 MCI/CM^2 για β και γ πομπούς και χαμηλής τοξικότητος α πομπούς, ή 0.1 MCI/CM^2 για άλλους α πομπούς (εδάφιον (β) του ορισμού).

Εάν υπάρχουν διασπαστές ύλες οι όροι του πίνακος ΙΙ θα τηρούνται επιπροσθέτως των όρων του παρόντος πίνακος.

2.- Συσκευασία/Κόλον

Η συσκευασία θα είναι συμφώνως προς τους όρους του περιθωρίου 3600, περιθωρίου 3650

γίας περιθωρίου 3651 της Προσθήκης Α.6. Πίνακας 2703

3.- Ανώτατον επίπεδον ακτινοβολίας Κόλου (Συνεχίζεται) (Συνεχίζεται)

Κλειστά οχήματα υπό τούς όρους του περιθωρίου 3659(7)(α) της Προσθήκης Α.6 - 1000 MREM/H στην επιφάνεια του κόλου και μπορούν να υπερβούν τα 10 MREM/H σε ένα μέτρο από της επιφανείας αυτής. Όλα τα άλλα οχήματα που δεν υπόκεινται στους όρους του περιθωρίου 3659 (7) (α) της Προσθήκης Α.6 - 200 MREM/H στην επιφάνεια του κόλου και 10 MREM/H σε ένα μέτρο από της επιφανείας αυτής.

4.- Μικτή συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης Α.6.

5.- Μόλυνσις επί των κόλων

Μη-ωρισμένα όρια εξωτερικής μολύνσεως:

β/γ/χαμηλής τοξικότητος α πομποί	10^{-4} μCI/CM^2
Φυσικόν/εξασθενημένον ουράνιον/ φυσικόν θόριον	10^{-3} μCI/CM^2
Άλλοι α πομποί	10^{-5} μCI/CM^2

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) κόλων

Τα κόλα θα μαρκάρονται "ΡΑΔΙΕΝΕΡΓΟΝ LSA".

7.- Έγγραφα μεταφοράς

Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν "Ραδιενεργείς ύλες (χαμηλής ειδικής ενεργείας LSA (II), 7,

Πίναξ 6 (Συνεχίζεται) 2703 (Συνεχίζεται)

πίναξ 6, ADR," με την ονομασίαν υπογραμμισμένην με κόκκινο, και τις λεπτομέρειες τις ορισμένες στα περιθώρια 3680 και 3681 της Προσθήκης Α.6.

8.- Αποθήκευσις και προώθησις

Μόνον υπό πλήρες φορτίον

9.- Μεταφορά κόλων με οχήματα και δοχεία

(α) Μεταφορά μόνον με πλήρες φορτίον

(β) Εάν η αποστολή περιλαμβάνει κόλα Διασπαστής Κλάσεως II ή III, δεν θα υπερβαίνεται ο επιτρεπόμενος αριθμός (βλέπε Πίνακα I).

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και μεγάλα δοχεία (CONTAINERS) -

200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια (βλέπε περιθώριο 3659(7) της Προσθήκης Α.6)

Επίσης, για οχήματα - 2 MREM/H για οποιαδήποτε κανονικώς καταληφθείσα θέσιν - (βλέπε περιθώριον 3659(8) της Προσθήκης Α.6)

(δ) Δεν θα υπερβαίνονται τα όρια του παρακάτω πίνακος:

Φύσις Υλών	Όριο ενεργείας οχήματος ή μεγάλου δοχείου
Στερεά	Ουδέν όριον
Οξείδιο του τριτίου σε υδατώδη διαλύματα	50,000 CI
Άλλα υγρά και αέρια	100 X A_2

10.- Μεταφορά εις χύμα σε οχήματα και δοχεία (CONTAINERS)

Δεν επιτρέπεται.

II.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν επιτρέπεται.

I2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS) (βλέπε Προσθήκες Α.9 και Β.4)

Δοχεία (CONTAINERS) - ετικέτες των 6Α, 6Β ή 6Γ και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία (CONTAINERS) - επιγραφές σύμφωνα με το μοντέλο της Προσθήκης Β.4, περιθώριο 240.010 σε κάθε πλευρά και οπίσθιο τοίχωμα του οχήματος (βλέπε περιθώρια 3659(6) και 7Ι 500).

I3.- Απαγορεύσεις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

I4.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695(3) και (4) της Προσθήκης Α.6.

I5.- Άλλες διατάξεις

Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695(I) της Προσθήκης Α.6.

I.- Ύλες

Χαμηλού επιπέδου στερεές ραδιενεργείς ύλες LLS, ανήκουσες σε οποιαδήποτε των παρακάτω ομάδων ως ορίζονται πλήρως στο περιθώριο 2700(2):-

Ετικέτες κινδύνου επί των κόλων

Ουδεμία απαιτείται εκτός εάν υπάρχουν

Πίναξ 7 2703
(συνεχίζεται) (Συνεχίζεται)

(I) ὕλες με ομοιόμορφον ενέργειαν όχι μεγαλυτέραν των 2 X 10^{-3} A_2/G. (εδάφιον (α) του ορισμού). διαχωριστές ὕλες. (Βλέπε πίνακα II)

(II) μη-ραδιενεργά είδη μολυνθέντα σε επίπεδο μη υπερβαίνον τα 20 μCI/CM^2 για β και γ πομπούς και χαμηλής τοξικότητας α πομπούς ή τα 2 μCI/CM^2 για άλλους α πομπούς. (εδάφιο (β) του ορισμού).

Εάν υπάρχουν διαχωριστές ὕλες οι όροι του πίνακος II θα τηρούνται επιπροσθέτως των όρων του παρόντος πίνακος.

2.- Συσκευασία/Κόλον

(α) Η συσκευασία θα είναι συμφώνως προς τους όρους των περιθωρίων 3600 και 3650 της Προσθήκης Α.6 και θα είναι σε θέση να ανθέξει στους ελέγχους του περιθωρίου 3635(4) και (5) της Προσθήκης Α.6.

(β) Υπό τους όρους των εν (α) αναφερομένων ελέγχων δεν θα υπάρχει

(I) απώλεια ή διασπορά του ραδιενεργού περιεχομένου

(II) αύξησις του ανωτάτου επιπέδου ακτινοβολίας του καταχωρηθέντος ή υπολογισθέντος στην εξωτερική επιφάνεια για την προ του ελέγχου κατάστασιν.

3.- Ανώτατον επίπεδον ακτινοβολίας Κόλου

Κλειστά οχήματα υπό τους όρους του περιθωρίου

3659(7)(α), της Προσθήκης Α.6 - 1000 MREM/H στην επιφάνεια του κόλου και μπορεί να υπερβεί τα 10 MREM/H σε ένα μέτρο από την επιφάνειαν αυτήν. Όλα τα άλλα οχήματα που δεν υπόκεινται στους όρους του περιθωρίου 3659(7)(α) της Προσθήκης Α.6 - 200 MREM/H στην επιφάνεια του κόλου και 10 MREM/H σε ένα μέτρο από την επιφάνεια αυτή.

Πίνακας 7 (Συνεχίζεται) 2703 (Συνεχίζεται)

4.- Μικτή συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης Α.6.

5.- Μόλυνσης επί των κόλων

Ουδεμία διάταξις.

6.- Ενδείξεις (μαρκάρισμα) επί κόλων

Τα κόλα θα μαρκάρονται "ΡΑΔΙΕΝΕΡΓΟΝ LLS".

7.- Έγγραφα μεταφοράς

Το έγγραφο μετχφοράς θα περιλαμβάνει την περιγραφήν "Ραδιενεργείς ύλες (Χαμηλού-επιπέδου στερεόν (LLS), 7, πίναξ 7, ADR," με την ονομασίαν υπογραμμισμένην με κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα περιθώρια 3680 και 3681 της Προσθήκης Α.6.

8.- Αποθήκευσις και προώθησις

Μόνον υπό πλήρες φορτίον.

9.- Μεταφορά κόλων σε οχήματα και δοχεία (CONTAINERS)

(α) Μεταφορά μόνον πλήρους φορτίου

(β) Εάν η αποστολή περιέχει κόλα Διασπαστής Κλάσεως ΙΙ ή ΙΙΙ ο επιτρεπόμενος αριθμός δεν θα υπερβαίνεται (βλέπε πίνακα ΙΙ).

Πίναξ 7 (Συνεχίζεται) 2703 (Συνεχίζεται)

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και μεγάλα δοχεία (CONTAINERS) -

200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια -

βλέπε περιθώριο 3659(7) της Προσθήκης Α.6.

10.- Μεταφορά είς χύμα σε οχήματα και δοχεία (CONTAINERS)

Δεν επιτρέπεται.

11.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν έχει εφαρμογήν.

12.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

(Βλέπε Προσθήκες Α.9 και Β.4)

Δοχεία (CONTAINERS) - ετικέτες σύμφωνες προς τα μοντέλα 6Α, 6Β ή 6Γ σε όλες και στις τέσσερες πλευρές. Οχήματα και μεγάλα δοχεία - επιγραφές σύμφωνες προς το μοντέλο της Προσθήκης Β.4, περιθώριο 240 ΟΙΟ σε κάθε πλευρά και στο οπίσθιο τοίχωμα του οχήματος (βλέπε περιθώρια 3659(6) και 7Ι 500).

13.-Απαγορεύσεις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

14.-Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Μετά την εκφόρτωσιν, τα οχήματα θα απολυμαίνονται υπό του παραλήπτου στο επίπεδο το αναγραφόμενο στον Πίνακα XIX της Προσθήκης Α.6 εκτός εάν χρησιμοποιηθούν για τη μεταφορά ιδίων υλών. Βλέπε επίσης περιθώριο

3695(3) και (4) της Προσθήκης Α.6.

15. Άλλες διατάξεις

Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695(1) της Προσθήκης Α.6.

Πίνακας 7 2703
(Συνεχίζεται) (Συνεχίζεται)

Πίνακας 8 -

Επικίνδυνες ουσίες επί των πλοίων

(βλέπε Προσθήκην Α.9)

I.- Ύλες

Ραδιενεργείς ύλες σε πλοία Τύπου Α ενεργείας ανά πλοίον A_2· ή A_1 εάν πρόκειται περί ειδικής μορφής.

Εάν υπάρχουν διασπαστές ύλες οι όροι του πίνακος ΙΙ θα τηρούνται επιπροσθέτως των όρων του παρόντος πίνακος.

Επικίνδυνες συμφώνως προς τα μοντέλα 6Α, 6Β ή 6Γ θα τοποθετούνται εξωτερικώς σε δύο αντίθετες πλευρές, βλέπε περιθώρια 3653 έως 3655 της Προσθήκης Α.6 για κατηγορία πλοίου.

2.- Συσκευασία/Κύτος

Τύπου Α, συμφώνως προς τους όρους του σχεδίου τους διδομένους στα περιθώρια 3600 και 3601 της Προσθήκης Α.6.

3.- Ανώτατον επίπεδον ακτινοβολίας Κύτους

200 MREM/H στην επιφάνεια του πλοίου και 10 MREM/H σε 1 μέτρο από την επιφάνεια αυτή (βλέπε περιθώρια 3653 έως 3655 της Προσθήκης Α.6). εκτός της περιπτώσεως πλήρους φορτίου, όταν (οπότε) το όριον είναι 1000 MREM/H στην επιφάνεια του πλοίου και μπορεί να υπερβεί τα 10 MREM/H σε 1 μέτρο από της επιφανείας αυτής (βλέπε περιθώριο 3659(7) της Προσθήκης Α.6)).

4.- Μεικτή συσκευασία Πίνακας 8 2703

(Βλέπε περιθώριο 3650 της Προσθήκης Α.6. (Συνεχίζεται) (συνεχίζεται)

5.- Μόλυνσις επί των κόλων

Μη-ωρισμένα όρια εξωτερικής μολύνσεως:-

β/γ/χαμηλής τοξικότητος α πομποί	10^{-4} UCI/CM^2
Φυσικόν/εξασθενημένον ουράνιον/ φυσικόν θόριον	10^{-3} UCI/CM^2
Άλλοι α πομποί	10^{-5} UCI/CM^2

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) κόλων

Τα κόλα θα είναι καθαρά και ανεξίτηλα μαρκαρισμένα εξωτερικώς με

(Ι) "Τύπος Α"

(ΙΙ) το βάρος του κόλου, εάν άνω των 50 KG.

7.- Έγγραφα μεταφοράς

(α) Για ανακεφαλαίωση των όρων εγκρίσεως και κοινοποιήσεως - βλέπε περιθώριο 2704.

(β) Το έγγραφο μεταφοράς πρέπει να περιλαμβάνει την περιγραφή "Ραδιενεργείς ύλες κόλων Τύπου Α, πίνακος 8, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα περιθώρια 3680 και 3681 της Προσθήκης Α.6.

(γ) Οσάκις επωφελούμεθα της επιτρεπομένης ηυξημένης ενεργείας ανά κόλον εάν η ύλη είναι ειδικής μορφής, το πιστοποιητικόν της ετεροπλεύρου εγκρίσεως

χορ σχεδίου ειδικής μορφής θα είναι στη κατοχή του αποστολέως προ της πρώτης φορτώσεως (βλέπε περιθώριο 367Ι της Προσθήκης Α.6).

Πίνακας 8 (Συνεχίζεται) 2703 (Συνεχίζεται)

8.- Αποθήκευσις και προώθησις

(α) Αποθήκευσις και διαχωρισμός από τα άλλα επικίνδυνα εμπορεύματα
- βλέπε περιθώριο 3658(Ι) της Προσθήκης Α.6.

(β) Αποθήκευσις και διαχωρισμός από κόλα φέροντα ετικέτες "FOTO"
- βλέπε περιθώριο 240 00Ι της Προσθήκης Β.4 για τον πίνακα διαχωρισμού.

(γ) Όριο δείκτου ολικής μεταφοράς για αποθήκευση- 50 ανά ομάδα με 6 μέτρα μεταξύ ομάδων- βλέπε περιθώριο 3658(2) έως (5) της Προσθήκης Α.6.

9.- Μεταφορά κόλων με οχήματα και δοχεία (CONTAINERS)

(α) Διαχωρισμός από κόλα φέροντα ετικέτα "FOTO" - βλέπε περιθώριο 240 00Ι της Προσθήκης Β.4 για πίνακες διαχωρισμού.

(β) Όριο δείκτου ολικής μεταφοράς - 50. Το όριο αυτό δεν ισχύει για πλήρες φορτίο, εφ'όσον εάν υπάρχουν κόλα Διασπαστής Κλάσεως ΙΙ ή ΙΙΙ δεν υπερβαίνεται ο επιτρεπόμενος αριθμός. Βλέπε περιθώριο 3659(5) της Προσθήκης Α.6.

(γ) Ανώτατον επίπεδον ακτινοβολίας για οχήματα και μεγάλα δοχεία προκειμένου περί πλήρους φορτίου
200 MREM/H στην επιφάνεια
Ι0 MREM/H σε 2 μέτρα από την επιφάνεια

(Βλέπε περιθώριο 3659(7) της Προσθήκης Α.6) Πίνακας 8 (Συνεχίζεται) 2703 (Συνεχίζεται)

Επίσης, για οχήματα - 2 MREM/H σε οποιαδήποτε κανονικώς καταληφθείσα θέση - βλέπε περιθώριο 3659(8) της Προσθήκης Α.6.

10.- Μεταφορά εις χύμα σε οχήματα και δοχεία

Δεν έχει εφαρμογήν.

11.- Μεταφορά με βυτία και TANK CONTAINERS

Δεν έχει εφαρμογήν.

12.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

(βλέπε Προσθήκες Α.9 και Β.4)

Δοχεία - ετικέτες συμφώνως προς μοντέλα 6Α, 6Β ή 6Γ και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές σύμφωνα με το μοντέλο της Προσθήκης Β.4, περιθώριο 240 1010, σε κάθε πλευρά και επί του οπισθίου τοιχώματος του οχήματος (βλέπε περιθώρια 3659(6) και 7Ι 500).

13.- Απαγορεύσεις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

14.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

15.- Άλλες διατάξεις

(α) Διατάξεις περί ατυχημάτων - βλέπε περιθώριο 3695(1) της Προσθήκης Α.6.

(β) Απολύμανσις εν αποθηκεύσει - βλέπε περιθώριο 3695(2) της Προσθήκης Α.6.

1.-	Ύλες Ραδιενεργείς ύλες σε κόλα Τύπου Β(U) Ουδέν όριον επί της ποσότητας ανά κόλον εκτός ως προβλέπεται υπό των πιστοποιητικών εγκρίσεως. Εάν υπάρχουν διασπαστές ύλες, οι όροι του πίνακος ΙΙ θα τηρούνται επιπροσθέτως των όρων του παρόντος πίνακος.	Ετικέτες κινδύνου επί των κόλων (Βλέπε Προσθήκην Α.9) Ετικέτες των μοντέλων 6Α, 6Β ή 6Γ θα τοποθετούνται εξωτερικώς στις αντίθετες πλευρές, βλέπε περιθώρια 3653 έως 3655 της Προσθήκης Α.6 για κατηγορία κόλου.
2.-	Συσκευασία/Κόλον Τύπος Β(U), συμφώνως προς τους όρους του σχεδίου τους διδομένους στα περιθώρια 3600 έως 3603 της Προσθήκης Α.6, τους απαιτούντας την μονόπλευρον έγκρισιν της αρμοδίας αρχής, βλέπε περιθώριο 3672 της Προσθήκης Α.6.	
3.-	Ανώτατον επίπεδον ακτινοβολίας Κόλου 200 MREM/H στην επιφάνεια του κόλου και ΙΟ MREM/H σε Ι μέτρο από την επιφάνεια αυτή. (βλέπε περιθώρια 3653 έως 3655 της Προσθήκης Α.6). εκτός της περιπτώσεως πλήρους φορτίου, οπότε το όριον είναι 1000 MREM/H στην επιφάνεια του κόλου και μπορεί να υπερβεί τα ΙΟ MREM/H σε Ι μέτρο από της επιφανείας αυτής. (Βλέπε περιθώριο 3659(7) της Προσθήκης Α.6)	
4.-	Μικτή συσκευασία Βλέπε περιθώριο 3650 της Προσθήκης Α.6.	

Πίνακας 9 (Συνεχίζεται) 2703 (Συνεχίζεται)

5.- Μόλυνσις επί πόλων

Μη-ωρισμένα όρια εξωτερικής μολύνσεως:

β/γ/χαμηλής τοξικότητος α πομποί 10^{-4} UCI/CM^2

Φυσικόν/εξασθενημένον ουράνιον/ φυσικόν θόριον 10^{-3} UCI/CM^2

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) πόλων

Τα πόλα θα μαρκάρονται εξωτερικώς καθαρά και ανεξίτηλα μέ:-

(I) "ΤΥΠΟΣ Β(U)".

(II) ένδειξις αναγνωρίσεως της αρμοδίας αρχής

(III) το βάρος εάν άνω των 50 KG.

(IV) το τρίφυλλο σύμβολο ενσωματωμένο ή σταμπαρισμένο επί του εξωτερικού του ανθεκτικού εις το πύρ και ύδωρ δοχείου.

7.- Έγγραφα Μεταφοράς

(α) Για ανακεφαλαίωση των όρων της εγκρίσεως και κοινοποιήσεως, βλέπε περιθώριο 2704.

(β) Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν "Ραδιενεργείς ύλες πόλων Τύπου Β(U), 7, πίνακος 9, ADR", με την ονομασίαν υπογραμμισμένην με κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα περιθώρια 3680 και 3681 της Προσθήκης Α.6.

(γ) Πιστοποιητικόν μονοπλεύρου εγκρίσεως του σχε-

δίτων του κόλου απαιτείται, βλέπε περι- Πίνακα 9 (Συνεχίζεται) 2703 (Συνεχίζεται)
θώριο 3672 της Προσθήκης Α.6.

(δ) Προ της φορτώσεως οιουδήποτε κόλου ο αποστολεύς θα έχει στη κατοχή του όλα τα σχετικά πιστοποιητικά εγκρίσεως.

(ε) Προ της πρώτης φορτώσεως συγκεκριμένου σχεδίου κόλου, εάν η ενέργεια είναι μεγαλύτερη των 3 X 10^3A_2 ή 3 X 10^3A_I ως ενδείκνυται, ή 3 X 10^4CI, οποιουδήποτε τούτων όντος χαμηλωτέρου, ο αποστολεύς θα εξασφαλίζει όπως αντίγραφα των πιστοποιητικών εγκρίσεως της αρμοδίας αρχής παρασχεθούν στις αρμόδιες αρχές τις θιγόμενες εκ της μετακινήσεως, βλέπε περιθώριο 3682(I) της Προσθήκης Α.6.

(στ) Προ κάθε φορτώσεως όταν η ενέργεια είναι μεγαλύτερη των 3 X 10^3A_2 ή 3 X 10^3A_I ως ενδείκνυται; ή 3 X 10^4CI, οποιουδήποτε τούτων όντος χαμηλωτέρου, ο αποστολεύς οφείλει να γνωστοποιήσει τούτο στις αρμόδιες αρχές όλων των χωρών των θιγομένων εκ της κινήσεως, κατά προτίμησιν προ δεκαπέντε ημερών ως λεπτομερώς αναφέρεται στο περιθώριο 3682 της Προσθήκης Α.6.

(ζ) Οσάκις επωφελούμεθα της επιτρεπομένης ηυξημένης ενεργείας ανά κόλον διότι η ύλη είναι ειδικής μορφής, βλέπε παραγράφους (α) και (στ) ανωτέρω, απαιτείται μονόπλευρον πιστοποιητικόν εγκρίσεως σχεδίου ειδικής μορφής (βλέπε περιθώριο 3671 της Προσθήκης Α.6).

8.- Αποθηκεύσεις και προώθησις Πίναξ 9 (Συνεχίζεται) 2703 (Συνεχίζεται)

(α) Οποιεσδήποτε οδηγίες του πιστοποιητικού εγκρίσεως της αρμοδίας αρχής θα τηρούνται.

(β) Αποθήκευσις και διαχωρισμός από άλλα επικίνδυνα εμπορεύματα - βλέπε περιθώριο 3658(I) της Προσθήκης Α.6.

(γ) Αποθήκευσις και διαχωρισμός από πόλα φέροντα τον τίτλον "FOTO" - βλέπε περιθώριο 240 00I της Προσθήκης Β.4 για πίνακα διαχωρισμού.

(δ) Οριο δείκτου ολικής μεταφοράς για αποθήκευση- 50 ανά ομάδα με 6 μέτρα μεταξύ των ομάδων- βλέπε περιθώριο 3658(2) έως (5) της Προσθήκης Α.6.

(ε) Ο αποστολεύς θα έχει τηρήσει τους προ της χρήσεως και προ της φορτώσεως όρους των περιθωρίων 3643 και 3644 της Προσθήκης Α.6.

(στ) Η θερμοκρασία των προσιτών επιφανειών του πόλου δεν θα υπερβαίνει τους 50°C υπό σκιάν εκτός εάν η μεταφορά τελεί υπό συνθήκας (όρους) πλήρους φορτίου, οπότε το όριον είναι 82°C (βλέπε περιθώρια 3602(3)(β) και 3603(8) της Προσθήκης Α.6).

(ζ) Εάν η μέση επιφανειακή ροή θερμότητος από πόλον υπερβαίνει τα I5 W/M^2, τότε το πόλον θα μεταφέρεται ως πλήρες φορτίο.

9.- Μεταφορά πόλων με οχήματα και δοχεία (CONTAINERS)

(α) Διαχωρισμός από πόλα φέροντα τον τίτλον "FOTO"-

βλέπε περιθώριο 240 001 της Προσθήκης Α.4 για πίνακα διαχωρισμού. Πίνακας 9 (Συνεχίζεται) 2703 (Συνεχίζεται)

(β) Όριο δείκτου ολικής μεταφοράς - 50.

Το όριο αυτό δεν ισχύει για πλήρες φορτίο εφ'όσον εάν υπάρχουν κόλα Διασπαστής Κλάσεως II ή III δεν υπερβαίνεται ο επιτρεπόμενος αριθμός. Βλέπε περιθώριο 3659(5) της Προσθήκης Α.6.

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και μεγάλα δοχεία προκειμένου περί πλήρους φορτίου

200 MREM/H στην επιφάνεια

10 MREM/H σε 2 μέτρα από την επιφάνεια

Βλέπε περιθώριο 3659(7) της Προσθήκης Α.6.

Επίσης για οχήματα - 2 MREM/H σε οποιαδήποτε κανονικώς καταληφθείσα θέση - βλέπε περιθώριο 3659(8) της Προσθήκης Α.6.

10.- Μεταφορά εις χύμα με οχήματα και δοχεία (CONTAINERS)

Δεν έχει εφαρμογήν.

11.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν έχει εφαρμογήν.

12.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

(Βλέπε Προσθήκες Α.9 και Β.4).

Δοχεία - ετικέτες μοντέλων 6Α, 6Β ή 6Γ και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές συμφώνως προς το μοντέλο της Προσθήκης Β.4 περιθώριο 240 010 σε κάθε πλευρά και στο οπίσθιο τοίχωμα του οχήματος (βλέπε

περιθώρια 3659(6) και 7I 500).

Πίνακας 9 (Συνεχίζεται) 2703 (Συνεχίζεται)

I3.- Απαγόρευσης επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

I4.- Απολύμανσης οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

I5.- Άλλες διατάξεις

(α) Διατάξεις περί Ατυχημάτων - βλέπε περιθώριο 3695(I) της Προσθήκης Α.6.

(β) Απολύμανσης εν αποθηκεύσει - βλέπε περιθώριο 3695(2) της Προσθήκης Α.6.

I.- Ύλες

Ραδιενεργείς ύλες Τύπου Β(Μ) πλοίων

ήτοι σχέδιον πλοίου Τύπου Β το οποίον δεν πληροί έναν ή περισσοτέρους των ειδικών προσθέτων όρων για πλοία Τύπου Β(U) (βλέπε περιθώριο 3603 της Προσθήκης Α.6). Ουδέν όριον επί της ποσότητος ανά πλοίον εκτός ως προβλέπεται υπό του πιστοποιητικού εγκρίσεως. Εάν υπάρχουν διασπαστές ύλες οι όροι του πίνακος II θα τηρούνται επιπροσθέτως των όρων του παρόντος πίνακος.

Πίνακας IO

Ετικέτες κινδύνου επί των πλοίων (βλέπε Προσθήκην Α.9)

Ετικέτες των μοντέλων 6Α, 6Β ή 6Γ θα τοποθετούνται εξωτερικώς σε δύο αντίθετες πλευρές, βλέπε περιθώρια 3653 έως 3655 της Προσθήκης Α.6 για κατηγορία πλοίου.

2.- Συσκευασία/Κόλον

Τύπος Β(Μ), συμφώνως προς τους όρους σχεδίου τους διδομένους στο περιθώριο 3604 της Προσθήκης Α.6 απαιτούντας πολύπλευρον έγ-

κόσμου αρμοδίας αρχής, βλέπε περιθώριο 3653 της Προσθήκης Α.6. Πίνακα IO (Συνεχίζεται) 2703 (Συνεχίζεται)

3.- Ανώτατον επίπεδον ακτινοβολίας κόλου

200 MREM/H στην επιφάνεια του κόλου και IO MREM/H σε I μέτρο από την επιφάνεια αυτή (βλέπε περιθώρια 3653 έως 3655 της Προσθήκης Α.6), εκτός της περιπτώσεως πλήρους φορτίου οπότε το όριο είναι IOOO MREM/H στην επιφάνεια του κόλου και μπορεί να υπερβεί τα IO MREM/H σε I μέτρο από την επιφάνειαν αυτήν (βλέπε περιθώριο 3659(7) της Προσθήκης Α.6).

4.- Μικτή Συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης Α.6.

5.- Μόλυνσις επί κόλων

Μη-ωρισμένα όρια εξωτερικής μολύνσεως:-

β/γ/χαμηλής τοξικότητας α πομποί	IO^{-4} UCI/CM^2
Φυσικόν/εξασθενημένον ουράνιον/ φυσικόν θόριον	IO^{-3} UCI/CM^2
Άλλοι α πομποί	IO^{-5} UCI/CM^2

Για πλήρεις λεπτομέρειες, βλέπε περιθώριο 3651 της Προσθήκης Α.6.

6.- Ενδείξεις (μαρκάρισμα) κόλων

Τα κόλα θα μαρκάρονται εξωτερικώς καθαρά και ανεξίτηλα με τον:-

(I) "Τύπον Β(Μ)"

(II) την ένδειξιν αναγνωρίσεως της αρμόδιας αρχής

(III) Το βάρος του κόλου αν είναι πάνω από 50 χιλιόγραμμα.

(IV) το εφ/φύλλο σύμβολο ενσωματωμένο ή καμπαρισμένο στο εξωτερικό του ανθεκτικού στο πύρ και το ύδωρ δοχείου. Πίναξ IO 2703 (Συνεχίζεται) (Συνεχίζεται)

7.- Έγγραφα μεταφοράς

(α) Για ανακεφαλαίωση των όρων εγκρίσεως και γνωστοποιήσεως - βλέπε περιθώριο 2704.

(β) Το έγγραφο μεταφοράς θα περιλαμβάνει την περιγραφήν "Ραδιενεργείς ύλες κόλων Τύπου B(M), 7, πίναξ IO, ADR", με την ονομασία υπογραμμισμένην με κόκκινο, και τις λεπτομέρειες τις οριζόμενες στα περιθώρια 3680 και 3681 της Προσθήκης Α.6.

(γ) Απαιτούνται πιστοποιητικά πολυπλεύρου εγκρίσεως σχεδίου κόλου, βλέπε περιθώριο 3673 της Προσθήκης Α.6.

(δ) Εάν το κόλον είναι σχεδιασμένον κατά τρόπον ώστε να παρέχεται συνεχής εξαερισμός ή εάν το ολικόν περιεχόμενον υπερβαίνει τα 3 X IO^3A_2 ή 3 X IO^3A_I, ως ενδείκνυται ή τα 3 X IO^4CI, οποιουδήποτε τούτων όντος χαμηλωτέρου, πολύπλευρα πιστοποιητικά φορτώσεως απαιτούνται εκτός εάν η αρμόδια αρχή εξουσιοδοτήσει την μεταφορά με ειδικήν διάταξιν στο πιστοποιητικό της σχεδίου κόλου, βλέπε περιθώριο 3675 της Προσθήκης Α.6.

(ε) Οσάκις επωφελούμεθα της ηυξημένης ενεργείας ανά κόλον της επιτρεπομένης εάν η ύλη είναι ειδικής μορφής, βλέπε παράγραφον (δ) ανωτέρω,

απαιτείται μονόπλευρον πιστοποιητικόν εγκρίσεως σχεδίου ειδικής μορφής (βλέπε περιθώριο 367Ι της Προσθήκης Α.6.)

Πίναξ ΙΟ (Συνεχίζεται)

2703 (Συνεχίζεται)

(στ) Προ κάθε φορτώσεως ο αποστολέας οφείλει να γνωρίζει στις αρμόδιες αρχές όλων των χωρών των θιγομένων ελ της μεταφοράς κατά προτίμησιν προ δέκαπέντε ημερών ως λεπτομερώς αναφέρεται στο περιθώριο 3682(2) έως (4) της Προσθήκης Α.6.

(ζ) Πρό της φορτώσεως οιουδήποτε κόλου, ο αποστολέας θα έχει στην κατοχή του όλα τα σχετικά πιστοποιητικά εγκρίσεως.

8.- Αποθήκευσις και προώθησις

(α) Θα τηρούνται οιεσδήποτε οδηγίες των πιστοποιητικών εγκρίσεως της αρμόδιας αρχής.

(β) Αποθήκευσις και διαχωρισμός από άλλα επικίνδυνα εμπορεύματα - βλέπε περιθώριον 3658(Ι) της Προσθήκης Α.6.

(γ) Αποθήκευσις και διαχωρισμός από κόλα φέροντα ετικέτα "FOTO" - βλέπε περιθώριο 240 00Ι της Προσθήκης Β4 για πίνακα διαχωρισμού.

(δ) Όριο δείκτου ολικής μεταφοράς για αποθήκευση- 50 ανά ομάδα με 6 μέτρα μεταξύ των ομάδων- βλέπε περιθώριο 3658(2) έως (5) της Προσθήκης Α.6.

(ε) Ο αποστολέας θα έχει τηρήσει τους προ της χρήσεως και προ της φορτώσεως όρους των περιθωρίων 3643 και 3644 της Προσθήκης Α.6.

(στ) Εάν η θερμοκρασία επιφανείας του κόλου Πίνακας 10 2703
υπερβαίνει τους 50°C υπό σκιάν το (Συνεχίζεται) (Συνεχίζεται)
κόλον θα μεταφέρεται ως πλήρες φορτίο -
βλέπε περιθώριο 3602(4)(β) της Προσθήκης
Α.6.

(ζ) Εάν η μέση ροή επιφανειακής θερμότητος
από ένα κόλον υπερβαίνει τα 15 W/M^2, τότε
το κόλο ν θα μεταφέρεται ως πλήρες φορτίο.

(η) Κόλα ειδικώς προοριζόμενα να επιτρέπουν
συνεχή εξαερισμόν - βλέπε περιθώριον 3604(2)
της Προσθήκης Α.6 - θα μεταφέρονται μόνον
υπό πλήρες φορτίο.

9.- Μεταφορά κόλων με οχήματα και δοχεία

(α) Διαχωρισμός από κόλα φέροντα ετικέτα "FOTO"-
βλέπε περιθώριο 240 001 της Προσθήκης Β4 για
τον πίνακα διαχωρισμού.

(β) Όριο δείκτου ολικής μεταφοράς - 50. Το όριο
αυτό δεν ισχύει για πλήρες φορτίο, εφ'όσον
εάν υπάρχουν κόλα Διασπαστής Κλάσεως ΙΙ ή ΙΙΙ
δεν υπερβαίνεται ο επιτρεπόμενος αριθμός -
βλέπε περιθώριον 3659(5) της Προσθήκης Α.6.

(γ) Ανώτατα επίπεδα ακτινοβολίας για οχήματα και
μεγάλα δοχεία προκειμένου περί πλήρους φορτίου
200 MREM/H στην επιφάνεια
10 MREM/H σε 2 μέτρα από την επιφάνεια
βλέπε περιθώριο 3659(7) της Προσθήκης Α.6.
Επίσης, για οχήμα-τα 2 MREM/H σε οποιαδήποτε
κανονικώς καταληφθείσα θέση - βλέπε περιθώριο

3659(8) της Προσθήκης Α.6. Πίνακες IO 2703

IO.- Μεταφορά εις χύμα με οχήματα και δοχεία (Συνεχίζεται) (Συνεχίζεται)

Δεν έχει εφαρμογήν.

II.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Δεν έχει εφαρμογήν.

I2.- Επιγραφές και ετικέτες επί οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

(βλέπε Προσθήκην Α9 και Β4)

Δοχεία - ετικέτες των μοντέλων 6Α, 6Β ή 6Γ

και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές συμφώνως

προς το μοντέλο της Προσθήκης Β4, περιθώριο

240 OIO σε κάθε πλευρά και στο οπίσθιο τοίχωμα

του οχήματος (βλέπε περιθώρια 3659(6) και 7I 500).

I3.- Απαγόρευσις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3).

I4.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS)

Βλέπε περιθώριο 3695(3) της Προσθήκης Α.6.

I5.- Άλλες διατάξεις

(αί) Διατάξεις περί απυχημάτων - βλέπε περιθώριο 3695(I) της Προσθήκης Α.6.

(β) Απολύμανσις εν αποθηκεύσει - βλέπε περιθώριο 3695(2) της Προσθήκης Α.6.

Πίναξ ΙΙ 2703 (Συνεχίζεται)

I.- Ύλες

Διασπαστές Ύλες ήτοι:-

ουράνιον - 233, ουράνιον - 235, πλουτόνιον - 238, πλουτόνιον - 239, πλουτόνιον - 241, ή ή οιαδήποτε ύλη περιέχουσα οιανδήποτε των ανωτέρω, εκτός από μη-ακτινοβόλον φυσικόν και εξασθενημένον ουράνιον.

Οι διασπαστές ύλες θα αποστέλλονται επίσης με πλήρη τήρησιν των όρων του ενός εκ των άλλων πινάκων, ως ενδείκνυται για την ραδιενέργειαν.

2.- Συσκευασία/Κόλον

(α) Οι κατωτέρω ύλες οι οριζόμενες πλήρως στο περιθώριο 3610 της Προσθήκης Α6 εξαιρούνται των όρων ειδικής συσκευασίας του παρόντος πίνακος:-

(I) Διασπαστές ύλες σε ποσότητα μη υπερβαίνουσα τα 15 G.

(II) Φυσικόν ή εξασθενημένον ουράνιον ακτινοβολούν (IRRADIATED) σε θερμικόν αντιστάτην.

(III) Αραιωμένα διαλύματα υδρογόνου σε περιορισμένα συμπυκνώματα και ποσότητες.

(IV) Εμπλουτισμένον ουράνιον με όχι άνω του 1 τοις εκατόν ουρανίου-235, το οποίον δεν πρέπει να σχηματίζει διάταξιν πλέγματος εάν μέταλλον ή οξείδιον.

Ετικέτες κινδύνου επί των κόλων

(Βλέπε Προσθήκην Α9)

Διασπαστή Κλάσις I - ετικέτες σύμφωνα προς τα μοντέλα 6Α, 6Β ή 6Γ.

Διασπαστή Κλάσις II - ετικέτες σύμφωνα προς τα μοντέλα 6Β ή 6Γ.

Διασπαστή Κλάσις III- ετικέτες συμφώνως προς το μοντέλο 6Γ μόνον. Ετικέτες θα τοποθετούνται εξωτερικώς σε δύο αντίθετες πλευρές, βλέπε περιθώρια 3653 έως 3655 της Προσθήκης Α6 για κατηγορία κόλου.

(V) Ύλες διανεμημένες όχι άνω των 5 G (Γραμ- Πίναξ II 2703
μαρίων) ανά όγκον 10 λιτρών. (Συνεχίζε- (Συνεχί-
ται) ζεται)

(VI) Πλουτόνιον όταν είναι ολιγώτερο του 1 KG ανά κόλον και όταν όχι άνω του 20 τοις εκατόν της μάζης περιλαμβάνει πλουτόνιον-239 ή 241.

(VII) Εμπλουτισμένον διάλυμα νιτρικού ουρανυλίου περιέχον ουράνιον με όχι άνω του 2 τοις εκατόν ουρανίου-235.

(β) Άλλως, τα κόλα θα είναι σύμφωνα με τους όρους του σχεδίου της Διασπαστής Κλάσεως I, II ή III τους διδομένους στα περιθώρια 3611 έως 3624 της Προσθήκης Α6 και θά έχουν την έγκρισιν της αρμοδίας αρχής, οσάκις απαιτείται, ως λεπτομερώς αναφέρεται στο περιθώριο 3674 της Προσθήκης Α6.

3.- Ανώτατο επίπεδο ακτινοβολίας κόλου

Βλέπε κατάλληλον πίνακα.

4.- Μικτή συσκευασία

Βλέπε περιθώριο 3650 της Προσθήκης Α6.

5.- Κόλωνες, επί κόλων

Βλέπε κατάλληλον πίνακα.

6.- Ενδείξεις (μαρκάρισμα) κόλων

Βλέπε κατάλληλον πίνακα.

7.- Έγγραφα μεταφοράς

(α) Για ανακεφαλαίωση των όρων της εγκρίσεως και κοινοποιήσεως - βλέπε περιθώριον 2704.

(β) Το έγγραφον μεταφοράς θα περιλαμβάνει τις λεπτο-

μέρειες τιςοριζόμενες στον καπάλληλο πί- (Συνεχίζεται)
νακα για τη φύση του περιεχομένου με την
λέξιν "Διασπαστή" προτασσομένην της περι-
γραφής και υπογραμμισμένην με κόκκινο.

(γ) Μπορούν να απαιτηθούν πιστοποιητικά μονο-
πλεύρου ή πολυπλεύρου εγκρίσεως σχεδίου κό-
λου, βλέπε περιθώριο 3674 της Προσθήκης Α6.

(δ) Τα σχέδια κόλων Διασπαστής Κλάσεως ΙΙ συμμορ-
φούμενα προς το περιθώριον 3620 της Προσθήκης
Α6 θα έχουν πιστοποιητικά πολυπλεύρου εγκρί-
σεως της φορτώσεως. Ένα τέτοιο σχέδιο κόλου
δεν απαιτεί προηγουμένην γνωστοποίησιν εκτός
εάν ειδικώς ορίζεται στην έγκριση φορτώσεως
της αρμόδιας αρχής.

(ε) Τα σχέδια κόλων Διασπαστής Κλάσεως ΙΙΙ θα έχουν
πιστοποιητικά πολυπλεύρου εγκρίσεως της φορτώ-
σεως εκτός εάν αρμόδια αρχή εξουσιοδοτεί την
μεταφορά δι'ειδικής διατάξεως στο πιστοποιητικό
της σχεδίου κόλου, βλέπε περιθώριο 3675 της Προ-
σθήκης Α6.

(στ) Προ κάθε φορτώσεως κόλου Διασπαστής Κλάσεως ΙΙΙ
το οποίον απαιτεί πολύπλευρον έγκρισιν του σχε-
δίου του κόλου, βλέπε περιθώριο 3674 της Προσθήκης
Α6, ο αποστολέας οφείλει να ενημερώσει τις αρμόδιες
αρχές όλων των χωρών των θιγομένων εκ της μετακι-
νήσεως κατά προτίμησιν προ δεκαπέντε ημερών ως λε-
πτομερώς αναφέρεται στο περιθώριο 3682(2) έως (4)
της Προσθήκης Α6.

Πίναξ I 2703

(ζ) Πριν από κάθε φορτώσεως οιουδήποτε πλοίου ο αποστολέας θα έχει στη κατοχή του οιαδήποτε σχετικά πιστοποιητικά εγκρίσεως. (Συνεχίζεται) (Συνεχίζεται)

8.- Αποθήκευσις και προώθησις

(α) Πρέπει να τηρούνται οποιεσδήποτε οδηγίες των πιστοποιητικών εγκρίσεως της αρμοδίας αρχής.

(β) Όριο δείκτου ολικής μεταφοράς για αποθήκευση- 50 ανά ομάδα με 6 μέτρα μεταξύ των ομάδων- βλέπε περιθώριο 3658(2) έως (5) της Προσθήκης Α6.

(γ) Ο αποστολέας θα έχει συμμορφωθεί με τους προ της χρήσεως όρους του περιθωρίου 3643 της Προσθήκης Α6.

9.- Μεταφορά πλοίων με οχήματα και δοχεία

(α) Θα τηρούνται οποιεσδήποτε οδηγίες των πιστοποιητικών εγκρίσεως της αρμοδίας αρχής.

(β) Όριο δείκτου ολικής μεταφοράς - 50.

Το όριο αυτό δεν ισχύει για πλήρες φορτίο, εφ' όσον, εάν υπάρχουν πλοία Διαστάσεως Κλάσεως II ή III, ο επιτρεπόμενος αριθμός δεν υπερβαίνεται. Βλέπε περιθώριον 3659(5) της Προσθήκης Α6.

10.- Μεταφορά εις χύμα με οχήματα και δοχεία

(α) Ουδείς περιορισμός για διασπαστό υλικό μέχρι συλικώς 15G (γραμμάρια) ή για διαλύματα εντός των ορίων ωρισμένου συμπυκνώματος και ποσότητος, βλέπε παράγραφον 2(α)(I), (III) και (VII) και περιθώριο 3610 της Προσθήκης Α6.

(β) Δεν έχει εφαρμογήν για πλοία Διαστάσεως Κλάσεως I ή II.

(γ) Επιτρέπεται κατά την Διασπαστήν Κλάσιν III μόνον εάν καθορίζεται στο πιστοποιητικό της αρμόδιας αρχής.

Πίναξ II (Συνεχίζεται)

Πίναξ II (Συνεχίζεται)

II.- Μεταφορά με βυτιοφόρα και TANK CONTAINERS

Βλέπε παράγραφον IO(α), (β) και (γ) ανωτέρω.

I2.- Επιγραφές και ετικέτες επί των οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων (CONTAINERS) (βλέπε Προσθήκες Α9 και Β4)

Δοχεία - ετικέτες των μοντέλων 6Α, 6Β ή 6Γ και στις τέσσερες πλευρές.

Οχήματα και μεγάλα δοχεία - επιγραφές συμφώνως προς το μοντέλο της Προσθήκης Β4, περιθώριο 240 OIO, σε κάθε πλευρά και στο οπίσθιο τοίχωμα του οχήματος (βλέπε περιθώρια 3659(6) και 7I 500).

I3.- Απαγορεύσεις επί μικτής φορτώσεως

Βλέπε περιθώριο 2700(3)

I4.- Απολύμανσις οχημάτων, βυτιοφόρων, TANK CONTAINERS και δοχείων

Βλέπε κατάλληλον πίνακα.

I5.- Άλλες διατάξεις

Διατάξεις περι ατυχημάτων - βλέπε περιθώριο 3695(I) της Προσθήκης Α6.

I.- Ύλες

Ραδιενεργείς ύλες μεταφερόμενες υπό ειδικήν διευθέτησιν

Εάν δεν είναι δυνατόν να τηρηθούν οι όροι του σχεδίου κόλου ή της φορτώσεως

Πίναξ I2

Ετικέτες κινδύνου επί κόλων

(Βλέπε Προσθήκην Α9)

Ετικέτες συμφώνως προς το μοντέλο 6Γ

διεσταλμένες θα μεταφέρονται υπό ειδικήν διεύθυνσιν η οποία θα εξασφαλίζει ότι το γενικόν επίπεδον ασφαλείας δεν θα είναι μικρότερον από ό,τι θα ήτο εάν ετηρούντο όλοι οι ισχύοντες όροι. Βλέπε περιθώριο 3676 της Προσθήκης Α6.

ΣΗΜΕΙΩΣΙΣ.- Για αναπεφαλαίωση των όρων της εγκρίσεως και γνωστοποιήσεως, βλέπε περιθώριο 2704.

Πίναξ I 2 2703 (Συνεχίζεται) (Συνεχίζεται)

θα τοποθετούνται εξωτερικώς σε δύο αντίθετες πλευρές εκτός εάν άλλως προβλέπεται υπό του πιστοποιητικού της αρμόδιας αρχής. Βλέπε περιθώριο 3655(I) της Προσθήκης Α6.

Αναπεφαλαίωση όρων εγκρίσεως και προειδοποιήσεως 2704

(α) Έγκρισις υλών ειδικής μορφής, και σχεδίων κόλλων

	Αντικείμενον εγκρίσεως	Αρμόδια Αρχή της οποίας απαιτείται η έγκρισις
I	Ύλη ειδικής μορφής εκτός των ειδών εκείνων που ορίζονται στους Πίνακες 3 και 4.	Χώρα προελεύσεως
2	Τύπος A, LSA και LLS.	Ουδεμία εκτός εάν το περιεχόμενο είναι διασπαστό και δεν εξαιρείται των κατά το περιθώριο 3610 της Προσθήκης Α6 όρων περί διασπαστού: Χώρα προελεύσεως
3	Τύπος B (U)	Χώρα προελεύσεως
4	Τύπος B (M)	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες
5	Διασπαστά κόλλα	
	Σχέδια κόλλου συμμορφούμενα προς το περιθώριο 3620, 3623 ή 3624 της Προσθήκης Α6	Ουδεμία

Αντικείμενον Εγκρίσεως	Αρμόδια Αρχή της οποίας απαιτείται η έγκρισις
(Σ υ ν έ χ ε ι α)	
Σχέδια κόλου συμμορφούμενα προς το περιθώριο 3616 ή 3622 της Προσθήκης Α6	Χώρα προελεύσεως
Όλα τα άλλα σχέδια κόλων	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες

Σημείωσις:- "Χώρα προελεύσεως" αναφέρεται στη χώρα από την οποία προήλθε το σχέδιο.

Κόλα των διασπαστών κλάσεων εμπίπτουν επίσης σε μίαν ή άλλην των ανωτέρω κατηγοριών 2, 3 ή 4 σχεδίων κόλων και οι σχετικές διατάξεις ισχύουν επίσης για αυτά.

(β) Έγκρισις Φορτώσεων και Προειδοποίησις .--

	Κόλον	Αρμόδια Αρχή της οποίας απαιτείται η έγκρισις για κάθε φορτωση	Προειδοποίησις κάθε φορτώσεως
1.-	Τύπος A, LSA και LLS	Ουδεμία	Ουδεμία
2.-	Τύπος B(U)	Ουδεμία	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες όταν το περιεχόμενον υπερβαίνει τα 3 X IO^3A_1 ή τα 3 X IO^3A_2, ως ενδείκνυται ή τα 3 X IO^4CI, οιουδήποτε τούτων όντος χαμηλωτέρου.

(Συνεχίζεται)

Κόλον	Αρμόδια Αρχής της οποίας απαιτείται η έγκρισις για κάθε φόρτωσης	Προειδοποίησις κάθε φορτώσεως
	(Συνέχεια)	
3.- Τύπος Β(Μ) - Συνεχώς εξαεριζόμενος	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες.	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες.
4.- Τύπος Β(Μ) - Μη-συνεχώς εξαεριζόμενος	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες όταν το περιεχόμενον υπερβαίνει τα $3 \times 10^3 A_1$ ή $3 \times 10^3 A_2$, ως ενδείκνυται ή τα $3 \times 10^4 CI$, οιουδήποτε τούτων όντος χαμηλωτέρου.	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες.
5.- Διασπαστά Κόλα		
Διασπαστή Κλάσις I	Ουδεμία	Ουδεμία
Διασπαστή Κλάσις II	Κόλα συμμορφούμενα προς περιθώριο 3620 της Προσθήκης Α6 μόνον: Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες.	Ουδεμία εκτός εάν ορίζεται στην έγκριση φορτώσεως της αρμόδιας αρχής.
Διασπαστή Κλάσις III	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες.	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες.
6.- Κόλα υπό την επιφύλαξη της μεταφοράς βάσει ειδικής διευθετήσεως.	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες.	Χώρα προελεύσεως και όλες οι καθ'οδόν χώρες.

Σημείωσις:- Προ της φορτώσεως κόλου Τύπου B(U) το περιεχόμενο του οποίου υπερβαίνει τα 3 X IO^3A_I ή 3 X IO^3A_2, ως ενδείκνυται, ή τα 3 X IO^4CI, οιουδήποτε τούτων όντος χαμηλωτέρου, για πρώτη φορά, ο αποστολέας οφείλει να εξασφαλίζει ότι αντίγραφα κάθε ισχύοντος πιστοποιητικού αρμόδιας αρχής αφορώντος το σχέδιο έχουν υποβληθεί στην αρμόδια αρχή των χωρών εκείνων εις την εδαφικήν περιφέρειαν των οποίων πρόκειται το κόλον να μεταφερθεί. Ως χώρα προελεύσεως αναφέρεται η χώρα από την οποίαν προήλθε η φόρτωσις. 2704 (Συνεχίζεται)

Κόλα των διασπαστών κλάσεων εμπίπτουν επίσης εις την μίαν ή την άλλην επικεφαλίδα του παρόντος Πίνακος και οι σχετικές διατάξεις έχουν επίσης εφαρμογήν εις αυτά.

2705 - 2799

ΚΛΑΣΗ 8.- ΔΙΑΒΡΩΤΙΚΕΣ ΥΛΕΣ

Ι.- Κατάλογος υλών

Μεταξύ των υλών και ειδών των καλυπτομένων υπό 2800
τον τίτλον της Κλάσεως 8 εκείνες και εκείνα που αναγράφονται στο περιθώριο 280Ι ή που καλύπτονται υπό συλλογικού τίτλου του περιθωρίου αυτού υπόκεινται στις διατάξεις του παρόντος Παραρτήματος και του Παραρτήματος Β. Οι ύλες αυτές και τα είδη που γίνονται δεκτά για μεταφορά υπό ωρισμένους όρους θα θεωρούνται ως ύλες και είδη της ADR.

Α.- Όξινες ύλες 280Ι

(α) Ανόργανα οξέα

Ι° Θειϊκόν οξύ

(α) Θειϊκόν οξύ περιέχον άνω του 85 τοις εκατόν καθαρόν οξύ (H_2SO_4), και OLCUM (ατμίζον θειϊκόν οξύ)·

(β) θειϊκόν οξύ περιέχον άνω του 75 τοις εκατόν αλλά όχι άνω του 85 τοις εκατόν καθαρόν οξύ (H_2SO_4)·

(γ) θειϊκόν οξύ περιέχον όχι άνω του 75 τοις εκατόν καθαρόν οξύ (H_2SO_4)·

(δ) θειϊκόν οξύ υπολειμμάτων, εξ ολοκλήρου απονιτρομένο·

Σημείωσις:- Ατελώς απονιτρομένο θειϊκόν οξύ υπολειμμάτων δεν γίνεται δεκτόν για μεταφορά.

(ε) ιλύς μολύβδου περιέχουσα θειϊκόν οξύ·

Σημείωσις:- Ιλύς μολύβδου περιέχουσα κάτω του 3 τοις εκατόν ελεύθερον οξύ είναι ύλη της Κλάσεως 6.Ι (βλέπε περιθώριο 260Ι, 73°).

(στ) συσσωρευτές γεμισμένοι με θειϊκόν οξύ. 280Ι
(Συνεχίζεται)

Για (α) έως (δ), βλέπε επίσης περιθώριο 280Ια, υπό στοιχείον (α).

2° Νιτρικόν οξύ:

(α) νιτρικόν οξύ περιέχον όχι άνω του 70 τοις εκατόν καθαρόν οξύ (HNO_3)·

(β) νιτρικόν οξύ περιέχον άνω του 55 τοις εκατόν αλλά όχι άνω του 70 τοις εκατόν καθαρόν οξύ (HNO_3)·

(γ) νιτρικόν οξύ περιέχον όχι άνω του 55 τοις εκατόν καθαρόν οξύ (HNO_3).

Για (α) έως (γ), βλέπε επίσης περιθώριον 250Ια, υπό στοιχείον (α) και (β).

3° Μικτά οξέα νιτρώσεως (θειϊκόν και νιτρικόν οξύ):-

(α) μικτά οξέα νιτρώσεως περιέχοντα άνω του 30 τοις εκατόν καθαρόν νιτρικόν οξύ (HNO_3)·

(β) μικτά οξέα νιτρώσεως περιέχοντα όχι άνω του 30 τοις εκατόν καθαρόν νιτρικόν οξύ (HNO_3)·

Σημείωσις:- Για μικτά οξέα νιτρώσεως υπολειμμάτων, βλέπε Ι°(δ).

Για (α) και (β), βλέπε επίσης περιθώριο 280Ια, υπό στοιχείον (α) και (β).

4° Υπερχλωρικόν οξύ σε υδατοειδή διαλύματα περιέχοντα όχι άνω του 50τοις εκατόν καθαρόν οξύ ($HClO_4$). Βλέπε επίσης περιθώριο 280Ια υπό στοιχείον (α).

Σημείωσις:- Υδατοειδή διαλύματα υπερχλωρικού οξέος περιέχοντα άνω του 50 τοις εκατόν αλλά όχι άνω του 72.5 τοις εκατόν καθαρόν οξύ ($HClO_4$) είναι ύλες της Κλάσεως

5.Ι. (βλέπε περιθώριο 250Ι, 3°). Διαλύματα περιέ- 280Ι
χοντα άνω του 72,5 τοις εκατόν καθαρού οξέος δεν (Συνεχίζεται)
γίνονται δεκτά για μεταφορά· το αυτό ισχύει για
μίγματα υπερχλωρικού οξέος με οποιοδήποτε υγρό πλήν
του ύδατος.

5° Διαλύματα υδροχλωρικού οξέος, διαλύματα υδροβρωμικού οξέος, διαλύματα υδροϊωδίου, και μίγματα θειϊκού οξέος και υδροχλωρικού οξέος. Βλέπε επίσης περιθώριο 280Ια, υπό στοιχείον (α).

Σημειώσεις:- Ι.- Μίγματα νιτρικού οξέος με υδροχλωρικόν οξύ δεν γίνονται δεκτά για μεταφορά.

2.- Υγροποιημένον άνυδρον υδροβρωμικόν οξύ και υγροποιημένον υδροχλωρικόν οξύ είναι ύλες της Κλάσεως 2 (βλέπε περιθώριο 220Ι, 5° και Ι0°).

6° Υδροφθορικόν οξύ (άνυδρο υδροφθορικό οξύ) και υδατοειδή διαλύματα υδροφθορικού οξέως:

α) Υδροφθορικόν οξύ (άνυδρο υδροφθορικό οξύ).

β) Υδατοειδή διαλύματα υδροφθορικού οξέως περιέχοντα άνω του 85 στα εκατό καθαρό οξύ.

γ) Υδατοειδή διαλύματα υδροφθορικού οξέως περιέχοντα άνω του 60 στα εκατό αλλά όχι περισσότερο από 85 στα εκατό καθαρό οξύ.

δ) Υδατοειδή διαλύματα υδροφθορικού οξέως περιέχοντα όχι περισσότερο από 60 στα εκατό καθαρό οξύ.

Για (γ) και (δ), βλέπε επίσης περιθώριον 2801α, υπό στοιχείον (α).

7° Υδροβοριοφθορικόν οξύ (υδατοειδή διαλύματα περιέχοντα όχι άνω του 78 τοις εκατόν καθαρόν οξύ (HBF)). Βλέπε επίσης περιθώριον 2801α υπό στοιχείον (α). 2801 (Συνεχίζεται)

Σημείωσις:- Διαλύματα υδροβοριοφθορικού οξέος περιέχοντα άνω του 78 τοις εκατόν καθαρόν οξύ (HBF) δεν γίνονται δεκτά για μεταφοράν.

8° Φθοριοπυριτικόν οξύ (υδροφθοριοπυριτικόν οξύ (H_2SiF_6)). Βλέπε επίσης περιθώριον 2801α, υπό στοιχείον (α).

9° Σταθεροποιημένο τριοξείδιο του θείου. Βλέπε επίσης περιθώριον 2801α, υπό στοιχεία (α) και (γ).

Σημείωσις:- Μη σταθεροποιημένο τριοξείδιον του θείου δεν γίνεται δεκτόν για μεταφοράν.

(β) Ανόργανα αλογονίδια, όξινα άλατα και παρεμφερείς αλογοποιημμένες ύλες.

ΙΙ° Υγρά αλογονίδια και παρεμφερείς αλογοποιημένες ύλες (εκτός των ενώσεων FLOURINE) οι οποίες, σε επαφή με υγρασία, αέρα ή ύδωρ, αναδύουν αναθυμιάσεις οξέων, όπως:-

(α) πενταχλωριούχον αντιμόνιον ($SbCl_5$), χλωροσουλφονικόν οξύ ($SO_2(OH)Cl$), διχλωριούχον διθείον (σταθεροποιημένο) (S_2Cl_2), χλωριούχον χρωμύλιον (οξυχλωριούχον χρώμιον) (CrO_2Cl_2), χλωριούχον φωσφορύλιον (οξυχλωριούχος φωσφόρος) ($POCl_3$), τριχλωριούχος φωσφόρος (PCl_3), τετραχλωροπυρίτιο ($SiCl_4$), χλωριούχον SULPHURYL (SO_2Cl_2), χλωριούχον θειονύλιον ($SOCl_2$), τετραχλωριούχον τιτάνιον ($TiCl_4$) και υπερχλωριούχος κασσίτερος ($SnCl_4$).

Σημείωσις:- Μη σταθεροποιημένον διχλωριούχον διθείον (DI-SULPHUR DICHLORIDE) δεν γίνεται δεκτόν για μεταφοράν.

(β) Προβρωμιούχος φωσφόρος (PBR_3), χλωριούχον PYRO-SULPHURYL ($S_2O_5CL_2$) και χλωριούχον THIOPHOSHORYL ($PSCL_3$). 2801 (Συνεχίζεται)

Για (α) και (β), βλέπε επίσης περιθώριο 2801α, υπό στοιχείον (α).

12° Στερεά αλογονίδια και παρεμφερείς αλογοποιημένες ύλες (εκτός των ενώσεων FLUORINE) που, σε επαφή με υγρόν αέρα ή ύδωρ, αναδίδουν δξινους αναθυμιάσεις, όπως:-

χλωριούχον αργίλλιον (άνυδρον) ($ALCL_3$), τριχλωριούχον αντιμόνιον (τεχνικόν) ($SBCL_3$), πενταχλωριούχος φωσφόρος (PCL_5) και χλωριούχος ψευδάργυρος ($ZNCL_2$).

Βλέπε επίσης περιθώριο 2801α, υπό στοιχεία (α) και (δ).

Σημείωσις:- Μη-άνυδρον χλωριούχον αργίλλιον δεν γίνεται δεκτόν για μεταφορά.

13° Διθειϊκά. Βλέπε επίσης περιθώριο 2801α, υπό στοιχείον (α).

Σημείωσις:- Τα διθειϊκά δεν υπόκεινται στις διατάξεις της ADR εάν ο αποστολέας πιστοποιεί στο έγγραφο μεταφοράς ότι τα προϊόντα είναι απηλλαγμένα από ελεύθερο θειϊκό οξύ και είναι ξηρά.

14° Βρώμιον. Βλέπε επίσης περιθώριο 2801α, υπό στοιχείον (α).

15° Οι παρακάτω ενώσεις φθορίου:-

(α) Άλατα δι-υδροφθορικού οξέος·

(β) Φθοριούχον αμμώνιον, φθοριούχον χρώμιον, πενταφθοριούχον αντιμόνιον·

(γ) σύνθετον τριφθοριούχον βόριον-οξικόν οξύ, σύνθετον τριφθοριούχον βόριον-προπιονικόν οξύ·

(δ) τριφθοριούχον βρώμιον (BRF_3), πενταφθοριούχον βρώμιον (BRF_5).

Για (α) έως (δ), βλέπε επίσης περιθώριο 280Ια υπό στοιχείον (α). 280Ι (Συνεχίζεται)

(γ) Οργανικές ύλες·

21° Τα παρακάτω οξέα:-

(α) χλωροακετικά(οξικά) οξέα:-

Ι.- μονοχλωριούχα και τριχλωριούχα οξύλια (στερεά)·

2.- διχλωριούχο οξύλιο (υγρό) και μίγματα χλωριούχων οξυλίων·

(β) μυρμηκικόν οξύ περιέχον όχι κάτω του 70 τοις εκατόν καθαρόν οξύ·

(γ) καθαρόν οξεικόν οξύ και τα υδατοειδή της διαλύματα περιέχοντα άνω του 80 τοις εκατόν καθαρόν οξύ·

(δ) προπιονικό οξύ περιέχον άνω του 80 τοις εκατόν καθαρό οξύ·

(ε) Για (α) έως (ε), βλέπε επίσης περιθώριον 280Ια, υπό στοιχείον (α).

22° Αλογονίδια υγρού οξέος, όπως:-

αιθυλοχλωρίδιο και χλωριούχο βενζούλιον. Βλέπε επίσης περιθώριο 280Ια, υπό στοιχείον (α).

23° Χλωροσιλάνια αλκυλίου και αρυλίου

(α) Χλωροσιλάνια αλκυλίου και χλωροσιλάνια αρυλίου έχοντα σημείον αναφλέξεως κάτω των 21°C·

(β) Χλωροσιλάνια αλκυλίου και χλωροσιλάνια αρυλίου έχοντα σημείον αναφλέξεως 21°C και άνω·

Σημείωσις:- Ύλες του του παρόντος αριθμού είδους οι οποίες βγάζουν εύφλεκτα αέρια σε επαφή με το ύδωρ δεν γίνονται δεκτές για μεταφορά.

[redacted]α (α) και (β), βλέπε επίσης περιθώριον 280Ια, υπό στοιχείον (α). 280Ι (Συνεχίζεται)

Β.- Υλες βασικού χαρακτήρος

31° (α) Υδροξείδιον νατρίου και υδροξείδιον καλίου (καυστική σόδα, καυστική ποτάσα), σε σβώλους, νιφάδες ή υπό μορφήν κόνεως.

Βλέπε επίσης περιθώριον 280Ια, υπό στοιχείον (α).

(β) Υδροξείδιο νατρίου που γεμίσθηκε σε κατάσταση αργή (MOLTEN STATE).

32° Υδροξείδιο νατρίου και υδροξείδιο καλίου σε διαλύματα (διάλυμα καυστικής σόδας, διάλυμα καυστικής ποτάσας), επίσης σε μίγματα (καυστικά διαλύματα), αλκαλικά διαλύματα φαινόλης, κρεζόλαι και ξυλόλια, αλκαλικά ιζήματα από διϋλιστήρια πετρελαίου.

Βλέπε επίσης περιθώριο 280Ια, υπό στοιχείον (α).

33° Συσσωρευταί γεμιζόμενοι με αλκαλικά διαλύματα. Βλέπε επίσης περιθώριον 280Ια, υπό στοιχείον (ε).

34° Υδραζίνη σε υδατοειδή διαλύματα περιέχοντα όχι άνω του 72 τοις εκατόν υδραζίνην (N_2H_4). Βλέπε επίσης περιθώριο 280Ια, υπό στοιχείον (α).

Σημείωσις:- Υδατοειδή διαλύματα περιέχοντα όχι άνω του 72 τοις εκατόν υδραζίνην (N_2H_4) δεν γίνονται δεκτά για μεταφορά.

35° Αμίναι και πολυαμίναι αλκυλίου και αρυλίου, όπως 1,2-DIAMINOETHANE (ETHYLENEDIAMINE), HEXAMETHYLENEDIAMINE, TRIETHYLENETETRAMINE.

Βλέπε επίσης περιθώριο 280Ια, υπό στοιχείον (α).

36°. Πρωτοθειούχο νάτριο περιέχον όχι περισσότερο από — από 70 τοις εκατόν Na_2S. 280Ι (Συνεχίζεται)

Σημείωσις:- Πρωτοθειούχο νάτριο περιέχον άνω του 70 τοις εκατόν Na_2S δεν γίνεται δεκτό για μεταφορά.

37° Διαλύματα υποχλωριώδους οξέος:-

(α) διαλύματα υποχλωριώδους οξέος περιέχοντα άνω των 50 G (γραμμ.) διαθεσίμου χλωρίου ανά λίτρο·

(β) διαλύματα υποχλωριώδους οξέος περιέχοντα όχι άνω των 50 G (γραμμ.) διαθεσίμου χλωρίου ανά λίτρο.

Για (α) και (β), βλέπε επίσης περιθώριο 280Ιa, υπό στοιχείον (α).

Γ.- Άλλες διαβρωτικές ύλες

41° Διαλύματα υπεροξειδίου του υδρογόνου:-

(α) υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω των 40 τοις εκατόν αλλά όχι άνω των 60 τοις εκατόν υπεροξειδίου του υδρογόνου·

(β) υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του 6 τοις εκατόν αλλά όχι άνω του 40 τοις εκατόν υπεροξειδίου του υδρογόνου.

Για (α) και (β), βλέπε επίσης περιθώριο 280Ιa, υπό στοιχείον (α).

Σημείωσις:- Υπεροξείδιο του υδρογόνου και τα υδατοειδή αυτού διαλύματα περιέχοντα άνω του 60 τοις εκατόν υπεροξειδίου του υδρογόνου είναι ύλες της Κλάσεως 5.Ι (βλέπε περιθώριο 250Ι, Ι°).

Δ.- Κενά δοχεία και κενές δεξαμενές

51° Κενές συσκευασίες, ακαθάριστες, και κενές δεξαμενές, ακα-

θειώδες, εκτός εκείνων που περιείχαν ύλες των 280Ι
(Συνεχίζεται)
15° και 36°.

Ύλες παραδοθείσες για μεταφορά σύμφωνα με 280Ιαι
τις παρακάτω διατάξεις δεν υπόκεινται στους όρους της παρούσης Κλάσεως τους περιεχομένους εις το παρόν Παράρτημα ή Παράρτημα Β·

(α) ύλες των 1°(α), έως (δ), 2°(β) και (γ), 3°(β), 4° έως 9°, 11° έως 15°, 21° έως 23°, 31°(α), 32°, 34°, 35°, 37° και 41° σε ποσότητες μη υπερβαίνουσες το 1 KG για κάθε ύλη, υπό τον όρον ότι έχουν συσκευασθεί σε στεγανά δοχεία ανίκανα να προσβληθούν από το περιεχόμενο και ότι τα δοχεία αυτά έχουν συσκευασθεί επιμελώς μέσα σε γερές, στεγανές ξύλινες συσκευασίες με στεγανά κλεισίματα·

(β) ύλες των 2°(α) και 3°(α), σε ποσότητες μη υπερβαίνουσες τα 200 G (γραμμ.) για κάθε ύλη, υπό τον όρον ότι έχουν συσκευασθεί σε στεγανά δοχεία ανίκανα να προσβληθούν από το περιεχόμενο και ότι τα δοχεία αυτά έχουν στερεωθεί, όχι περισσότερα των 10 ανά κιβώτιο, σε ξύλινα κιβώτια με αδρανές απορροφητικό αποσβεστικό υλικό·

(γ) τριξείδιο του θείου (9°), μεμιγμένο ή μη με μικρή ποσότητα φωσφορικού οξέος, υπό τον όρον ότι είναι συσκευασμένον σε γερά μεταλλικά κυτία ζυγίζοντα όχι άνω των 15 KG, ερμητικώς κλεισμένα και εφοδιασμένα με χειρολαβές·

(δ) πενταχλωριούχος φωσφόρος (12°), συμπιεσμένος σε μπλόκ ζυγίζοντα όχι άνω των 10 KG το καθένα, υπό τον όρον

ότι τα μπλόκ αυτά έχουν συσκευασθεί σε συγκολλημένα και αερο-στεγανά μεταλλικά κυτία τοποθετημένα, είτε ένα-ένα είτε ομάδικά, σε σκελετοκιβώτιο, κιβώτιο ή δοχείο (CONTAINER)· 2801α (Συνεχίζεται)

(ε) συσσωρευταί σε μεταλλική θήκη γεμισμένοι με αλκαλικό διάλυμα (33°), υπό τον όρον ότι έχουν έτσι κλεισθεί ώστε να αποφεύγεται η διαρροή του διαλύματος και να προστατεύωνται κατά των βραχυκυκλωμάτων.

2.- Διατάξεις

Α.- Κόλα

Ι.- Γενικοί όροι συσκευασίας

(1) Οι συσκευασίες θα έχουν έτσι κλεισθεί και διευθετη- 2802
θεί ώστε να αποφεύγεται οποιαδήποτε απώλεια του περιεχομένου. Για την ειδική διάταξη την αφορώσα τους συσσωρευτές (1° (στ) και 33°), βλέπε περιθώρια 2804 και 2816· για διαλύματα υποχλωριώδους οξέος της 37° και υπεροξείδιο του υδρογόνου της 41°, βλέπε περιθώρια 2820 και 2821 αντιστοίχως.

(2) Το υλικό από το οποίο κατασκευάζονται οι συσκευασίες και τα κλεισίματά τους δεν πρέπει να κινδυνεύει να προσβληθεί από το περιεχόμενο, ή να προκαλεί την αποσύνθεση του περιεχομένου, ή να σχηματίζει επιβλαβείς ή επικινδύνους με αυτό ενώσεις.

(3) Οι συσκευασίες, συμπεριλαμβανομένων των κλεισιμάτων αυτών, πρέπει να είναι επαρκώς άκαμπτες και στερεές σε όλα τα μέρη τους προς αποφυγήν οποιασδήποτε χαλαρώσεως κατά την μεταφορά και να πληρούν τους συνήθεις όρους μεταφοράς. Ειδικώτερα, οσάκις οι ύλες είναι σε υγρά κατάσταση ή σε διά-

2802 (Συνεχίζεται)

κύμα, τα δοχεία και τα κλεισίματά τους πρέπει, εκτός εάν το άρθρον το τιτλοφορούμενον "Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού είδους" προβλέπει άλλως, να είναι σε θέση να αντέχουν σε οποιαδήποτε πίεση η οποία, λαμβανομένης υπόψει της παρουσίας του αέρος, μπορεί να να εγερθεί εσωτερικώς των δοχείων κατά τη συνήθη μεταφορά. Για τον σκοπόν αυτόν ελεύθερος χώρος πρέπει να αφήνεται, λαμβανομένης υπ'όψει της διαφοράς μεταξύ της θερμοκρασίας των υλών κατά τον χρόνον της πληρώσεως (γεμίσματος) και της ανωτάτης μέσης θερμοκρασίας την οποίαν ενδέχεται να φθάσουν διαρκούσης της μεταφοράς. Εσωτερικές συσκευασίες θα ασφαλίζονται σταθερά σε εξωτερικές συσκευασίες. Εκτός εάν άλλως ορίζεται στο άρθρο το τιτλοφορούμενο "Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού είδους", οι εσωτερικές συσκευασίες μπορούν να εγκλείονται σε εξωτερικές συσκευασίες, είτε μιά-μία είτε κατά ομάδες.

(4) Φιάλες και άλλα γυάλινα δοχεία πρέπει να είναι απαλλαγμένα από βλάβες που θα μπορούσαν να εξασθενήσουν την αντοχήν τους· ειδικώτερα, πρέπει να απαλλαγούν κατάλληλα από τις εσωτερικές τάσεις. Τα τοιχώματα δεν πρέπει να είναι πάχους μικροτέρου των 3 ΜΜ (χιλ.) στη περίπτωση δοχείων που ζυγίζουν, μαζί με το περιεχόμενό τους, άνω των 35 KG, και όχι άνω των 2 ΜΜ (χιλ.) στη περίπτωση άλλων δοχείων.

Η στεγανότητα του συστήματος κλεισίματος πρέπει να εξασφαλίζεται με πρόσθετον μηχανισμόν (κυάθιο, κορώνα, σφραγίδα, συναρμογή, κλπ.) ικανόν να εμποδίζει οποιαδήποτε χαλάρωση του συστήματος κλεισίματος διαρκούσης της

μεταφοράς. 2802 (Συνεχίζεται)

(5) Οσάκις προβλέπονται ή επιτρέπονται δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής ή παρεμφερή υλικά ή από κατάλληλο πλαστικό υλικό, πρέπει, ελλείψει οιασδήποτε περί του αντιθέτου διατάξεως, να εφοδιάζονται με προστατευτικές συσκευασίες. Δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής ή παρεμφερή υλικά θα ασφαλίζονται προσεκτικά με αποσβεστικό υλικό. Το αποσβεστικό υλικό θα ταιριάζει με τη φύση του περιεχομένου.

2.- <u>Συσκευασία μιάς ύλης ή εμπορευμάτων του αυτού είδους</u> 2803

(I) Οι ύλες των I° (α) έως (ε) και 2° έως 5° θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95τοκ εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG, πλήν των αποστελλομένων ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβάς· ή

(β) σε ερμητικώς κλεισμένα κυλινδρικά δοχεία κατασκευα-

2803
(Συνεχίζεται)

[illegible] από γυαλο, πορσελάνη, είδη κεραμεικής ή πα- [illegible] υλικό. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG· ή

(γ) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή άλλη εξωτερική συσκευασία καταλλήλου αντοχής, ή σταθερά τοποθετημένες σε σιδηρούς ή φαθωτούς καλάθους. Οι νταμιζάνες δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς τους. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

(2) Οι ύλες των I° (α) έως (ε), 2° και 3° μπορούν επίσης να συσκευάζονται σε ερμητικώς κλεισμένα μεταλλικά βαρέλια έχοντα κατάλληλον επένδυσιν προκειμένου περί των υλών της I°(β), (γ), (δ) και (ε) και επένδυσιν μόνον εάν χρειασθεί προκειμένου για τις ύλες των 2° και 3°. Τα βαρέλια δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Εάν, μαζί με το περιεχόμενόν τους, ζυγίζουν περισσότερο από 275 KG θα είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS).

(3) Οι ύλες των I°(α) έως (ε), 2° και 5° μπορούν επίσης να συσκευάζονται σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας

μη [illegible]ύσης τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια ύλη καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 100 KG. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητός τους. 2803. (Συνεχίζεται)

(4) Οι ύλες της 5° μπορούν επίσης να συσκευάζονται ερμητικώς σε δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσας τα 60 λίτρα, με τοιχώματα καταλλήλου πάχους, το οποίο δεν θα είναι μικρότερο των 4 ΜΜ (χιλ.), προκειμένου περί δοχείων των 50 λιτρών και άνω· τα ανοίγματα θα κλείονται με δύο πώματα, τοποθετημένα το ένα πάνω στο άλλο, το ένα δε από αυτά θα είναι κοχλιωτό. Τα δοχεία αυτά δεν είναι ανάγκη να έχουν προστατευτικήν συσκευασίαν εάν επιτρέπει τούτο η αρμόδια αρχή της χώρας της αναχωρήσεως. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς τους. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG.

(5) Προκειμένου περί των υλών 2°(α), 3°(α) και 4°, το απορροφητικό αποσβεστικό υλικό πρέπει να είναι άκαυστον· προκειμένου περί των υλών της 2°(β), θα είναι ανθεκτικόν στο πύρ.

Συσσωρευτές γεμισμένοι με θειϊκό οξύ (1°(στ)) θα ασφαλίζονται σε θήκες συσσωρευτών. Οι συσσωρευτές θα προστατεύονται κατά των βραχυκυκλωμάτων και θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο συ-

σ[illegible]ας. Τα νιβώτια συσκευασίας θα είναι εφοδιασμένα με χειρολαβές. 2804 (Συνεχίζεται)

Εν τούτοις, εάν οι συσσωρευτές είναι κατασκευασμένοι από ανθεκτικό στις προύσεις υλικό και το άνω μέρος αυτών είναι έτσι σχεδιασμένο ώστε το οξύ να μη μπορεί να τιναχθεί σε επικινδύνους ποσότητες, οι συσσωρευτές δεν χρειάζεται να συσκευασθούν, αλλά πρέπει να προστατεύονται κατά οποιασδήποτε ολισθήσεως, πτώσεως ή βλάβης βραχυκυκλωμάτων και να είναι εφοδιασμένοι με χειρολαβές. Ουδεμία επικίνδυνος ποσότης οξέος πρέπει να εμφανίζεται στο εξωτερικό των κόλων.

Ομοίως, οι συσσωρευτές οι αποτελούντες τμήμα του εξοπλισμού των οχημάτων δεν χρειάζεται να έχουν ειδικήν συσκευασίαν εάν τα οχήματα φορτώνονται όρθια στους τροχούς των και στερεώνονται κατά της πτώσεως.

(ι) Οι ύλες των 6°, 7° και 8° θα συσκευάζονται:- 2805.

(α) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλον επένδυσιν εάν χρειασθεί, χωρητικότητος μη υπερβαινούσης τα 15 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο νιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 90 τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλον επένδυσιν εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζονται πέραν του 90 τοις εκατόν της χωρητικότητάς

των. Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS) ή 2805 (Συνεχίζεται)

(γ) Σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 90 στα εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG.

(2) Οι ύλες των 6^{0} , (α) και (β) θα συσκευάζονται σε δοχεία κατασκευασμένα από ανθρακούχο χάλυβα από κατάλληλο κράμα χάλυβος. Τα δοχεία πρέπει να μπορούν ν'αντέχουν σε μία δοκιμή πιέσεως των 10 KG/CM^{2}. Θα είναι αποδεκτά τ'ακόλουθα είδη δοχείου.

(α) Κύλινδροι χωρητικότητας μη υπερβαίνουσας τα 150 λίτρα.

(β) Κυλινδρικά δοχεία εξοπλισμένα με κυλιόμενες στεφάνες και χωρητικότητας όχι μικρότερης από 100 λίτρα και όχι περισσότερης από 1000 λίτρα.

Κατά τη δοκιμή πιέσεως, η δύναμη στο μέταλλο στο πιο σοβαρά πιεζόμενο σημείο του δοχείου δεν θα υπερβαίνει τα τρία τέταρτα της δυνάμεως αποδόσεως. Υπό τον όρο "δύναμη αποδόσεως" νοείται η δύναμη με την οποία έχει παραχθεί μία μόνιμη επιμήκυνση των 2‰ (π.χ. 0.2 τοις εκατό) του μήκους μετρήσεως στο δοκιμαζόμενο κομμάτι. Επιπρόσθετα, το υλικό που χρησιμοποιείται για τα δοχεία πρέπει να έχει επαρκή αντοχή σε κρούση κάτω από μία θερμοκρασία των -20^{0} C.

Τα δοχεία πρέπει να μην έχουν ραφή ή συγκόλληση. Για δοχεία με συγκόλληση πρέπει να χρησιμοποιείται χάλυβας ικανοποιητικής συγκολλητικότητας. Δοχεία με συγκόλληση μπορούν να γίνονται αποδεκτά μόνο με την προϋπόθεση ότι ο κατασκευαστής εγγυάται για την επεξεργασία της συγκόλλησης και ότι η αρμόδια αρχή της χώρας προελεύσεως έχει δώσει την έγκρισή της.

Το πάχος του τοιχώματος των δοχείων δεν πρέπει να είναι λιγότερο από 3 ΜΜ.

Τα ανοίγματα για την πλήρωση και την εκκένωση των δοχείων πρέπει να είναι εφοδιασμένα με αρθρωτές βαλβίδες ή βελονοειδείς βαλβίδες. Οστόσο μπορούν να γίνουν αποδεκτές βαλβίδες (στρόφιγγες) άλλων τύπων αν παρουσιάζουν ισότιμες εγγυήσεις ασφαλείας και έχουν εγκριθεί στη χώρα προελεύσεως. Παρά ταύτα, οποιοσδήποτε τύπος βαλβίδας υιοθετηθεί, το σύστημα προσαρμογής του θα πρέπει να είναι δυνατό και τέτοιο ώστε η ικανοποιητική κατάστασή του να μπορεί να επιβεβαιώνεται εύκολα πρίν από κάθε πλήρωση.

Εκτός από μία τρύπα, η οποία αν προβλέπεται θα είναι κλειστή με ένα πραγματικό κλείσιμο, τα δοχεία δεν θα είναι εφοδιασμένα με περισσότερο από δύο ανοίγματα για πλήρωση και εκκένωση.

Οι βαλβίδες (στρόφιγγες) θα προστατεύονται από πώματα που θα έχουν οπές αερισμού. Οι βαλβίδες που τοποθετούνται μέσα στο λαιμό των δοχείων και προστατεύονται από σπειρωματοειδές πώμα και τα δοχεία που μεταφέρονται συσκευασμένα σε προστατευτικά κιβώτια, δεν χρειάζονται πώμα.

Τα δοχεία θα υποβάλονται υπό την επίβλεψη ενός εμπειρογνώμονα που έχει εξουσιοδοτηθεί από την αρμόδια αρχή, σε μία δοκιμή υδραυλικής πιέσεως σε μία εσωτερική πίεση όχι μικρότερη από 10 KG/CM^2 πρίν τεθούν σε λειτουργία και στη συνέχεια στις ακόλουθες περιοδικές δοκιμές.

Η δοκιμή πιέσεως θα επαναλαμβάνεται κάθε οκτώ χρόνια και θα συνοδεύεται από μία εσωτερική επιθεώρηση των δοχείων και έναν έλεγχο του εξοπλισμού τους. Επίσης η αντίσταση των δοχείων στην οξείδωση θα ελέγχεται με κατάλληλα όργανα (π.χ. με υπέρηχα), και η κατάσταση του εξοπλισμού θα επιβεβαιώνεται κάθε δύο χρόνια.

Τα δοχεία θα φέρουν με καθαρά ευανάγνωστους και ανθεκτικούς χαρακτήρες:

(α) το όνομα της ύλης πλήρως, το όνομα ή την ένδειξη του κατασκευαστού και τον αριθμό ταυτότητας του κατασκευαστού του δοχείου.

(β) Το καθαρό βάρος του δοχείου, συμπεριλαμβανομένων και εξαρτημάτων διαφορετικών από το προστατευτικό πώμα.

(γ) Τη δοκιμή πιέσεως, την ημερομηνία (μήνας, έτος) της πιο πρόσφατης δοκιμής που έγινε και τη σφραγίδα του εμπειρογνώμονα ο οποίος πραγματοποίησε τον έλεγχο και τις επιθεωρήσεις.

(δ) Τη χωρητικότητα και το μέγιστο επιτρεπόμενο φορτίο του δοχείου. Το μέγιστο επιτρεπόμενο βάρος θα είναι 0.84 KG ανά λίτρο χωρητικότητας.

(Ι) Το τριοξείδιο του θείου ($9^{ο}$) θα συσκευάζεται: 2806

(α) σε συγκολλημένα δοχεία κατασκευασμένα από μαύρο φύλλο-σιδήρου ή πλάκα-κασσιτέρου, ή σε ερμητικώς κλεισμένες φιάλες κατασκευασμένες από μαύρο φύλλο-σιδήρου, πλάκα-κασσιτέρου ή χαλκό· ή

(β) σε φλογο-στεγανά γυάλινα δοχεία, ή σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από πορσελάνη, είδη κεραμεικής ή παρεμφερή υλικά· ή

(γ) σε χαλύβδινα βαρέλια τα οποία έχουν υποστεί δοκιμήν-πιέσεως σε 1.5 KG/CM^2.

(2) Τα δοχεία τα αναφερόμενα στα (α) και (β) ανωτέρω θα ασφαλίζονται με άκαυστο και απορροφητικό αποσβεστικό υλικό σε συσκευασίες κατασκευασμένες από ξύλο, μαύρο φύλλο-σιδήρου ή πλάκα-κασσιτέρου.

Οι ύλες της $ΙΙ^{ο}$ θα συσκευάζονται: 2807

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο,

πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαίνούσης τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95τοι εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG, πλην των αποστελλομένων ως πλήρες φορτίον, θα εφοδιάζονται με χειρολαβάς· ή 2807 (Συνεχίζεται)

(β) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλον επένδυσιν εάν χρειασθεί. Τα βαρέλια δεν πρέπει να γεμίζονται πέραν του 95τοι εκατόν της χωρητικότητάς των. Εάν, μαζί με το περιεχόμενόν των, ζυγίζουν πάνω από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(γ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαίνούσης τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95τοι εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(δ) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου

αντοχής. Οι νταμιζάνες δεν θα πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει περισσότερο από 75 KG. 2807 (Συνεχίζεται)

Οι ύλες της I2° θα συσκευάζονται:- 2808

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από γυαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από καταλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν άνω των 5 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη επένδυση εάν χρειασθεί, τα οποία δεν πρέπει να περιέχουν άνω των I5 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από I00 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα εφοδιάζονται με κυλισμένες στεφάνες (ROLLING HOOPS)· ή

(δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από καταλληλη πλαστική ύλη, χωρητικότητος μή υπερβαίνούσης τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω

από 100 KG· ή

(ε) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία) καταλλήλου αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 250 KG·

(στ) χλωριούχος φευδάργυρος μπορεί επίσης να συσκευάζεται σε ερμητικώς κλεισμένους σάκκους, κατασκευασμένους από κατάλληλο πλαστικό υλικό, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

2808 (Συνεχίζεται)

Οι ύλες των 13^{o} και 15^{o} θα συσκευάζονται:- 2809

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από γυαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν πάνω από 5 KG ύλης το καθένα· έν τούτοις, γυάλινα δοχεία δεν γίνονται δεκτά για FLOURIDES της 15^{o}. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με επένδυσιν μολύβδου εάν χρειασθεί, τα οποία δεν πρέπει να περιέχουν πάνω από 15 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με επένδυσιν

μολύβδου, εάν χρειασθεί. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν άνω των 275 KG, πρέπει να εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή 2809 (Συνεχίζεται)

(δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλο πλαστικό υλικό, χωρητικότητας μη υπερβαίνούσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλο υλικό επαρκούς αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(ε) σε ερμητικώς κλεισμένους σάκκους, κατασκευασμένους από κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(στ) σε ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) καταλλήλου αντοχής με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 250 KG· ή

(ζ) σε γερούς χάρτινους τετράφυλλους σάκκους, επενδεδυμένους με ερμητικά κλεισμένον σάκκον κατασκευασμένον από κατάλληλο πλαστικό υλικό. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 55 KG.

(Ι) Το βρώμιον ($I4^{O}$), θα συσκευάζεται σε κατάλληλα δοχεία περιέχοντα όχι άνω των 7.5 KG ύλης ανά δοχείον. 2810

(2) Βρώμιον περιέχον ολιγώτερο των 0.005 τοις εκατόν ύδωρ, ή μεταξύ 0.005 τοις εκατόν και 0.2 τοις εκατόν ύδωρ υπό τον όρον ότι στη δεύτερη περίπτωση λαμβάνονται μέτρα

Προς αποφυγήν της διαβρώσεως της επενδύσεως των δοχείων, 2810
μπορεί επίσης να μεταφερθεί σε δοχεία πληρούντα τους παρα- (Συνεχίζεται)
κάτω όρους:-

(α) τα δοχεία θα είναι κατασκευασμένα από χάλυβα και εφοδιασμένα με στεγανήν επένδυσιν κατασκευασμένην από μόλυβδο ή κάποιο άλλο υλικό παρέχον ισοδύναμον προστασίαν, και με ερμητικά κλεισίματα· δοχεία κατασκευασμένα από μέταλλο μονέλ((κράμα νικελίου (68,41) χαλκού (29,14)) ή νικέλιο, ή εφοδιασμένα με επένδυση νικελίου θα επιτρέπονται επίσης·

(β) η χωρητικότητα τους δεν πρέπει να υπερβαίνει τις 1250 λίτρες·

(γ) τα δοχεία δεν θα γεμίζονται πέραν του 92 τοις εκατόν της χωρητικότητάς των ή πέραν των 2.86 KG ανά λίτρον χωρητικότητας·

(δ) τα δοχεία θα είναι συγκολλημένα και σχεδιασμένα για πίεση όχι μικρότερη των 21 KG/CM^2.

Τα υλικά και η εργασία πρέπει από άλλες απόψεις να πληρούν τους όρους των περιθωρίων 2211 (1) και (2) (β). Ο αρχικός έλεγχος των μη επενδεδυμένων χαλυβδίνων δοχείων θα υπόκειται στις διατάξεις 2215 (1) και 2216 (1), Α και Β.

(ε) οι μηχανισμοί κλεισίματος πρέπει να προεξέχουν όσο το δυνατόν λιγώτερο από το δοχείο και να είναι εφοδιασμένοι με προστατευτικό κάλυμμα. Οι μηχανισμοί κλεισίματος και το κάλυμμα θα φέρουν παρεμβύσματα από υλικό μη δυνάμενο να προσβληθεί από το βρώμιο. Οι μηχανισμοί κλεισίματος

πρέπει να ευρίσκονται στο άνω μέρος των δοχείων, τούτε σε καμμιά περίπτωση να μπορούν να είναι σε μόνιμη επαφή με το υγρό· 2810 (Συνεχίζεται)

(στ) η επένδυση μολύβδου πρέπει να είναι στεγανή και πάχους όχι μικροτέρου των 3 ΜΜ (χιλ.). Εάν κάποιο άλλο υλικό χρησιμοποιηθεί, πρέπει να παρέχει προστασίαν ισοδύναμον με την παρεχομένην υπό του μολύβδου·

(ζ) τα δοχεία πρέπει να είναι εφοδιασμένα με εξαρτήματα παρέχοντα σαυτά τη δυνατότητα να στέκονται σταθερά όρθια, και με εξαρτήματα ανυψώσεως (ελατήρια, φλάντζες, κλπ.) στο άνω μέρος, τα οποία θα δοκιμάζονται με το διπλάσιο του ωφελίμου φορτίου.

(3) Δοχεία συμφώνως προς την (2) ανωτέρω, προτού τεθούν εν λειτουργία, θα υπόκεινται (υποβάλλονται) σε έλεγχο στεγανότητας σε πίεση 2 KG/CM^2. Ο έλεγχος στεγανότητος θα επαναλαμβάνεται κάθε δύο χρόνια και θα συνοδεύεται από εσωτερική επιθεώρηση του δοχείου και έλεγχο του απόβαρου αυτού. Ο έλεγχος αυτός και η επιθεώρηση θα εποπτεύονται από εμπειρογνώμονα εγκεκριμένον από την αρμόδια αρχή.

(4) Τα δοχεία πρέπει να φέρουν, με ευανάγνωστα και ανεξίτηλα γράμματα:

(α) το όνομα ή ένδειξιν του κατασκευαστού και τον αριθμόν του δοχείου·

(β) την λέξιν "Βρώμιον"·

(γ) το απόβαρο του δοχείου και το ανώτατο βάρος του όταν γεμισθεί·

(δ) την ημερομηνία (μήνα και έτος) του τελευταίου ε- 28IO
κείνου εις τον οποίον υποβλήθηκαν· (Συνεχίζε-
ται)

(ε) την σφραγίδα του εμπειρογνώμονος που διεξήγαγε τον έλεγχον και τις επιθεωρήσεις.

(I) Οι διατάξεις της 2I°(α) I θα συσκευάζονται: 28II

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από γυαλό, πορσελάνη, είδη κεραμευτικής, ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, τα οποία δεν πρέπει να περιέχουν πάνω από 5 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλον επένδυσιν εάν χρειασθεί, τα οποία δεν πρέπει να περιέχουν πάνω από I5 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από IOO KG· ή

(γ) σε ερμητικώς κλειαμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση, εάν χρειασθεί. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, πρέπει να είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(δ) σε ερμητικώς κλεισμένους σάκκους, κατασκευασμένους από κατάλληλο πλαστικό υλικό, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυ-

28II (Συνεχίζεται)

ζει πάνω από 100 KG· ή

(στ) ερμητικώς κλεισμένους ξύλινους κάδους (βυτία, βαρέλια) καταλλήλου αντοχής, με κατάλληλη επένδυση. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 250 KG· ή

(ζ) σε γερούς χάρτινους τετράφυλλους σάκκους, επενδεδυμένους με ερμητικώς κλειδμενον σάκκον από κατάλληλη πλαστική ύλη. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 55 KG· ή

(η) σε σάκκους γιούτας που θα γίνονται υγρο-στεγανοί με επένδυση από κατάλληλο υλικό, θα επιχρίονται με βιτούμιον, ή σε σάκκους γιούτας επενδεδυμένους με ερμητικά κλειδμενο σάκκον από καταλληλη πλαστική ύλη. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 55KG.

(2) Οι ύλες της 21° (α) 2., (β), (γ), (δ) και (ε) θα συσκευάζονται:-

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται από απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG, πλην των αποστελλομένων ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές· ή

(β) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι ο- 28ΙΙ
ποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό (Συνεχίζε-
ύλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική ται).
συσκευασία καταλλήλου αντοχής. Οι νταμιζάνες δεν θα
γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότη-
τάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει
πάνω από 75 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη
επένδυση εάν χρειασθεί, χωρητικότητάς μη υπερβαίνού-
σας τα 15 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με
απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή
σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντο-
χής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν
της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει
να ζυγίζει πάνω από 100 KG· ή

(δ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από
κατάλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, χω-
ρητικότητας μη υπερβαίνούσας τα 60 λίτρα, και εφοδια-
σμένα με χειρολαβήν. Τα κάνιστρα δεν θα γεμίζονται πέ-
ραν του 95 τοις εκατόν της χωρητικότητός των. Ένα τέ-
τοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(ε) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλλη-
λη επένδυση εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζον-
ται πέραν του 95 τοις εκατόν της χωρητικότητάς των.
Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από
275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες· ή

(στ) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από κατάλ-

λη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα- ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόνον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή 28II (Συνεχίζεται)

(ζ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσας τα 60 λίτρα, με τοιχώματα καταλλήλου πάχους, τα οποία δεν θα είναι μικρότερο των 4 MM (χιλ.) προκειμένου περί δοχείων των 50 λιτρών και άνω· τα ανοίγματα θα κλείονται με δύο πώματα, το ένα επάνω στο άλλο, και ένα από αυτά θα είναι κοχλιωτό. Τα δοχεία αυτά δεν χρειάζεται να έχουν προστατευτικές συσκευασίες εάν η αρμόδια αρχή της χώρας αναχωρήσεως το επιτρέπει. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς τους. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG.

Οι ύλες της 22° θα συσκευάζονται: 28I2

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία

αυτά δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG, πλή εκείνων που αποστέλονται ως πλήρες φορτίον, θα είναι εφοδιασμένα με χειρολαβές· ή 2812 (Συνεχίζεται)

(β) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(γ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσης τις 60 λίτρες. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(δ) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Οι νταμιζάνες δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG.

(I) Οι ύλες της 23° θα συσκευάζονται:- 2813

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσας τα 5 λίτρα". Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω από 30 KG, εκτός εκείνων που αποστέλλονται ως πλήρες φορτίο, θα εφοδιάζονται με χειρολαβές, ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη επένδυση εάν χρειασθεί, χωρητικότητας μη υπερβαίνούσας τα 15 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Βαρέλια προοριζόμενα για ύλες της 23°(α) πρέπει να πληρούν τους όρους της Προσθήκης Α.5. Τα βαρέλια δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS).

(2) Οι ύλες της 23° (β) μπορούν επίσης να συσκευάζονται:- 2813 (Συνεχίζεται)

(α) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, χωρητικότητος μη υπερβαινούσης τα 60 λίτρα και εφοδιασμένα με χειρολαβές. Τα κάνιστρα δεν θα γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(β) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαίνουσας τα 60 λίτρα, με τοιχώματα καταλλήλου πάχους, το οποίο δεν θα είναι λιγώτερο από 4 MM (χιλ.) προκειμένου περί δοχείων των 50 λιτρών και άνω· τα ανοίγματα θα κλείονται με δύο πώματα, το ένα τοποθετημένο επάνω στο άλλο, και το ένα από αυτά κοχλιωτό. Τα δοχεία αυτά δεν χρειάζεται να έχουν προστατευτική συσκευασία εάν η αρμόδια αρχή της χώρας της αναχωρήσεως το επιτρέπει. Τα δοχεία δεν θα γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν θα ζυγίζει περισσότερο από 100 KG.

(Ι) Οι ύλες της 31°(α) θα συσκευάζονται:- 2814

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, και δεν θα περιέχουν πάνω από 5 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή

σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

28I4
(Συνεχίζεται)

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλο επένδυση εάν χρειασθεί, τα οποία δεν πρέπει να περιέχουν πάνω από I5 KG ύλης το καθένα. Τα δοχεία αυτά θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από I00 KG· ή

(γ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Εάν τα βαρέλια, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα εφοδιάζονται με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(δ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποιο άλλο υλικό καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από I00 KG· ή

(ε) σε ερμητικώς κλεισμένους σάκκους, κατασκευασμένους από κατάλληλη πλαστική ύλη, οι οποίοι θα τοποθετούνται σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(στ) σε σάκκους από γιούτα καθισταμένους υγροστεγανούς με επένδυση κατασκευασμένη από κατάλληλο υλικό, επιχρισμένους με βιτούμιον, ή σε σάκκους από γιούτα επενδεδυμένους με ερμητικώς κλειόμενον σάκκον κατασκευασμένον από κατάλληλη πλαστική ύλη. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 55 KG. 2814 (Συνεχίζεται)

(2) Οι ύλες της 31°(α) σε νιφάδες ή υπό μορφήν κόνεως μπορούν επίσης να συσκευάζονται σε γερούς χάρτινους τετράφυλλους σάκκους, επενδεδυμένους με ερμητικώς κλειόμενον σάκκον κατασκευασμένον από κατάλληλη πλαστικήν ύλην. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 55 KG.

(3) Υδροξείδιο νατρίου της 31°(β) γεμισθέν στην αργή κατάσταση (MOLTEN STATE) θα περιέχεται σε χαλύβδινα βαρέλια με τοιχώματα πάχους όχι μικροτέρου των 0.5 MM (χιλ.). Τα βαρέλια, μαζί με το περιεχόμενό τους, δεν πρέπει να ζυγίζουν πάνω από 450 KG.

Οι ύλες της 32° θα συσκευάζονται:- 2815

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσας τα 5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των, Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα περισσότερο από 30 KG, πλήν των αποστελλομένων ως πλήρες

φορτίο, θα είναι εφοδιασμένα με χειρολαβές· ή 2815
(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλ- (Συνεχίζε-
ληλη επένδυση εάν χρειασθεί, χωρητικότητας μη υπερ- ται)
βαίνούσης τα 15 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητός των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από κατάλληλο μέταλλο, με μαλακή ή σκληρή συγκόλληση, χωρητικότητος μη υπερβαινούσης τα 60 λίτρα, και εφοδιασμένα με χειρολαβές. Τα κάνιστρα δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Εάν, μαζί με το περιεχόμενό τους, ζυγίζουν πάνω από 275KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες· ή

(ε) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη παραλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητός των.

2815

(Συνεχίζεται)

Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG· ή

(στ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από καταλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσης τα 60 λίτρα και με τοιχώματα επαρκούς πάχους, το οποίο δεν θα είναι μικρότερο των 4 ΜΜ (χιλ.) προκειμένου περί δοχείων των 50 λιτρών και άνω· τα ανοίγματα θα κλείονται με δύο πώματα, το ένα τοποθετημένο επάνω στο άλλο, και το έχα από αυτά κοχλιωτό. Τα δοχεία αυτά δεν χρειάζεται να έχουν προστατευτική συσκευασίαν εάν η αρμόδια αρχή της χώρας της αναχωρήσεως το επιτρέπει. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίξει πάνω από 100 KG· ή

(ζ) σε ερμητικώς κλεισμένα κυλινδρικά δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, χωρητικότητος μη υπερβαίνούσης τα 20 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(η) σε ερμητικώς κλεισμένες γυάλινες νταμιζάνες, οι οποίες θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία

αλκαλικής αντοχής, ή θα τοποθετούνται σταθερά σε σιδηρούς ή φαθωτούς καλάθους. Οι νταμιζάνες δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. 28I5 (Συνεχίζεται)

Συσσωρευτές που γεμίζονται με αλκαλικά διαλύματα (33°) θα είναι κατασκευασμένοι από μέταλλο και το άνω τμήμα θα είναι έτσι σχεδιασμένο ώστε το αλκαλικό διάλυμα να μη μπορεί να τιναχθεί σε επικίνδυνες ποσότητες. Οι συσσωρευτές θα προστατεύονται κατά των βραχυκυκλωμάτων και θα συσκευάζονται σε ξύλινο κιβώτιο συσκευασίας. 28I6

(I) Η υδραζίνη (34°) θα συσκευάζεται: 28I7

(α) σε ερμητικώς κλεισμένα γυάλινα δοχεία, χωρητικότητας μη υπερβαίνούσης τα 5 λίτρα, τα οποία θα ασφαλίζονται με κατάλληλο αποσβεστικό υλικό σε κυτία τοποθετημένα σε ξύλινο κιβώτιο· ή

(β) σε δοχεία κατασκευασμένα από αργίλλιο (αλουμίνιο) όχι κάτω του 99.5 τοις εκατόν καθαρόν ή από ανοξείδωτο χάλυβα ή επενδεδυμένον με μόλυβδον σίδηρον· ή

(γ) σε δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, εφοδιασμένα με κοχλιωτό κλείσιμο και έχοντα χωρητικότητα μη υπερβαίνουσα τα 65 λίτρα, τοποθετημένα ένα-ένα σε κατάλληλες προστατευτικές συσκευασίες ή ασφαλισμένα κατά ομάδες με κατάλληλο αποσβεστικό υλικό σε κατάλληλες προστατευτικές συσκευασίες· το κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG, ή πάνω από 50 KG εάν η προστατευτική συσκευασία αποτελείται από κιβώτιο από ινοσανίδα· ή

(δ) σε βαρέλια, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνουσας τα 220 λίτρα και με τοιχώματα πάχους όχι μικροτέρου των I.5 MM (χιλ.), τοποθετημένα ένα-ένα σε βαρέλια εφοδιασμένα με κυλιόμενες στεφάνες. 28I7 (Συνεχίζεται)

(2) Κανένα δοχείο θα γεμίζεται πέραν του 93τοις εκατόν της χωρητικότητός του. Τα δοχεία υπό στοιχεία (β) (γ) και (δ) θα υποβάλλονται σε έλεγχο της πιέσεως σε I KG/CM^2.

Οι ύλες της 35^o θα συσκευάζονται:- 28I8

(α) σε ερμητικώς κλεισμένα δοχεία κατασκευασμένα από γυάλο, πορσελάνη, είδη κεραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 5 λίτρα. Τα δοχεία θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτια ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG. Κόλα ζυγίζοντα πάνω από 30KG, πλήν εκείνων που αποστέλλονται ως πλήρες φορτίο, θα είναι εφοδιασμένα με χειρολαβές· ή

(β) σε ερμητικώς κλεισμένα μεταλλικά δοχεία, με κατάλληλη επένδυση εάν χρειασθεί, χωρητικότητας μη υπερβαίνούσης τα I5 λίτρα. Τα δοχεία αυτά θα ασφαλίζονται με απορροφητικό αποσβεστικό υλικό σε ξύλινο κιβώτιο ή σε κάποια άλλη εξωτερική συσκευασία καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95τοις ε-

[illegible]ς χωρητικότητάς των. Ένα τέτοιο κόλον δεν 2818
πρέπει να ζυγίζει πάνω από 100 KG· ή

(γ) σε ερμητικώς κλεισμένα κάνιστρα κατασκευασμένα από μέταλλο, με μαλακή ή σκληρή συγκόλληση, χωρητικότητας μη υπερβαίνουσας τα 60 λίτρα, και εφοδιασμένα με χειρολαβές. Τα κάνιστρα δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 75 KG· ή

(δ) σε ερμητικώς κλεισμένα μεταλλικά βαρέλια, με κατάλληλη επένδυση εάν χρειασθεί. Τα βαρέλια δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Εάν μαζί με τό περιεχόμενό τους, ζυγίζουν πάνω από 275 KG, θα είναι εφοδιασμένα με κυλιόμενες στεφάνες (ROLLING HOOPS)· ή

(ε) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητάς μη υπερβαίνούσας τα 60 λίτρα. Τα δοχεία αυτά θα τοποθετούνται ένα-ένα και σφιχτά σε προστατευτική συσκευασία με πλήρεις πλευρές, κατασκευασμένη από χαρτοσανίδα ή από κάποια άλλη ύλη καταλλήλου αντοχής. Τα δοχεία δεν θα γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100KG· ή

(στ) σε ερμητικώς κλεισμένα δοχεία, κατασκευασμένα από κατάλληλη πλαστική ύλη, χωρητικότητας μη υπερβαίνούσας τα 60 λίτρα, με τοιχώματα καταλλήλου πάχους, το οποίο δεν θα είναι μικρότερο των 4 MM (χιλ.) προκειμένου περί δοχείων των 50 λιτρών και άνω· τα ανοίγματα θα κλείονται με δύο

πώματα, το ένα τοποθετημένο επάνω στο άλλο, και το ένα από αυτά κοχλιωτό. Τα δοχεία αυτά δεν χρειάζεται να έχουν προστατευτική συσκευασία εάν η αρμόδια αρχή της χώρας της αναχωρήσεως το επιτρέπει. Τα δοχεία δεν θα γεμίζονται πέραν του 95τοκ εκατόν της χωρητικότητάς των. Ένα τέτοιο κόλον δεν πρέπει να ζυγίζει πάνω από 100 KG. 2818 (Συνεχίζεται)

(1) Το πρωτοθειούχο νάτριο (36°) θα συσκευάζεται:- 2819

(α) σε στεγανά σιδηρά δοχεία· ή

(β) σε ποσότητες μη υπερβαίνουσες τα 5 KG, επίσης σε δοχεία, κατασκευασμένα από ύαλο ή από κατάλληλη πλαστική ύλη, τα οποία θα ασφαλίζονται σε γερά ξύλινα δοχεία, τα γυάλινα δοχεία θα ασφαλίζονται εκεί με απορροφητικό υλικό.

(2) Το πρωτοθειούχο νάτριο υπό στερεά μορφή μπορεί επίσης να εγκλεισθεί σε άλλα στεγανά δοχεία. Εάν μεταφερθεί ως πλήρες φορτίο, μπορεί επίσης να συσκευασθεί:-

(α) σε γερούς χάρτινους σάκκους πενταφύλλους, έτσι κλεισμένους ώστε να είναι στεγανοί, και επενδεδυμένους με σάκκο κατασκευασμένον από κατάλληλη πλαστική ύλη· ή

(β) σε σάκκους κατασκευασμένους από κατάλληλη πλαστική ύλη ίση σε αντοχή με τους χάρτινους σάκκους.

Κάθε σάκκος δεν πρέπει να ζυγίζουν περισσότερο από 55 KG.

(1) Διαλύματα υποχλωριώδους οξέος (37°) θα συσκευάζονται:- 2820

(α) σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κε-

ραμεικής ή παρεμφερές υλικό, ή από κατάλληλη πλαστική ύλη, ασφαλιζόμενα σε προστατευτικές συσκευασίες· εύθραυστα δοχεία θα ασφαλίζονται εκεί με αποσβεστικό υλικό· ή 2820 (Συνεχίζεται)

(β) σε μεταλλικά βαρέλια, καταλλήλως επενδεδυμένα.

(2) Προκειμένου περί διαλυμάτων υποχλωριώδους οξέος της 37°(α), τα δοχεία ή βαρέλια θα είναι σχεδιασμένα κατά τρόπον ώστε να επιτρέπεται στα αέρια να διαφεύγουν, ή θα είναι εφοδιασμένα με ρυθμιστικές της πιέσεως βαλβίδες.

(Ι) Υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα πάνω από 40 τοις εκατόν αλλά όχι πάνω από 60 τοις εκατόν υπεροξείδιον του υδρογόνου (41°(α)) θα περιέχονται:- 2821

(α) σε δοχεία τα οποία πρέπει να είναι ικανά να στέκονται σταθερά όρθια, κατασκευασμένα από αργίλλιο (αλουμίνιο) όχι κάτω του 99.5 τοις εκατόν καθαρόν ή από ειδικό χάλυβα μη δυνάμενο να προκαλέσει την αποσύνθεση του υπεροξειδίου του υδρογόνου. Η χωρητικότης των δοχείων αυτών δεν πρέπει να υπερβαίνει τα 200 λίτρα· ή

(β) σε δοχεία, κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή κατάλληλη πλαστική ύλη, χωρητικότητος μη υπερβαινούσης τα 20 λίτρα. Κάθε δοχείο θα ασφαλίζεται με απορροφητικό, άκαυστο και αδρανές αποσβεστικό υλικό σε συσκευασία από φύλλο-μετάλλου με πλήρεις πλευρές, επενδεδυμένη με κατάλληλα υλικά. Η συσκευασία αυτή θα τοποθετείται σε ξύλινο κιβώτιο συσκευασίας με κενλιμένο προστατευτικό κάλυμμα.

μα κλείσιμο και βαθμόν πληρώσεως (γεμίσματος) 282Ι (Συνεχίζεται)
βλέπε υπό στοιχείον (3).

(2) Υδατοειδή διαλύματα του υπεροξειδίου του υδρογόνου περιέχοντα άνω του 6% κατ' όγκον εκατόν αλλά όχι άνω του 40% κατ' όγκον εκατόν υπεροξείδιο του υδρογόνου (4Ι°(β)) θα περιέχονται σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής, αργίλλιο (αλουμίνιο) όχι κάτω του 99.5% κατ' όγκον εκατόν καθαρόν, ειδικόν χάλυβα μη δυνάμενον να προκαλέσει αποσύνθεση του υπεροξειδίου του υδρογόνου, ή από κατάλληλη πλαστική ύλη.

Δοχεία χωρητικότητος, μη υπερβαίνούσης τα 3 λίτρα θα ασφαλίζονται με αποσβεστικό υλικό σε ξύλινα κιβώτια· εάν τα δοχεία περιέχουν υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του 35% κατ' όγκον εκατόν υπεροξειδίου του υδρογόνου, το αποσβεστικό υλικό πρέπει να να είναι κατάλληλα πυρο-στεγανόν. Το κόλον δεν πρέπει να ζυγίζει πάνω από 35 KG.

Εάν τα δοχεία έχουν χωρητικότητα άνω των 3 λίτρων, πρέπει να πληρούν τους παρακάτω όρους:-

(α) δοχεία κατασκευασμένα από αργίλλιο (αλουμίνιο) ή από ειδικό χάλυβα πρέπει να είναι ικανά να στέκονται σταθερά όρθια. Το κόλον δεν πρέπει να ζυγίζει πάνω από 250 KG·

(β) δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής ή κατάλληλη πλαστική ύλη θα τοποθετούνται σε κατάλληλες γερές προστατευτικές συσκευασίες που θα τα διατηρούν ασφαλώς όρθια· οι συσκευασίες θα είναι εφοδιασμένες με χειρολαβές. Εσωτερικές συσκευα-

σκες πλην των κατασκευασμένων από πλαστικήν ύλην θα 2821
δοκιμάζονται σε εξωτερικές συσκευασίες με αποσβε- (Συνεχίζεται)
στικό υλικό. Οσάκις δοχεία περιέχουν υδατοειδή δια-
λύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του
40% κατ' όγκον υπεροξείδιον υδρογόνου, το αποσβεστι-
κό υλικό θα είναι καταλλήλως πυρο-στεγανόν. Κόλον του
είδους αυτού δεν πρέπει να ζυγίζει περισσότερο από
90 KG· εν τούτοις, μπορεί να ζυγίζει μέχρι 110 KG εάν
οι προστατευτικές συσκευασίες έχουν, επιπροσθέτως, συ-
σκευασθεί σε κιβώτιο ή σκελετοκιβώτιον·

(γ) υδατοειδή διαλύματα υπεροξειδίου του υδρογόνου περιέ-
χοντα άνω του 60% κατ' όγκον αλλά όχι άνω του 40% κατ'
όγκον υπεροξείδιο του υδρογόνου μπορούν επίσης να πε-
ριέχονται, άνευ προστατευτικών συσκευασιών, σ ε δοχεία
κατασκευασμένα από κατάλληλη πλαστική ύλη, υπό τον όρον
ότι το πάχος των τοιχωμάτων (συμπεριλαμβανομένων των
χώρων τοποθετήσεως των ετικετών) δεν είναι σε κανένα
σημείον κάτω από 4 MM (χιλ.), τα τοιχώματα προστατεύον-
ται από γερές δοκίδες, και τα άκρα είναι ενισχυμένα.
Τα δοχεία θα είναι εφοδιασμένα με χειρολαβές. Η χωρητι-
κότης δεν πρέπει να υπερβαίνει τα 60 λίτρα.

Για το κλείσιμο και τον βαθμόν πληρώσεως (γε-
μίσματος), βλέπε υπό στοιχείον (3).

(3) Δοχεία χωρητικότητος μη υπερβαινούσης τις 3
λίτρες μπορούν να έχουν ερμητικόν κλείσιμον. Σε τέτοιες πε-
ριπτώσεις τα δοχεία θα πληρούνται (γεμίζονται) με βάρος του
διαλύματος το οποίόν, εκφραζόμενον σε γραμμάρια, είναι ίσον

μεν όχι περισσότερο των δύο-τρίτων του αριθμού του εκφράζοντος την χωρητικότητα του δοχείου σε CM^3. 2821 (Συνεχίζεται)

Δοχεία χωρητικότητας υπερβαίνούσης τα 3 λίτρα θα είναι εφοδιασμένα με ειδικό κλείσιμο εμποδίζον την υπερβολικήν εσωτερικήν πίεσιν, την διαρροήν του υγρού, και την είσοδον ξένης ύλης στο δοχείο. Οσάκις τα δοχεία συσκευάζονται χωριστά, η εξωτερική συσκευασία θα είναι εφοδιασμένη με κάλυμμα το οποίον, ενώ προστατεύει το κλείσιμο, παρέχει την δυνατότητα της επαληθεύσεως ότι το κλείσιμο κατευθύνεται προς τα άνω. Τα δοχεία αυτά δεν πρέπει να γεμίζονται πέραν του 95 τοις εκατόν της χωρητικότητάς των.

3.- Μικτή συσκευασία 2822

(1) Ύλες ομαδοποιημένες υπό τον αυτόν αριθμόν είδους μπορούν να συμπεριλαμβάνονται στο αυτό κόλον. Οι εσωτερικές συσκευασίες θα είναι σύμφωνες με ότι προβλέπεται για κάθε ύλη, και η εξωτερική συσκευασία θα είναι ή οριζομένη για τις ύλες του εν λόγω αριθμού είδους.

(2) Εάν μικρότερες ποσότητες δεν προβλέπονται υπό του άρθρου του τιτλοφορουμένου "Συσκευασία μιας ύλης ή εμπορευμάτων του αυτού είδους" και ουδείς ειδικός όρος παρατίθεται κατωτέρω, οι ύλες της παρούσης Κλάσεως, σε ποσότητες μη υπερβαίνουσες τα 6 KG στη περίπτωση των στερεών ή τα 3 λίτρα στη περίπτωση των υγρών για όλες τις ύλες τις απαριθμούμενες υπό τον αυτόν αριθμόν είδους ή το αυτό γράμμα, μπορούν να εγκλείονται στο ίδιο κόλον είτε με τις ύλες άλλου αριθμού είδους ή άλλου γράμματος



ς Κλάσεως, είτε με ύλες ή είδη ανήκοντα σε άλ- 2822
λες Κλάσεις (εάν μικτή συσκευασία επιτρέπεται ομοίως (Συνεχίζε-
προκειμένου περί των τοιούτων υλών ή ειδών), είτε με ται)
άλλα εμπορεύματα, υπό την επιφύλαξη των παρακάτω ειδι-
κών όρων.

Οι εσωτερικές συσκευασίες πρέπει να πληρούν τους γενικούς και ειδικούς όρους της συσκευασίας. Επιπροσθέτως, πρέπει να τηρούνται οι γενικοί όροι των περιθωρίων 2001 (5) και 2002 (6) και (7).

Η μικτή συσκευασία οξίνου ύλης με βασική ύλην στο ίδιο κόλον δεν επιτρέπεται εάν αμφότερες οι ύλες περιέχονται σε εύθραυστα δοχεία.

Το κόλον δεν πρέπει να ζυγίζει περισσότερο από 150 KG, ή περισσότερο από 75 KG εάν περιέχει εύθραυστα δοχεία.

Ειδικοί Όροι

(Βλέπε σελ. 434.-

Ειδικοί Όροι

2822

(Συνεχίζεται)

Αρ. Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	Ανωτάτη Ποσότητα ανά κόλον	Ειδικές Διατάξεις
I°(α)	OLCUM	3 λίτρες	I2 λίτρες	Δεν πρέπει να συσκευάζονται μαζί με χλωρικά άλατα, υπερμαγγανικά, διαλύματα υπεροξειδίου του υδρογόνου, υπερχλωρικά άλατα, υπεροξείδια ή υδραζίνην. Ο περιορισμός των I8 λίτρων ισχύει για τα οξέα θειϊκόν, νιτρικόν και υδροχλωρικόν, και μικτά αζωτούχα όξέα, για όλες αυτές τις ύλες. Εάν το κόλον περιέχει οξύ υποκείμενον στον περιορισμόν των I2 λίτρων, ο περιορισμός αυτός πρέπει να εφαρμοσθεί.
I°(α), (β),(γ)	Θειϊκόν οξύ πλήν του OLCUM	3 λίτρες	I8 λίτρες	

2822

(Συνεχίζεται)

Αρ. Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	Ανωτάτη Ποσότητα ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			
2°(α)	Νιτρικόν Οξύ περιέχον άνω του 70°/ο καθαρού οξέος	3 λίτρες	I2 λίτρες	Δεν πρέπει να συσκευάζονται μαζί με μυρμηκικόν οξύ, τριαιθανολαμίνη, ανιλίνη, ξυλιδίνη, τολουϊδίνη, χλωρικά άλατα, υπερμαγγανικά, εύφλεκτα υγρά με βαθμόν αναφλέξεως κάτω των 2I°C, διαλύματα υπεροξειδίου του υδρογόνου, υπερχλωρικά άλατα, υπεροξείδια, υδραζίνη, γλυκερίνη, γλυκόλες. Μόνο αδρανές υλικό πληρώσεως πρέπει να χρησιμοποιείται.
2°(β)	Νιτρικόν Οξύ περιέχον όχι άνω του 70°/ο καθαρού οξέος	3 λίτρες	I8 λίτρες	
3°	Μικτά οξέα νιτρώσεως	3 λίτρες	I8 λίτρες	
4°	Υπερχλωρικό Οξύ	Μικτή συσκευασία απαγορεύεται		
5°	Υδροχλωρικό Οξύ	5 λίτρες	I8 λίτρες	Δεν πρέπει να συσκευάζεται

2822
(Συνεχίζεται)

Αρ. Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			
				μαζί με χλωρικά άλατα, υπερμαγγανικά, υπερχλωρικά άλατα, υπεροξείδια (πλην των διαλυμάτων υπεροξειδίου του υδρογόνου)
6°	Διαλύματα Υδροφθορικού οξέος	I λίτρα	IO λίτρες	
II°(α)	Διχλωριούχο Διθείο	500 G	500 G	
II°(α)	Πενταχλωριούχο αντιμόνιο Χλωροσουλφονικό χλωρίδιο SULPHURYL ACID (Θειώδες οξύ;) THIONYLCHLORIDE Τετραχλωριούχο τιτάνιο Υπερχλωριούχος κασσίτερος	2.5KG	5KG	Δεν πρέπει να συσκευάζονται μαζί με ύλες της 36° της Κλάσεως 8 ή με ύλες της Κλάσεως 5.I° πρέπει να προστατεύονται κατά της εισχωρήσεως της υγρασίας
I2°	Τριχλωριούχο αντιμόνιο			
I4°	Βρώμιο - σε εύθραυστα δοχεία	500 G	500 G	
	- σε άλλα δοχεία	I KG	3 KG	

2822

(Συνεχίζεται)

Αρ. Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότητα ανά δοχείο	Ανωτάτη Ποσότητα ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			
15°(α)	Διφθοριούχα	5 KG	15 KG	Δεν πρέπει να συσκευάζονται μαζί με ύλες των Κλάσεων 4.2,4.3 και 5.1,η με νιτρικό οξύ ή μικτά οξέα νιτρώσεως.
21°(β)	Μυρμηκικόν οξύ	5 λίτρες	15 λίτρες	Δεν πρέπει να συσκευάζεται μαζί με χλωρικά άλατα, υπερμαγγανικά, διαλύματα υπεροξειδίου του υδρογόνου, νιτρικό οξύ, μικτά οξέα νιτρώσεως.
21°(γ)	Οξικό οξύ	5 λίτρες	15 λίτρες	Δεν πρέπει να συσκευάζεται μαζί με χλωρικά άλατα, υπερμαγγανικά.
34°	Υδραζίνη	5.5 KG	5.5 KG	Δεν πρέπει να συσκευάζεται μαζί με θειϊκό οξύ, χλωροσουλφονικό οξύ, νιτρικό οξύ, μικτά οξέα νιτρώσεως, χλωρικά άλατα, υπερμαγγανικά,

(Συνεχίζεται)

Αρ. Είδους	Περιγραφή Ύλης	Ανωτάτη Ποσότης ανά δοχείο	ανά κόλον	Ειδικές Διατάξεις
	(Σ υ ν έ χ ε ι α)			
				θείο, διαλύματα υπεροξειδίου του υδρογόνου, υπερχλωρικά άλατα, και υπεροξείδια. Πρέπει να διατηρούνται χωριστά από καυστικές αλκαλικές ύλες και ισχυρούς άγοντες οξειδώσεως.
36°	Πρωτοθειούχο νάτριο περιέχον όχι άνω του 70°/ο Na_2S	2.5 KG	I5 KG	Δεν πρέπει να συσκευάζεται μαζί με δξινες ύλες
4I°(α)	Διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του 35°/ο υπεροξειδίου του υδρογόνου	Μικτή συσκευασία δεν επιτρέπεται		
4I°(β)	Διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του I5°/ο αλλά όχι άνω του 35°/ο υπεροξείδιον του υδρογόνου			Δεν πρέπει να συσκευάζονται με θειϊκό οξύ, χλωροσουλφονικό οξύ, μυρμηκικό οξύ, μικτά οξέα νιτρώσεως, τριαιθανολαμίνη, ανιλίνη, ξυλιδίνη, τολουϊδίνη, υπερμαγγανικά,
	- σε εύθραυστα δοχεία	I λίτρα	3 λίτρες	
	- σε άλλα δοχεία	3 λίτρες	I2 λίτρες	

2822
(Συνεχίζεται)

Αρ. Είδους	Περιγραφή Υλης	Ανωτάτη Ποσότης ανά δοχείο	ανά κόλον	Ειδικές Διατάξεις
	(Συνέχεια)			εύκαυστα υγρά με σημείο αναφλέξεως κάτω των 21°C, μεταλλικά υπεροξείδια, υδραζίνη.
	Διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του 6°/ο αλλά όχι άνω του 15°/ο υπεροξείδιο του υδρογόνου.	3 λίτρες	12 λίτρες	Πρέπει να χρησιμοποιούνται μόνο ανόργανα υλικά πληρώσεως.

4.- Ενδείξεις (μαρκάρισμα) και ετικέτες κινδύνου επί των κόλων (Βλέπε Προσθήκην Α.9) 2823

Κιβώτια περιέχοντα συσσωρευτές (I°(στ) και 33°) θα μαρκάρονται ευανάγνωστα και ανεξίτηλα: "Συσσωρευτές". Η επιγραφή αυτή θα είναι στην επίσημη γλώσσα της χώρας της αναχωρήσεως και, εάν η γλώσσα αυτή δεν είναι η Αγγλική ή Γαλλική ή Γερμανική, στην Αγγλική, Γαλλική ή Γερμανική, εκτός εάν άλλως προβλέπεται στις, τυχόν, συμφωνίες που συνήφαν μεταξύ των οι ενδιαφερόμενες για την επιχείρηση μεταφοράς χώρες.

(I) Κόλα περιέχοντα ύλες των I° έως 7°, 9°, II°, I2°, 2824 I4°, I5°, 22°, 3I°, 35° ή 4I°(α) θα φέρουν ετικέτα σύμφωνον προς το μοντέλο No.5.

Εν τούτοις, εάν τα υγρά των Ι°(α) έως (γ), 2° έως 5°, Ι7, 22° ή 32° συσκευάζονται σε δοχεία κατασκευασμένα από ύαλο, πορσελάνη, είδη κεραμεικής, ή παρεμφερές υλικό, χωρητικότητας υπερβαίνούσης τις(τα) 5 λίτρα, τα κόλα θα φέρουν δ΄υο ετικέτες σύμφωνες προς το μοντέλο No.5. 2824 (Συνεχίζεται)

(2) Κόλα περιέχοντα εύθραυστα δοχεία μη ορατά από έξω, θα φέρουν ετικέτες σύμφωνες προς το μοντέλο No.9. Εάν τα εύθραυστα δοχεία περιέχουν υγρά, τα κόλα οφείλουν, επιπροσθέτως, εκτός προκειμένου περί σφραγισμένων αμπουλών, να φέρουν ετικέτες σύμφωνες προς το μοντέλο No.8· οι ετικέτες αυτές θα τοποθετούνται ψηλά σε δύο αντίθετες πλευρές των κιβωτίων ή κατά τρόπον ισοδύναμον οσάκις χρησιμοποιούνται άλλες συσκευασίες.

(3) Κάθε κιβώτιο περιέχον συσσωρευτές (Ι°(στ) και 33°), και κόλα ζυγίζοντα όχι άνω των 75 KG περιέχοντα ύλες της Ι° έως 7°, 9°, ΙΙ°, 2Ι°, 3Ι° έως 35° και 37°, θα φέρουν, επιπροσθέτως, στις δύο αντίθετες πλευρές ετικέτες σύμφωνες προς το μοντέλο No.8.

(4) Προκειμένου περί αποστολών μεταφερομένων ως πλήρες φορτίο, η ετικέτα No.5, ως προβλέπεται υπό στοιχείον (Ι), δεν χρειάζεται να τεθεί στα κόλα εάν το όχημα φέρει την ένδειξιν την προβλεπομένην υπό του Παραρτήματος Β, περιθώριον ΙΟ 500.

2825

Β.- Στοιχεία του εγγράφου μεταφοράς

(Ι) Η περιγραφή των εμπορευμάτων στο έγγραφο της 2826

μεταφοράς πρέπει να είναι σύμφωνη με μία των ονομασιών που υπογραμμίζονται στο περιθώριο 2801. Οσάκις η ονομασία της ύλης δεν σημειούται, στη περίπτωση των II°, I2°, I3°, I5°, 22° και 35°, πρέπει να χρησιμοποιείται η εμπορική ονομασία. Η περιγραφή των εμπορευμάτων πρέπει να υπογραμμίζεται με κόκκινο και να ακολουθείται από τα στοιχεία της Κλάσεως, τον αριθμόν του είδους (μαζί με το, τυχόν, γράμμα), και τα αρχικά "ADR" ή "RID" (π.χ. 8, II (α), ADR). 2826 (Συνεχίζεται)

(2) Προκειμένου περί βρωμίου περιέχοντος 0.005 τοις εκατόν έως 0.2 τοις εκατόν ύδωρ, μεταφερομένου σε δοχεία συμφώνως προς το περιθώριο 2810(2), τα παρακάτω πρέπει να βεβαιούνται στο έγγραφο μεταφοράς:- "Πάρθηκαν μέτρα για την αποφυγή της διαβρώσεως της επενδύσεως των δοχείων".

2827-2834

Γ. Κενές συσκευασίες

(1) Δοχεία και δεξαμενές των 51° πρέπει να είναι κλειστά με τον ίδιο τρόπο και στεγανά στον ίδιο βαθμό σαν να ήταν γεμάτα. 2835

(2) Η περιγραφή των εμπορευμάτων στο έγγραφο μεταφοράς πρέπει να είναι: "Κενό δοχείο, 8, 51, ADR (ή RID)". Αυτή η περιγραφή πρέπει να υπογραμμίζεται με κόκκινο.

(3) Ακάθαρτα δοχεία τα οποία περιείχαν ύλες των 6° ή βρώμιο (14°) θα φέρουν μία ετικέτα σύμφωνη προς το μοντέλο No. 5 (Προσθήκη Α.9). Δεν πρέπει να έχουν υπολείμματα οξέος ή βρωμίου στο εξωτερικό μέρος.

2836-3099

ΟΙΚΟΝΟΜΙΚΗ ΕΠΙΤΡΟΠΗ ΓΙΑ ΤΗΝ ΕΥΡΩΠΗ

ΕΠΙΤΡΟΠΗ ΜΕΤΑΦΟΡΩΝ ΕΣΩΤΕΡΙΚΟΥ

Ευρωπαϊκή Συμφωνία

Για τη Διεθνή Οδική Μεταφορά Επικινδύνων Εμπορευμάτων (ADR) και Πρωτόκολλο Υπογραφής

Υπογράφηκε στη Γενεύη την 30 Σεπτεμβρίου 1957

ΤΟΜΟΣ ΙΙ

(Προσθήκες Παραρτήματος Α)

ΗΝΩΜΕΝΑ ΕΘΝΗ

1978.-

Π Ρ Ο Λ Ο Γ Ο Σ

Το παρακάτω κείμενο περιλαμβάνει, επιπροσθέτως της Συμφωνίας και του Πρωτοκόλλου Υπογραφής, τα Παραρτήματα με τη μορφή με την οποία τέθηκαν σε ισχύ την 29ην Ιουλίου 1968 καθώς και τις τροποποιήσεις τους μέχρι της 1ης Οκτωβρίου 1978.

Μέρος ΙΙΙ

ΠΡΟΣΘΗΚΑΙ

ΠΡΟΣΘΗΚΗ Α.Ι

Α.- Όροι ευσταθείας και ασφαλείας αφορώντες τις εκρηκτικές ύλες, εύφλεκτα στερεά και οργανικά υπεροξείδια

Οι δροι ευσταθείας που εκτίθενται παρακάτω 3I00
είναι τα κατώτατα πρότυπα τα καθορίζοντα την απαιτουμένη ευστάθεια των υλών που πρόκειται να γίνουν δεκτές για μεταφορά. Οι ύλες αυτές μπορούν να παραδοθούν για μεταφορά μόνον εάν συμμορφούνται πλήρως προς τους παρακάτω δρους.

Περί περιθωρίου 2I0I, I°, περιθωρίου 2I7I, 3I0I
4° και περιθωρίου 240I, 7°(α): Νιτροκυτταρίνη θερμαινόμενη για μισή ώρα σε I32°C δεν πρέπει να αναδίδει ορατές κιτρινοφαιές νιτρώδεις αναθυμιάσεις. Η θερμοκρασία αναφλέξεως πρέπει να είναι άνω των I80°C. Νήμα πυροξυλίνης πρέπει να ικανοποιεί τους ίδιους δρους ευσταθείας ως η νιτροκυτταρίνη. Βλέπε περιθώρια 3I50, 3I5I(α) και 3I53.

Περί περιθωρίου 2I0I, 3°, 4° και 5°, και περιθωρίου 240I, 7°(β) και (γ): 3I02

I.- Κονιοποιημένη νιτροκυτταρίνη μη περιέχουσα νιτρογλυκερίνη· πλαστικοποιημένη νιτροκυτταρίνη:

3 γραμ. κονιοποιημένης ή πλαστικοποιημένης νιτροκυτταρίνης, θερμαινόμενα για μία ώρα σε I32°C, δεν πρέπει να αναδίδουν ορατές κιτρινο-φαιές νιτρώδεις αναθυμιάσεις. Η θερμοκρασία αναφλέξεως πρέπει να είναι άνω των I70°C.

2.- Κονιοποιημένη νιτροκυτταρίνη περιέχουσα νιτρογλυκερίνη:

I γραμ. κονιοποιημένης νιτροκυτταρίνης θερμαινόμενο για μία ώρα στους II0°C δεν πρέπει να αναδίδει ορατές κιτρινο-φαιές νιτρώδεις αναθυμιάσεις. Η θερμοκρασία αναφλέξεως πρέπει να είναι άνω των I60°C.

Αναφορικά με τα I. και 2., βλέπε περιθώρια 3I50, 3I5I(β) και 3I53.

Περί περιθωρίου 2I0I, 6°, 7°, 8°(α) και (β2 και 9°(α), (β) και (γ):- 3I03

I.- Τρινιτροτολουόλη (TOLITE), μίγματα οριζόμενα ως τρινιτροτολουόλη και τρινιτροανισόλη (6°), HEXYL (εξανιτροδιφαινυλαμίνη) και πικρικό οξύ (7°(α)), πεντολίτης (μίγματα τετρανιτρικής πενταερυθριτόλης και τρινιτροτολουόλη) και εξολίτης (μίγματα τριμαιθυλενιο-τρινιτραμίνης και τρινιτροτολουόλης) (7°(β)), αδρανοποιημένος πενθρίτης και αδρανοποιημένον εξογόνον (7°(γ)), TRINITRORESORCINOL (8°(α)), τετρύλη (τρινιτροφαινυλομεθυλονιτραμίνη) (8°(β)), πενθρίτης (τετρανιτρική πεντερυθριτόλη) και εξογόνον (τριμεθυλενο-τρινιτραμίνη) (9°(α)), πεντολίτης (μίγματα πενθρίτου και τρινιτροτολουόλης) και εξολίτης (μίγματα εξογόνου και τρινιτροτολουόλης) (9°(β)) και μίγματα πενθρίτου ή εξογόνου με κηρό, κηρό παραφίνης ή όλες όμοιες με κηρό ή κηρό παραφίνης (9°(γ)), θερμαινόμενα για 3 ώρες σε θερμοκρασία 90°C, δεν πρέπει να αναδίδουν ορατές κιτρινοφαιές νιτρώδεις αναθυμιάσεις. Βλέπε περιθώρια 3I50 και 3I52 (α).

2.- Οργανικές νιτρο-ενώσεις αναφερόμενες υπό στοιχείο 8° εκτός από TRINITRORESORCINOL και τετρύλη (τρινιτροφαινυλομεθυλονιτραμίνη), θερμαινόμενες για 48 ώρες σε θερμοκρασία 75°C, δεν πρέπει να αναδίδουν ορατές κιτρινο-φαιές νιτρώδεις αναθυμιάσεις. Βλέπε περιθώρια 3I50 και 3I52(β).

3.- Οργανικές νιτρο-ενώσεις αναφερόμενες υπό στοιχείο 8° δεν πρέπει να είναι περισσότερο ευαίσθητες στην ανάφλεξη, κρούση ή τριβή από:-

την TRINITRORESORCINOL, εάν είναι διαλυτές στο νερό. 3I03 (Συνεχίζεται)

τη τετρύλη (τρινιτροφαινυλομεθυλονιτραμίνη), εάν δεν είναι διαλυτές στο νερό.

Βλέπε περιθώρια 3I50, 3I52, 3I54, 3I55 και 3I56.

Περί περιθωρίου 2I0I, II°(α) και (β): 3I04

I.- Η μαύρη πυρίτιδα (II°(α)) δεν πρέπει να είναι περισσότερο ευαίσθητη στην ανάφλεξη φλόγας, κρούση ή τριβή από τη λεπτότερη πυρίτιδα κυνηγίου έχουσα τη παρακάτω σύνθεση: 75 μέρη εκατό νιτρικό κάλιο, I0 μέρη εκατό θείο και I5 μέρη εκατό μαύρο ξυλάνθρακα (BLACK ALDER CHARCOAL). Βλέπε περιθώρια 3I50, 3I54, 3I55 και 3I56.

2.- Βραδυφλεγής πυρίτις ορυχείων όμοια με μαύρη πυρίτιδα (II°(β)) δεν πρέπει να είναι περισσότερο ευαίσθητη σε ανάφλεξη φλόγας, κρούση ή τριβή από το βασικό εκρηκτικό που έχει τη παρακάτω σύνθεση:

75 μέρη εκατό νιτρικό κάλιο, I0 μέρη εκατό θείο και I5 μέρη εκατό λιγνίτη. Βλέπε περιθώρια 3I50, 3I54, 3I55 και 3I56.

Περί περιθωρίου 2I0I, I2°:- Νιτρικά εκρηκτικά υπό μορφή κόνεως (πυρίτιδος) (I2°(α)), και εκρηκτικά μη περιέχοντα ανόργανα νιτρικά άλατα, υπό μορφή κόνεως (πυρίτιδος (I2°(β))· πρέπει να είναι ικανά να εναποθηκευθούν για 48 ώρες σε 75°C χωρίς να αναδίδουν ορατές νιτρινο-φαιές νιτρώδεις αναθυμιάσεις. Προ και μετά την αποθήκευση δεν πρέπει να είναι περισσότερο ευαίσθητες στην ανάφλεξη φλόγας, 3I05

πρόσκρουση ή τριβή από το βασικό εκρηκτικό που έχει τη παρακάτω σύνθεση:- 3I05 (Συνεχίζεται)

80 στα εκατό νιτρικό αμμώνιο, I2 στα εκατό τρινιτροτολουόλη, 6 στα εκατό νιτρογλυκερίνη και 2 στα εκατό ξυλάλευρο. Βλέπε περιθώρια 3I50, 3I52(β), 3I54(α) και (β), 3I55 και 3I56.

Δείγμα του ανωτέρω αναφερομένου εκρηκτικού είναι στη διάθεση των Συμβαλλομένων Κρατών υπό του LABORATOIRE DU CENTRE D'ETUDES AT RECHERCHES DES CHARBONNAGES DE FRANCE (CERCHAR), BOITE POSTALE No.2, 60550 VERNEUIL-EN-HALATTE, FRANCE (Εργαστηρίου του Κέντρου Σπουδών και Ερευνών των Ανθρακωρυχείων της Γαλλίας).

Περί περιθωρίου 2I0I, I3°: Χλωρικά και υπερχλωρικά εκρηκτικά πρέπει να περιέχουν αμμωνιακό άλάτι. Δεν πρέπει να είναι περισσότερον ευαίσθητα στην ανάγλεξη φλόγας πρόσκρουση ή τριβή από χλωρικό εκρηκτικό που έχει τη παρακάτω σύνθεση: 80 στα εκατό χλωρικό κάλιο, I0 στα εκατό δινιτροτολουόλη, 5 στα εκατό τρινιτροτολουόλη, 4 στα εκατό κινινέλαιο και I στα εκατό ξυλάλευρο. Βλέπε περιθώρια 3I50, 3I54, 3I55 και 3I56. 3I06

Περί περιθωρίου 2I0I, I4°(α) και (β): Εκρηκτικά της I4°(α) και (β) δεν πρέπει να είναι περισσότερο ευαίσθητα στην ανάφλεξη-φλόγας, πρόσκρουση ή τριβή από την εκρηκτική ζελατίνη περιέχουσα 93 στα εκατό νιτρογλυκερίνη ή συναμίτη GUHR περιέχοντα όχι περισσότερο από 75 στα εκατό νιτρογλυκερίνη. Πρέπει να ικανοποιούν τον έλεγχο εξιδρώσεως του περιθωρίου 3I58. Βλέπε περιθώρια 3I50, 3I54(β), 3I07

3I55 και 3I56. 3I07

Περί περιθωρίου 2I0I, I4°(γ): Εκρηκτικά της I4°(γ) πρέπει να είναι ικανά να αποθηκευθούν για 48 ώρες σε 75°C, χωρίς να αναδίδουν ορατές κιτρινο-φαιές νιτρώσεις αναθυμιάσεις. Προ και μετά την εναποθήκευση δεν πρέπει να είναι περισσότερον ευαίσθητα στην ανάφλεξη-φλόγας, προσκρουση ή τριβή από το βασικό εκρηκτικό που έχει τη παρακάτω σύνθεση: 37.7 στα εκατό νιτρογλυκόλη ή νιτρογλυκερίνη ή μίγμα των δύο, I.8 στα εκατό βαμβακοπυρίτιδα, 4 στα εκατό τρινιτροτολουόλη, 52.5 στα εκατό νιτρικό αμμώνιο και 4 στα εκατό ξυλάλευρο. Βλέπε περιθώρια 3I50, 3I52(β), 3I54(α), (β), (γ) και (δ), 3I55 και 3I56. (Συνεχίζεται)

Περί περιθωρίου 2I3I, I°(β): Η εκρηκτική ύλη δεν 3I08
πρέπει να είναι περισσότερο ευαίσθητη στην ανάφλεξη φλόγας, πρόσκρουση ή τριβή από την τετρύλη. Βλέπε περιθώρια 3I50, 3I54, 3I55 και 3I56.

Περί περιθωρίου 2I3I, I°(γ): Η εκρηκτική ύλη δεν 3I09
πρέπει να είναι περισσότερον ευαίσθητη στην ανάφλεξη φλόγας πρόσκρουση ή τριβή από τον πενθρίτη. Βλέπε περιθώρια 3I50, 3I54, 3I55 και 3I56.

Περί περιθωρίου 2I3I, 5°(δ): Η γόμωση μεταδόσεως 3II0
δεν πρέπει να είναι περισσότερον ευαίσθητη στην ανάφλεξη φλογας, πρόσκρουση ή τριβή από την τετρύλη. Βλέπε περιθώρια 3I50, 3I54, 3I55 και 3I56.

Περί περιθωρίου 2I70, (2)(δ): Η γόμωση του εκρη- 3III
κτικού, αφού αποθηκευθεί για τέσσερες εβδομάδες σε 50°C, δεν πρέπει να δεικνύει δείγματα χειροτερεύσεως οφειλόμενα σε

ανεπαρκή σταθερότητα (ευστάθεια). Βλέπε περιθώρια 3ΙΙΙ
3Ι50 και 3Ι57.

Περί περιθωρίου 255Ι, Ι° έως 50°: Οι όλες θα 3ΙΙ2
υπόκεινται σε έλεγχο που περιγράφεται στα περι-
θώρια 3Ι54, 3Ι55 και 3Ι56.

Β.- Κανόνες για ελέγχους

(Ι) Οι διαδικασίες ελέγχου, που εκτίθενται παρα- 3Ι50
κάτω, πρέπει να εφαρμοσθούν όταν προκύψουν διάφορες γνώ-
μες αναφορικά με την αποδοχή των υλών σε οδική μεταφορά.

(2) Εάν άλλες μέθοδοι ή διαδικασίες ελέγχου χρη-
σιμοποιούνται για την επαλήθευση των όρων ευσταθειας των
περιγραφομενων ανωτέρω στην Προσθήκην αυτή, οι μέθοδοι
αυτές πρέπει να οδηγούν στα ίδια ευρήματα που θα μπορούσαν
να φθάσουν δια των παρακάτω οριζομένων μεθόδων.

(3) Κατά την διεξαγωγή των δοκιμών ευσταθείας δια
θερμάνσεως που περιγράφεται παρακάτω, η θερμοκρασία του κλι-
νου που περιέχεται στο υπό δοκιμή δείγμα δεν πρέπει να παρε-
κλίνει περισσότερον από 2°C από την προβλεπομένη θερμοκρα-
σία· η προβλεπομένη διάρκεια 30-λέπτου ή 60-λέπτου δοκιμής
πρέπει να τηρείται εντός δύο λεπτών, της 48ώρου δοκιμής εντός
μιάς ώρας, και της δοκιμής 4-εβδομάδων εντός 24 ωρών.

Ο κλίβανος πρέπει να είναι τέτοιος ώστε η απαι-
τουμενη θερμοκρασία να εναποθηκεύεται όχι περισσότερο των
πέντε λεπτών μετά την παρεμβολή του δείγματος.

(4) Προτού υποβληθούν σε δοκιμή, που προβλέπε-
ται από το περιθωρίο 3Ι5Ι, 3Ι52, 3Ι53, 3Ι55 και 3Ι56,
τα δείγματα πρέπει να ξηρανθούν όχι λιγώτερο των Ι5 ωρών

σε θερμοκρασία του περιβάλλοντος και σε στεγνωτήριο κενού (VACUUM DESICCATOR) που περιέχει τηκτό και κοκκώδες χλωριούχο ασβέστιο, της ύλης του δείγματος απλωμένης σε λεπτό στρώμα· για τον σκοπόν αυτόν, ύλες που δεν είναι υπό μορφή κόνεως ουδέ υπό μορφήν ινός θα αλεσθούν, ή τριβούν, ή κοπούν σε μικρά τεμάχια. Η σε στεγνωτήριο πίεση πρέπει να αχθεί κάτω των 50 MM υδραργύρου. (Συνεχίζεται)

(5)(α) Προτού ξηρανθούν, ως προβλέπεται στη παράγραφο (4) ανωτέρω, οι ύλες του περιθωρίου 2101, 1° (εκτός εκείνων που περιέχουν κηρόν παραφίνης ή παρεμφερή ύλη), 2°, 9°(α) και (β), και οι ύλες του περιθωρίου 2401, 7°(β), θα υποστούν προκαταρκτική ξήρανση μέσα σε ηλίβανο ξηράνσεως καλώς-εξαερισμένου, με τη θερμοκρασία του ρυθμισμένη στους 70°C. μέχρις ότου η απώλεια του βάρους ανά τέταρτο είναι μικροτέρα του 0.3 εκατόν του αρχικού βάρους.

(β) Για ύλες του περιθωρίου 2101, 1° (όταν περιέχουν κηρό παραφίνης ή παρεμφερή ύλη), 7°(γ) και 9°(γ), η προκαταρκτική ξήρανση πρέπει να διεξαχθεί ως προβλέπεται υπό του ανωτέρω εδαφίου (α), εκτός του ότι η θερμοκρασία του ηλιβάνου θα ρυθμισθεί μεταξύ 40° και 45°C.

(6) Η νιτροκυτταρίνη του περιθωρίου 2401, 7°(α) θα υποβληθεί αρχικά στην ξήρανση που προβλέπεται υπό της ανωτέρω παραγράφου 5(α)· η ξήρανση ακολούθως θα ολοκληρώνεται με διατήρησή της νιτροκυτταρίνης επί 15 ώρες τουλάχιστον πάνω από συμπεπυκνωμένου θειϊκού οξέος σε στεγνωτήριο.

Ελεγχος χημικής ευσταθείας υπό θερμότητα

Περί περιθωρίων 3101 και 3102

(α) Έλεγχος υλών απαριθμουμένων στο περιθώριο 3101 3151

(1) Σε κάθε ένα από δύο γυάλινους δοκιμαστικούς σωλήνες που έχουν τις παρακάτω διαστάσεις:-

μήκος ..... 350 ΜΜ

εσωτερική διάμετρος ..... 16 ΜΜ

πάχος τοιχώματος ..... 1.5 ΜΜ

τοποθετείται 1 γραμ. ύλης ξηρανθείσης του πυραπυρίτου χλωριούχου ασβεστίου (εάν είναι απαραίτητο η ξήρανση πρέπει να διεξαχθεί μετά την ελάττωση της ύλης σε τεμάχια που ζυγίζουν όχι άνω των 0.05 γραμ. το καθένα). Και οι δύο οι δοκιμαστικοί σωλήνες, τελείως καλυμμένοι με χαλαρά εφαρμοζόμενα κλεισίματα, τοποθετούνται μετά σε κλίβανο στον οποίον τουλάχιστον τα τέσσερα πέμπτα του μήκους των είναι ορατά, και διατηρούνται σε σταθερή θερμοκρασία 132°C επί 30 λεπτά. Παρατηρούνται εάν νιτρώδη αέρια υπό την μορφήν κιτρινοφαιών αναθυμιάσεων σαφώς ορατών σε λευκό φόντο αναδίδονται διαρκούντος του χρόνου αυτού.

(2) Ελλείψει τοιούτων αναθυμιάσεων η ύλη θεωρείται ότι είναι σταθερή.

(β) Έλεγχος κόνεων απαριθμουμένων στο περιθώριο 3102.

(1) Κόνεις νιτροκυτταρίνης μη περιέχουσαι νιτρογλυκερίνη, ζελατινοποιημένη ή όχι και πλαστικοποιημένη νιτροκυτταρίνη: 3 γραμ. κόνες τοποθετούνται στους γυάλινους δοκιμαστικούς σωλήνες, όμοιους με τους αναφερομένους εις (α), οι οποίοι εν συνεχεία τοποθετούνται σε κλίβανο τηρούμενο

σε σταθερή θερμοκρασία 132°C. 3151

(2) Κόνεις νιτροκυτταρίνης περιέχουσαι νιτρο- (Συνεχίζεται)
γλυκερίνη : Ι γραμ. κόνεως τοποθετείται σε γυάλινους δοκιμαστικούς σωλήνες, όμοιους με τους αναφερομένους εις (α), οι οποίοι ακολούθως τοποθετούνται σε κλίβανο τηρούμενο σε σταθερή θερμοκρασία 110°C.

(3) Οι δοκιμαστικοί σωλήνες οι περιέχοντες τας κόνεις τας αναφερομένας εις (1) και (2) τηρούνται εντός κλιβάνου επί μίαν ώρα. Διαρκούντος του χρόνου αυτού νιτρώδη αέρια δεν πρέπει να είναι ορατά. Παρατήρησις και εκτίμησις ως εις (α).

Περί περιθωρίων 3103 και 3105

(α) Έλεγχος υλών απαριθμουμένων στο περιθώριο 3103,1. 3152

(1) Δύο δείγματα εκρηκτικού το καθένα που ζυγίζουν 10 γραμ. τοποθετούνται σε κυλινδρικές φιάλες ζυγίσεως που έχουν εσωτερική διάμετρο 3 CM και ύψος 5 CM αποκάτω της πλευράς του καλύμματος· οι φιάλες κλείνονται ακολούθως ερμητικά με τα καλύμματά τους και θερμαίνονται για τρείς ώρες σε σταθερή θερμοκρασία 90°C μέσα σε κλίβανο στον οποίο είναι σαφώς ορατές.

(2) Διαρκούντος του χρόνου αυτού νιτρώδη αέρια δεν πρέπει να είναι ορατά. Παρατήρησις και εκτίμησις όπως στο περιθώριο 3151(α).

(β) Έλεγχος υλών απαριθμουμένων στα περιθώρια 3103, 2 και 3105.

(1) Δύο δείγματα εκρηκτικού το καθένα που ζυγίζουν 10 γραμ. τοποθετούνται σε κυλινδρικές φιάλες ζυγίσεως που

έχουν εσωτερική διάμετρο 3 CM και ύψος 5 CM από κάτω της πλευράς του καλύμματος· οι φιάλες ακολούθως κλείνονται ερμητικά με τα καλύμματά τους και θερμαίνονται για 48 ώρες σε σταθερή θερμοκρασία 75°C μέσα σε κλίβανο στον οποίο είναι καθαρά ορατές. 3I52 (Συνεχίζεται)

(2) Κατά το χρονικό αυτό διάστημα δεν πρέπει να είναι ορατά νιτρώδη αέρια. Παρατήρηση και εκτίμηση ως εις περιθώριο 3I5I(α).

Θερμοκρασία Αναφλέξεως (βλέπε περιθώρια 3I0I και 3I02)

(I) Η θερμοκρασία αναφλέξεως καθορίζεται δια θερμάνσεως 0.2 γραμ. ύλης κλεισμένης σε γυάλινο δοκιμαστικό σωλήνα βυθισμένο σε λουτρό κράματος WOOD. Ο δοκιμαστικός σωλήνας τοποθετείται στο λουτρό όταν το τελευταίο φθάσει τους I00°C. Η θερμοκρασία του λουτρού αυξάνεται ακολούθως προοδευτικά κατά 5°C ανά λεπτό . 3I53

(2) Οι δοκιμαστικοί σωλήνες πρέπει να έχουν τις παρακάτω διαστάσεις:-

μήκος ..... I25 MM
εσωτερική διάμετρος ..... I5 MM
πάχος τοιχώματος ..... 0.5 MM

και πρέπει να είναι βυθισμένοι σε βάθος 20 MM.

(3) Ο έλεγχος πρέπει να επαναλειφθεί τρείς φορές, της θερμοκρασίας εις την οποίαν η ανάφλεξη της ύλης λαμβάνει χώρα , π.χ., βραδεία ή ταχεία καύση, ανάφλεξη ή απαριαία έκρηξη (εκτόνωση), σημειουμένης κάθε φορά.

(4) Η κατωτάτη θερμοκρασία που καταγράφεται στους τρείς ελέγχους είναι η θερμοκρασία αναφλεξης.

'Ελεγχος ευαισθησίας εις ερυθροπύρωση και ανάφλεξη φλόγας (βλέπε περιθώρια 3103 έως 3110). 3154

(α) 'Ελεγχος εις ερυθροπυρωμένη ημισφαιρική σιδηρά χοάνη (βλέπε περιθώρια 3103 έως 3106 και 3108 έως 3110).

(1) Οι προς εξέτασιν ποσότητες του εκρηκτικού αυξανόμενες από 0.5 γραμ. εις 10 γραμ. ρίπτονται μέσα σε ερυθροπυρωμένη ημισφαιρική σιδηρά χοάνη πάχους 1 ΜΜ και διαμέτρου 120 ΜΜ.

Τα αποτελέσματα του ελέγχου ταξινομούνται παρεμπτώ:

1.- ανάφλεξη με βραδεία καύση (εκρηκτικά με βάσιν νιτρικόν αμμώνιον)·

2.- ανάφλεξη με ταχεία καύση (χλωρικά εκρηκτικά)·

3.- ανάφλεξη με βιαία καύση και κατάκαυση (μαύρη πυρίτις)·

4.- αναριαία έκρηξη (εκτόνωση) (βροντώδης υδράργυρος).

(2) Το αποτέλεσμα (επίδρασις) επί της αλληλουχίας των γεγονότων του ποσού που χρησιμοποιήθηκε εκρηκτικού πρέπει να λαμβάνεται υπόψει.

(3) Το προς εξέτασιν εκρηκτικό δεν πρέπει να δεικνύει βασικήν διαφοράν από το στάνταρντ εκρηκτικό.

(4) Οι σιδηρές χοάνες πρέπει να έχουν προσεκτικά καθαρισθεί πρίν από κάθε έλεγχο και να αντικαθίστανται σε συχνά χρονικά διαστήματα.

(β) 'Ελεγχος της Περιπτώσεως αναφλέξεως (βλέπε περιθώρια 3103 έως 3110).

(1) Το προς εξέτασιν εκρηκτικό τοποθετείται σε μικρό

σωρό πάνω σε σιδηρό έλασμα σε ποσότητες αυξανόμενες -υπό το φως των αποτελεσμάτων του ελέγχου κατά την (α)- από 0.5 γραμ. έως το ανώτατο 100 γραμ. 3154 (Συνεχίζεται)

(2) Ένα αναμμένο σπίρτο τοποθετείται στη κορυφή της μικρής σωρού και λαμβάνεται σημείωση εάν το εκρηκτικό αναφλαγεί και εάν βραδέως, κατακαεί, ή καεί ακαριαία, και εάν, μία φορά έλαβε χώρα η ανάφλεξη, η καύση εξακολουθεί ακόμη και μετά το σβύσιμο (την απομάκρυνση) του σπίρτου. Εάν δεν λάβει χώρα ανάφλεξη παρόμοιος έλεγχος γίνεται, φέρνοντας το εκρηκτικό σε επαφή με φλόγα αερίου και σημειούνται τα αυτά σημεία.

(3) Τα αποτελέσματα του ελέγχου συγκρίνονται με τα επιτυγχανόμενα με το βασικό (στάνταρντ) εκρηκτικό.

(γ) Έλεγχος καύσεως με συνθήκες εγκλείσεως εντός κυτίου από φύλλα χάλυβος (βλέπε περιθώριο 3107)

(1) Ο έλεγχος της καύσεως διεξάγεται σε κυβικό κιβώτιο, κατασκευασμένο από φύλλα χάλυβα με άκρα μήκους 8 CM και πάχος τοιχώματος 1 MM. Το κιβώτιο είναι κατασκευασμένο από φύλλα πυρακτωμένου μαλακού χάλυβα και κλεισμένο κατά τρόπο όσο το δυνατόν ερμητικό δια πτυχώσεως του άκρου του υπεράνω καλύμματος (εικών I.).

(2) Στη περίπτωση εκρηκτικών που είναι ευαίσθητα στη τριβή, η άνω επιφάνεια πρέπει να καλύπτεται με φύλλο χαρτιού για να αποφευχθεί η διαφυγή μορίων του εκρηκτικού μεταξύ των άκρων και η παγίδευση των εκεί όταν το άκρο του καλύμματος λυγισθεί. Το κιβώτιο πληρούται εξ ολοκλήρου με το εκρηκτικό εις τρόπον ώστε το τελευταίο να έχει όσο το

δύνατό την αυτήν πυκνότητα όπως όταν είναι σε φυσίγγια. 3Ι54
Το κιβώτιο τοποθετείται στην πυρά με προσοχή· θα πρέπει (Συνεχίζεται)
αρχικώς να τυλιχθεί, π.χ., σε πολλά στρώματα χάρτου συσκευασίας προς αποφυγήν αμέσου αναφλέξεως του εκρηκτικού.

Ένας σωρός από ξύλα ύψους 0.8 Μ. ετοιμάζεται δια τη φωτιά με αρχική τοποθέτηση επί του εδάφους ενός λεπτού στρώματος ξυλοβάμβακος και εν συνεχεία επάνω από αυτό, κειμένα οριζόντια τρία καυσόξυλα (κούτσουρα) μήκους περίπου 0.5 Μ και διαμέτρου 0.25 Μ. Εγκαρσίως αυτών τοποθετούνται τρία ακόμη καυσόξυλα ομοίου μεγέθους. Επάνω από όλα τοποθετούνται τρία στρώματα μικρών ράβδων κομμένων περίπου σε μήκος 0.2 Μ, με ξυλοβάμβακα μεταξύ των στρωμάτων. Σε κάθε πλευρά, τρία ή τέσσερα τεμάχια ξύλου μήκους περίπου 0.5 Μ ακουμπούνται στη σωρό για να την εμποδίσουν να πέσει όταν θα καίγεται. Η σωρός ανάβεται με αναμμένη θρυαλλίδα από ξυλοβάμβακα.

(3) Παρατηρήσεις γίνονται δια να ιδούμε εάν το εκρηκτικό αναφλέγεται ή εκρήγνυται· πόσην ώραν καίει και τι φαινόμενα συνοδεύουν την καύσ και τι αλλαγές υπέστη το κιβώτιο.

(4) Ο έλεγχος διεξάγεται τέσσερες φορές. Φωτογραφία λαμβάνεται των χαλυβδίνων κιβωτίων μετά την χρησιμοποίησ τους.

(δ) Έλεγχος θερμάνσ σε περιωρισμένο χώρο σε χαλύβδινο σωλήνα με βαθμονομημένη διάτρητο πλάκα (έλεγχος χαλυβδίνου σωλήνος) (βλέπε περιθώρια 3Ι03 έως 3ΙΙ0 και 3ΙΙ2)

(I) Οι έλεγχοι των (α) έως (γ) μπορούν να συμπληρωθούν από τον παρακάτω έλεγχο. 3I54 (Συνεχίζεται)

(2) Περιγραφή του χαλυβδίνου σωλήνος (Εικών 2):

Ο σωλήνας κατασκευάζεται δια πιέσεως εκ φύλλου μετάλλου καταλλήλου για βαθύ εφελκυσμό. I/ Αι διαστάσεις είναι: εσωτερική διάμετρος 24 ΜΜ· πάχος τοιχώματος 0.5 ΜΜ· μήκος 75 ΜΜ. Στο ανοικτό άκρο εφαρμόζεται μια εξωτερική φλάντζα. Ο σωλήνας κλείνεται με ανθεκτική στη πίεση κεντρική διάτρητο πλάκα στερεωμένη στεγανά πάνω στη φλάντζα με εξωτερικά κοχλιωμένο κολλάρο περαστό στον σωλήνα και με παξιμάδι κιβωτίου κοχλιωμένο πάνω στο κολλάρο αυτό. Η πλάκα κατασκευάζεται από ανθεκτικό στη θερμότητα χρωμιούχο χάλυβα 2/ πάχους 6 ΜΜ. Δια να επιτραπεί η διαφυγή των αερίων της αποσυνθέσεως, χρησιμοποιούνται πλάκες με κυλινδρο-κεντρικάς διατρήσεις (α) των κάτωθι διαμέτρων: I.0-I.5-2.0-2.5-3-4-5-6-8-I0-I2-I4-I6-I8-20 ΜΜ· διάμετρος 24 ΜΜ προστίθεται όταν ο σωλήνας χρησιμοποιείται χωρίς διάτρητο πλάκα και μηχανισμό κλεισίματος. Το κοχλιωτό κολλάρο και παξιμάδι κατασκευάζονται από μαγγάνιο-χρωμιούχο χάλυβα μη-εκλεπιζόμενο μέχρι τους 800°C. I/

I/ π.χ. Υλική Προδιαγραφή Αρ. I.0336.505 ζ, συμφώνως προς DIN I623 SHEET I.

2/ π.χ. Υλική Προδιαγραφή Αρ. I.4873, συμφώνως προς SHEET "STAHL-EISEN-WERKSTOFF" 490-52.

I/ π.χ. Υλική Προδιαγραφή Αρ. I.38I7, συμφώνως προς SHEET "STAHL-EISEN-WERKSTOFF" 490-52.

Για διάτρητες πλάκες διαμέτρου Ι έως 8 ΜΜ, περικόχλια (παξιμάδια) διατρήσεως (β) διαμέτρου ΙΟ ΜΜ πρέπει να χρησιμοποιούνται· εάν η διάμετρος της διατρήσεως είναι άνω των 8 ΜΜ, τότε η διάμετρος διατρήσεως του περικοχλίου πρέπει να είναι 20 ΜΜ. Κάθε σωλήνας χρησιμοποιείται δι' έναν έλεγχον και μόνον. Αφ'ετέρου, οι διάτρητες πλάκες, τα κοχλιωτά κολλάρα και παξιμάδια μπορούν να χρησιμοποιηθούν και πάλιν εφ'όσον δεν έχουν καταστραφεί. Μετά από κάθε έλεγχο πρέπει να μετράται η διάτρησις. 3154 (Συνεχίζεται)

(3) Θέρμανσις και προστατευτικός μηχανισμός (Εικών 3):-

Η θέρμανσις παρέχεται δια δημοτικού αερίου καθαράς θερμικής τιμής 4,000 KCAL/NM^3, από 4 καυστήρες παράγοντες περίπου 2.4 KCAL/SEC για κατανάλωση 0.6 Ι/SEC.

Επειδή η καταστροφή του σωλήνα είναι δυνατή, η θέρμανσις αναλαμβάνεται μέσα σε αδιαπέραστο από θραύσματα συγκολλημένο κιβώτιο, κατασκευασμένο από χάλυβα πάχους ΙΟ ΜΜ, ανοικτό στη μία πλευρά και στο άνω μέρος. Ο σωλήνας αιωρείται μεταξύ δύο ράβδων διαμέτρου 4 ΜΜ παρεμβαλλομένων δι'οπών διατρηθεισών στα έναντι τοιχώματα του κιβωτίου, και ακολούθως θερμαίνεται δια τεσσάρων καυστήρων TECLU (διαμέτρου εξωτερικού σωλήνος Ι9 ΜΜ), του κατωτάτου καυστήρος θερμαίνοντος τον πυθμένα του σωλήνα, των δεξιού και αριστερού καυστήρων θερμαινόντων τα τοιχώματα, και του οπισθίου καυστήρος το κλείσιμον. Οι σωλήνες του καυστήρος παρεμβάλλονται και ασφαλίζονται (στηρίζονται) σε οπές διαμέτρου 20 ΜΜ διατρηθείσες στα τοιχώματα του αδιαπέραστου από

θραύσματα κιβωτίου. Οι καυστήρες ανάβονται ταυτόχρονα 3154
με βοηθητικό αναβλυστήρα και ρυθμίζονται σε άφθονη (Συνεχίζεται)
παροχή αέρος εις τρόπον ώστε οι κορυφές των κυανών εσωτερικών κώνων των φλογών να ακουμπούν σχεδόν τον σωλήνα.

Η όλη εγκατάστασις περιέχεται σε τράπεζα δοκιμής χωριζομένην από τον χώρο της παρατηρήσεως δι'ισχυρού τοίχου εις τον οποίον έχουν διευθετηθεί οπές διοπτεύσεως προστατευόμενες από ωπλισμένην ύαλον και χαλύβδινες πλάκες. Το αδιαπέραστο από θραύσματα κιβώτιο τοποθετείται με την ανοικτή του πλευρά προς τον χώρο παρατηρήσεως, με προσοχήν όπως οι φλόγες μη επηρεασθούν από ρεύματα. Εξοπλισμός δια την εξαγωγήν αερίων αποσυνθέσεως και καπνού εκ της εκρήξεως εγκαθίσταται στο δοκιμαστήριον.

Εάν δημοτικόν αέριον δεν διατίθεται, προπάνιον μπορεί να χρησιμοποιηθεί δια θέρμανσιν. Στην περίπτωση αυτή το προπάνιο λαμβάνεται από βιομηχανικόν κύλινδρον εφοδιασμένον με ρυθμιστή πιέσεως (υδροδείκτης 500 ΜΜ), διά τινος μετρητού (μετρητού τύπου φυσητήρος με ικανότητα 2 λιτρών σε υδροδείκτη 500 ΜΜ), και διανέμεται δια σωληνώσεως εις τους τέσσερες καυστήρες, οι αναβλυστήρες των οποίων έχουν διάμετρον 0.8 ΜΜ. Ο καθένας καυστήρας καταναλίσκει όχι περισσότερο από περίπου Ι.7 λίτρα προπανίου ανά λεπτόν. Οι κύλινδροι αερίου και ο μετρητής τοποθετούνται έξω από τη τράπεζα δοκιμής.

(4) Διαδικασία (μέθοδος) ελέγχου:-

3154 (Συνεχίζεται)

Ο σωλήνας πληρούται με την εκρηκτικήν ύλην μέχρι 15 ΜΜ της κορυφής, τ.έ. σε ύψος 60 ΜΜ. Εάν η ύλη είναι υπό μορφήν κόνεως συμπιέζεται δια προσεκτικού και ελαφρού ανοίγματος του σωλήνα και ακολούθως δι' ελαφράς πιέσεως με μικρή ξύλινη ράβδο. Εάν η ύλη είναι υπό μορφήν ζελατίνης τοποθετείται στον σωλήνα με την βοήθεια σπάτουλας· μετά από κάθε προσθήκη η ύλη πιέζεται ελαφρά προς τα κάτω με μια μικρή ξύλινη ράβδο προς εξάλειψιν των απορροφήσεων αέρος. Όταν η ποσότης της τεθείσης ύλης ζυγισθεί, το κοχλιωτό κολλάρο περνιέται στον σωλήνα, η απαιτουμένη διάτρητη πλάκα τοποθετείται στη θέση της, και το παξιμάδι σφίγγεται με το χέρι. Ουσιώδες είναι να βεβαιούμεθα ότι μέρος της ύλης δεν έχει παγιδευθεί μεταξύ της φλάντζας και της πλάκας, ή εις τις κοχλιώσεις. Ο σωλήνας τοποθετείται ακολούθως σε μέγγενη με θωράκιση κατά της εκρήξεως εξ αμελείας, και το παξιμάδι σφίγγεται πλήρως με κλειδί. Ο σωλήνας, ήδη έτοιμος δια τον έλεγχον, αιωρείται μεταξύ των δύο ράβδων στο αδιαπέραστο από θραύσματα κιβώτιο· ο βοηθητικός αναβλυστήρας ανάβεται, και όταν η τράπεζα δοκιμής κλεισθεί ανοίγεται η παροχή του αερίου στους τέσσερες καυστήρες. Ταυτοχρόνως χρονομέτρης τίθεται σε λειτουργία για να μετρήσει τον χρόνον T_1 ο οποίος περνά μεταξύ του άναμματος των καυστήρων και της αναφλέξεως της ύλης, όπως εικονίζεται δια της διαφυγής φλόγας εκ της οπής της πλάκας, και τον χρόνον T_2 μεταξύ του άναμματος και της εκρήξεως. Μετά το πέρας του ελέγχου η παροχή αερίου κλείνεται και

το σύστημα εξαγωγής στην τράπεζα της δοκιμής τίθεται σε λειτουργία· κανείς δεν πρέπει να εισέλθει στην τράπεζα δοκιμής εάν δεν παρέλθει αρκετός χρόνος. 3I54 (Συνεχίζεται)

Δια να είμεθα βέβαιοι ότι ο μηχανισμός θερμάνσεως λειτουργεί ικανοποιητικά, των δοκιμών πρέπει να προηγείται "εικονική λειτουργία" (DUMMY RUN).

(5) Ερμηνεία των αποτελεσμάτων:

Ο σχετικός βαθμός ευαισθησίας μιάς ύλης προς τη θέρμανση στο χαλύβδινο σωλήνα εκφράζεται δια της οριακής διαμέτρου, δηλαδή της οπής με τη μεγαλύτερη διάμετρο σε χιλιοστόμετρα με την οποία, σε τρείς δοκιμές, ο ένας τουλάχιστον σωλήνας εκρήγνυται, τ.έ. θραύεται σε τουλάχιστον τρία τεμάχια. Η θερμική ευαισθησία αυξάνει με αύξησιν της οριακής διαμέτρου και με μείωσιν των χρόνων T_1 και T_2.

Οργανικά υπεροξείδια (πλην των υγροποιουμένων ή αραιουμένων με πτητικές ύλες, πχ. ύδωρ) δια τα οποία η οριακή διάμετρος δεν είναι μικρότερη των 2.0 MM πρέπει να θεωρούνται ως εκρηκτικές ύλες της Κλάσεως Ια (βλέπε επίσης σημείωσιν εις περιθώριον 2550).

(ε) Έλεγχος θερμάνσεως σε αγγείο (σκεύος) πιέσεως με διάτρητον πλάκα και διαρρηκτικόν δίσκον (έλεγχος αγγείου πιέσεως) (βλέπε περιθώριον 3I12)

(I) Δι'οργανικά υπεροξείδια, οι έλεγχοι οι εικονιζόμενοι εις (α), (β) και (δ) μπορούν να συμπληρωθούν από τον παρακάτω έλεγχον.

(2) Περιγραφή του αγγείου (σκεύους) πιέσεως (εικόνες 4 έως 6):

Οι Εικόνες 4 έως 6 και οι κατάλληλοι τίτλοι δίδουν 3Ι54 τις λεπτομέρειες της χρησιμοποιηθείσης συσκευής και τις διαστάσεις και τα υλικά των συστατικών μερών. (Συνεχίζεται)

Δέον να σημειωθεί ότι προβλέπεται η χρήσις 24 πλακών, οι δε διάμετροι των οπών είναι: Ι.0-Ι.2-Ι.5-2.0-2.5-3.0-3.5-4.0-4.5-5.0-5.5-6.0-7.0-8.0-9.0-Ι0.0-ΙΙ.0-Ι2.0-Ι4.0-Ι6.0-Ι8.0-20.0-22.0 και 24.0 ΜΜ. Οι πλάκες αυτές έχουν πάχος 2.0 ΜΜ ± 0.2 ΜΜ.

Ο διαρρηκτικός δίσκος (δίσκος εκρήξεως) κόβεται με τρύπανο από φύλλο λευκού ορειχάλκου πάχους 0.05 ΜΜ αντέχον σε πίεση εκρήξεως των 5.4±0.5 KG/CM^2 σε κανονική θερμοκρασία. Μη-πυρακτωμένος κυλινδροσυμπιεστός λευκός ορείχαλκος περιέχων 67 % εκατόν χαλκόν είναι κατάλληλος.

(3) Μηχανισμός θερμάνσεως:

Το αγγείον πιέσεως θερμαίνεται δια βουτανίου τεχνικής διαβαθμίσεως (TECHNICAL-GRADE) λαμβανόμενον από κύλινδρον εφοδιασμένον με ρυθμιστήν πιέσεως. Η απόδοσις της θερμότητας πρέπει να είναι περίπου 2,700 KCAL/H (ωριαίως). Με καθαρή θερμική τιμή 27,000 $KCAL/M^3$ (εις Ι ATM και 20°C), ο ρυθμός της παροχής αερίου πρέπει να είναι περίπου Ι00 L/H (ωριαίως). Χρησιμοποιείται καυστήρ βουτανίου TECLU. Η ποσότης του χρησιμοποιηθέντος αερίου μετράται με περιστροφόμετρο ή με άλλον μετρητήν και ρυθμίζεται με τη βαλβίδα του καυστήρος.

Αντί βουτανίου, δημοτικόν αέριον ή προπάνιον μπορεί να χρησιμοποιηθεί με κατάλληλον καυστήρα, υπό τον όρον ότι η εις θερμότητα απόδοσις του αερίου είναι ομοίως περί-

που 2,700 KCAL/H (π.χ., στη περίπτωση του δημοτικού αερίου 3I54 με καθαρά θερμική τιμή 4,050 KCAL/M^3 θά ήταν απαραίτη- (Συνεχίζεται)
τη η παροχή περίπου 670 I/H).

Ο κύλινδρος αερίου και το περιστροφόμετρο ή άλλος μετρητής πρέπει να ευρίσκονται εκτός της περιοχής ελέγχου.

(4) Διαδικασία (μέθοδος) Ελέγχου:

Για κανονική δοκιμή (έλεγχο), IO γραμμάρια της ύλης τοποθετούνται εις το αγγείον (σκεύος). Στην περίπτωση ύλης η ευαισθησία της οποίας είναι άγνωστη αρχίζομε με μικρότερες ποσότητες: κάνομε αρχή με I γραμμάριο, ακολούθως (εάν είναι δυνατόν) 5 γραμμάρια, και τελικά IO γραμμάρια. Ο πυθμένας του αγγείου πρέπει να είναι ομοιόμορφα καλυμμένος με την ύλη. Ο διαρρηκτικός δίσκος, η κεντρική διάτρητη πλάκα και ο δακτύλιος συγκρατήσεως τοποθετούνται εν συνεχεία. Τα πτερυγιωτά περικόχλια (παξιμάδια) σφίγγονται με το χέρι και το περικόχλιο (παξιμάδι) κιβωτίου με κλειδί. Ο διαρρηκτικός δίσκος καλύπτεται με αρκετό νερό δια να τον διατηρεί σε χαμηλή θερμοκρασία.

Το αγγείο (σκεύος) πιέσεως τοποθετείται σε τρίποδον (με διάμετρον εσωτερικού δακτυλίου 67 MM) που είναι εσωτερικά ένας προστατευτικός κύλινδρος. Ο δακτύλιος στον πυθμένα του αγγείου παραμένει (κάθεται) στο τρίποδο.

Ο καυστήρας ανάβεται, η ροή του αερίου ρυθμίζεται στον απαιτούμενο ρυθμό, και η ροή του αέρος ρυθμίζεται κατά τέτοιο τρόπο ώστε το χρώμα της φλόγας να είναι κυανούν και ο εσωτερικός κώνος του φωτός της φλόγας κυα-

νούς. Το τρίποδον πρέπει να έχει τέτοιο ύψος ώστε ο 3154
εσωτερικός κώνος να ακουμπά τον πυθμένα του αγγείου. Ακολούθως ο καυστήρας τοποθετείται κάτω από το αγγείο μέσω οπής του προστατευτικού κυλίνδρου.

Ο χώρος των δοκιμών (ελέγχων) πρέπει να εξαερίζεται πολύ καλά η δε είσοδος εις αυτόν να απαγορεύεται διαρκούσης της δοκιμής. Το αγγείον παρατηρείται από έξω είτε με καθρέφτες δι'οπής διοπτεύσεως στον τοίχο, εφοδιασμένης με οπλισμένην ύαλον.

Ο χρόνος T_I μεταξύ της ενάρξεως της θερμάνσεως και της ενάρξεως της αντιδράσεως (φλόγα, παραγωγή καπνού, σφύριγμα) και ο χρόνος T_2 μέχρι της λήξεως της αντιδράσεως (έκρηξις, λήξις σφυρίγματος, ή σβύσιμον της φλόγας) μετρούνται. Το αγγείον ακολούθως ψύχεται με νερό και καθαρίζεται.

(5) Ερμηνεία αποτελεσμάτων:

Ο σχετικός βαθμός ευαισθησίας μιάς ύλης στη θέρμανση στο αγγείο πιέσεως εκφράζεται δια της οριακής διαμέτρου, δηλαδή της διαμέτρου της μεγαλυτέρας οπής σε χιλιοστόμετρα με την οποία ο διαρρηκτικός δίσκος θραύεται τουλάχιστον μία φορά σε τρείς δοκιμές ενώ παρέμεινε ανέπαφος κατά τη διάρκεια τριών δοκιμών με την επομένη μεγαλύτερη διάμετρο.

Η θερμική ευαισθησία αυξάνει με την αύξηση της οριακής διαμέτρου και τη μείωση των χρόνων T_I και T_2.

Οργανικά υπεροξείδια (πλην των υγροποιουμένων ή αραιουμένων με πτητικές ύλες, π.χ. ύδωρ) δια τα οποία η οριακή διάμετρος δεν είναι μικρότερη των 9 ΜΜ πρέπει

να θεωρούνται ως εκρηκτικές ύλες της Κλάσεως Ια (βλέπε επίσης σημείωμα στο περιθώριο 2550).

Δοκιμή ευαισθησίας σε πρόσκρουση (βλέπε περιθώρια 3I03 έως 3II0 και 3II2) 3I55

(α) Δοκιμή ρίψεως-σφύρας (FALL-HAMMER TEST) I (Εικόνες 7 και 8) κατά βασικού (υπό έλεγχον) εκρηκτικού

(I) Το εκρηκτικόν, αφού ξηρανθεί όπως περιγράφεται στο περιθώριο 3I50, τοποθετείται υπό την ακόλουθη μορφή:

(α) Συμπαγή εκρηκτικά ρινίζονται αρκετά λεπτά δια να διέλθουν χωρίς κατάλοιπα από κόσκινο πλέγματος I MM· μόνο τα επί του κόσκινου πλέγματος 0.5 MM κρατούνται για την επόμενη δοκιμή·

(β) Εκρηκτικά υπό μορφήν κόνεως διέρχονται από κόσκινο πλέγματος I MM· ό,τι διέλθει από το κόσκινο αυτό κρατείται για τη δοκιμή προσκρούσεως·

(γ) Πλαστικά και ζελατινώδη εκρηκτικά σχηματίζονται σε μικρά, περίπου σφαιρικά διαστήματα (καταπότια) ζυγίζοντα μεταξύ 25 και 35 MG.

(2) Η συσκευή δια την διεξαγωγήν της δοκιμής αποτελείται από ένα βάρος, το οποίον, ολισθαίνον μεταξύ δύο ράβδων, είναι σε θέση να ρυθμισθεί να πέσει από προκαθορισμένο ύψος και να αφεθεί ευχερώς να πέσει. Το βάρος δεν πέφτει απ'ευθείας στο εκρηκτικό, αλλά πέφτει πάνω σε επικρουστήρα D που κάθεται πάνω σε άκμονα (αμόνι) E, και οι δύο (επικρουστήρας και αμόνι) από πολύ σκληρό χάλυβα, και ολισθαίνει ευχερώς στον οδηγό δακτύλιο F (Εικών 7). Το δείγμα του εκρηκτικού τοποθετείται μεταξύ του επικρουστήρος και του άκμονος. Ο επικρουστήρας, ο άκμονας και ο οδηγός

δακτύλιος ευρίσκονται σε προστατευτικό κύλινδρο C κατα- 3155
σκευασμένον από σκληρό χάλυβα και τοποθετημένον πάνω (Συνεχίζε-
σε χαλύβδινο συγκρότημα Β εντοιχισμένο σε τσιμεντένιο ται)
συγκρότημα Α (Εικών 8). Αι διαστάσεις των διαφόρων εξαρ-
τημάτων δίδονται στις εικόνες.

(3) Αι δοκιμαί εκτελούνται με τη σειρά επί του υπό έλεγχον εκρηκτικού και επί του βασικού (CONTROL) εκρηκτικού ως εξής:-

(α) Το εκρηκτικόν, υπό μορφήν σφαιρικού δισκίου (καταποτίου) (εάν είναι πλαστικόν) ή μετρούμενον με κοχλιάριο μετρήσεως χωρητικότητας 0.05 CM^3 (εάν είναι υπό μορφήν κόνεως ή ρινισμάτων), τοποθετείται με προσοχήν μεταξύ του επικρουστήρος και του άκμονος, αι επιφάνειαι επαφής των οποίων δεν πρέπει να είναι υγραί. Η θερμοκρασία του περιβάλλοντος δεν πρέπει να υπερβαίνει τους 30°C ούτε να είναι μικρότερη των 15°C. Κάθε δείγμα του εκρηκτικού πρέπει να υποβάλεται σε μία πρόσκρουση μόνον. Μετά από κάθε έλεγχο (δοκιμή) ο επικρουστήρας, ο άκμονας και ο οδηγός δακτύλιος πρέπει να καθαρίζονται προσεκτικά, αφαιρουμένου κάθε υπολείμματος του εκρηκτικού.

(β) Αι δοκιμαί πρέπει να αρχίζουν από ύψη ρίψεως που ήθελαν ενδεχομένως προκαλέσει πλήρη έκρηξιν των υπό δοκιμήν εκρηκτικών. Το ύψος ρίψεως μειούται βαθμηδόν μέχρις ότου η έκρηξις είναι ατελής ή ουδεμία έκρηξις γίνεται. Στο ύψος αυτό διεξάγονται τέσσερες δοκιμές προσκρούσεως, και εάν τουλάχιστον μία παράγει ορισμένην έκρηξιν, τέσσερες επί πλέον δοκιμές ρίψεως από ελαφρώς χα-

μηλότερον ύψος διεξάγονται, και ούτω καθ' εξής. 3155

(γ) Το χαμηλότερον ύψος ρίψεως το προκαλούν ορισμένην έκρηξιν σε σειρά τουλάχιστον τεσσάρων δοκιμών στο ύψος αυτό λαμβάνεται ως το όριον ευαισθησίας. (Συνεχίζεται)

(δ) Η δοκιμή προσκρούσεως διεξάγεται κανονικώς με ρίψιν βάρους 2 KG· εν τούτοις, εάν η ευαισθησία στη πρόσκρουση με το βάρος αυτό απαιτεί ύψος ρίψεως μεγαλύτερον των 60 έως 70 CM, η δοκιμή προσκρούσεως πρέπει να διεξαχθεί με βάρος 5 KG.

(β) Δοκιμή ρίψεως-σφύρας (FALL-HAMMER TEST) II (Εικόνες 9 έως 13) με αριθμητικήν διατύπωσιν της ευαισθησίας σε πρόσκρουση (ενέργεια προσκρούσεως σε KGM)

(I) Η δοκιμή η περιγραφομένη στο (α) μπορεί να αντικατασταθεί από τη παρακάτω δοκιμή.

(2) Περιγραφή της συσκευής:

Τα βασικά εξαρτήματα της συσκευής είναι ο μηχανισμός προσκρούσεως (βλέπε υπό στοιχείον (4)), το χυτό χαλύβδινο συγκρότημα με τη βάση, ο άκμονας, η στήλη, οι οδηγοί και η σφύρα με μηχανισμόν αφέσεως (Εικών 9). Ένας χαλύβδινος άκμονας (διαμέτρου 100 MM, ύψους 70 MM) βιδώνεται στο χαλύβδινο συγκρότημα (230 X 250 X 200 MM) χυτό σε ένα σώμα με τη βάση (450 X 450 X 60 MM). Βιδωμένο στο πίσω μέρος του χαλυβδίνου συγκροτήματος είναι το στήριγμα στο οποίο στερεώνεται η στήλη από χαλύβδινο σωλήνα (SEAMLESS-DRAWN STEEL TUBE) (εξωτερικής διαμέτρου 90 MM, εσωτερικής διαμέτρου 75 MM). Οι δύο οδηγοί στερεώνονται στη στήλη μέσω τριών εγκαρσίων δοκών και είναι εφοδιασμένοι με οδοντωτή ράβδο δια να περιο-

ρυθεί η αναπήδησης της σφύρας και με μια κινητή βαθμο- 3155
νομημένη κλίμακα για τη ρύθμιση του ύψους της ρίψεως (Συνεχίζεται)
(πτώσεως). Ο μηχανισμός συγκρατήσεως και αφέσεως της
σφύρας ρυθμίζεται μεταξύ των οδηγών και συσφίγγεται σ'
αυτούς δια της λειτουργίας περικοχλίου μετά μοχλού (LEVER-
NUT) πάνω σε δύο σιαγόνες. Η συσκευή είναι έτσι στερεωμέ-
νη επί συμπαγούς συγκροτήματος εκ μπετόν (600 Χ 600 Χ
600 ΜΜ) δια τεσσάρων κοχλιών προσδέσεως σφραγισμένων στο
μπετόν ώστε η βάσις να είναι σε επαφή με το μπετόν καθ'ό-
λον τον χώρον αυτού και οι οδηγοί να είναι ακριβώς κάθετοι.
Ξύλινο αντέχον στα θραύσματα κιβώτιον το οποίον έχει επέν-
δυσιν δια μολύβδου πάχους 2 ΜΜ και ανοίγει ευκόλως περι-
βάλλει τη συσκευή μέχρι του επιπέδου της εγκαρσίας δοκού
του πυθμένος. Ένας εξαγωγεύς αερίων παρέχει τη δυνατότητα
στα αέρια της εκρήξεως και την σκόνη ανα αφαιρεθούν από την
ύλην.

(3) Περιγραφή των σφυρών-ρίψεως (FALL-HAMMERS):-

Κάθε σφύρα είναι εφωδιασμένη με δύο αύλακες εμφρά-
ξεως (POSITIONING GROOVES) που την συγκρατούν μεταξύ των
οδηγών καθώς πίπτει και με ένα αξονίσκο αιωρήσεως, μία
δυναμένη να αφαιρεθεί κεφαλή προσκρούσεως και μία αρπάγη
αναπηδήσεως (REBOUND CATCH) που βιδώνονται στη σφύρα (Ει-
κών ΙΙ). Η κεφαλή προσκρούσεως είναι από σκληρό χάλυβα
(HRC 60 έως 63)· η κατωτάτη διάμετρός της είναι 25 ΜΜ·
έχει ένα ωμίδιο το οποίο την εμποδίζει από του να πιεσθεί
στη σφύρα δια της προσκρούσεως.

Υπάρχουν τρείς σφύρες διαφορετικού βάρους. Η σφύ-

ρα I-KG (ενός κιλού) χρησιμοποιείται για λίαν ευπαθείς 3155
ύλες, η σφύρα 5-KG (πέντε κιλών) για ύλες μέσης ευπα- (Συνεχίζε-
θείας (ευαισθησίας) και η σφύρα IO-KG (δέκα κιλών) για ται)
ύλες χαμηλής ευαισθησίας. Οι σφύρες των 5-K6 και IO-KG είναι από ατόφιο και συμπαγή χάλυβα (Τουλάχιστον ST 37-I, συμφώνως προς DIN I7000). Η σφύρα του I-KG πρέπει να έχει βαρύ χαλύβδινο κέντρο φέρον την κεφαλή προσκρούσεως και σχηματίζον με αυτήν την κυρίαν μάζα της σφύρας.

Η σφύρα του I-KG χρησιμοποιείται για ύψη ρίψεων των IO έως 50 CM (ενέργεια προσκρούσεως 0.I εως 0.5 KGM), η σφύρα των 5-KG για ύψη ρίψεων των I5 έως 60 CM (ενέργεια προσκρούσεως 0.75 έως 3 KGM), και η σφύρα των IO-KG για ύψη ρίψεων των 35 έως 50 CM (ενέργεια προσκρούσεως 3.5 έως 5 KGM).

(4) Περιγραφή του μηχανισμού προσκρούσεως:-

Το προς εξέτασιν δείγμα εγκλείεται σε ένα μηχανισμό προσκρούσεως (Εικών II) αποτελούμενον εκ δύο στερεών χαλυβδίνων κυλίνδρων ομοαξονικώς τοποθετημένα το ένα επάνω στο άλλο σε κυλινδρικό οδηγό δακτύλιο κατασκευασμένον ομοίως από χάλυβα. Οι κύλινδροι είναι χαλύβδινοι κατά της τριβής κυλινδροτριβείς και και είναι διαμέτρου IO MM (τύπος με μέση παρέκκλισιν -4 μικρόν δι'ανοχήν εκ -2 μικρόν, τ.έ. διαμέτρου IO $^{-0.003}_{-0.005}$MM), ύψους IO MM, με στιλβωμένες επιφάνειες και κυκλικά άκρα (ακτίς καμπυλότητος 0.5 MM) και σκληρότητα HRC μεταξύ 58 και 65. Ο οδηγός δακτύλιος έχει εξωτερικήν διάμετρον I6 MM, διάμετρον (οπήν) μετ'επικαλύψεως IO $^{0.005}_{0.0I0}$MM και ύψος I3 MM. Κυλινδρικός ελεγκτής οπών μπορεί να χρησιμοποιηθεί δια να ελέγξει την διάμετρο

της οπής εάν είναι εντός των προβλεπομένων ανοχών. Οι 3155
κύλινδροι και ο οδηγός δακτύλιος θα πρέπει να απολι- (Συνεχίζε-
πανθούν με ακετόνην προτού χρησιμοποιηθούν. ται)

Ο μηχανισμός προσκρούσεως τοποθετείται σε ενδιάμε-
διαμέτρου
σο άκμονα/26 ΜΜ και ύψους 26 ΜΜ και κεντράρεται με δακτύ-
λιον στερεώσεως εφωδιασμένον με δακτύλιον με οπάς αερισμού
δια να επιτρέπεται η διαφυγή των αερίων (Εικόνες II και
I2). Κάθε επιφάνεια προσκρούσεως των κυλίνδρων θα χρησι-
μοποιείται μόνον μία φορά εάν λάβει χώραν έκρηξις, ο οδηγός
δακτύλιος δεν θα χρησιμοποιηθεί εκ νέου.

(5) Προετοιμασία των δειγμάτων:-

Οι εκρηκτικές ύλες δοκιμάζονται σε ξηρά κατάστα-
ση. Υι ύλες του περιθωρίου 2I0I, II° έως I4°, δοκιμάζον-
ται όπως παραδίδονται εφ'όσον το εξ νέρό περιεχόμενόν των
συμφωνεί με την τιμήν την οριζομένην υπό του κατασκευαστού.
Εάν το εξ νερό περιεχόμενον είναι υψηλότερο, τα μίγματα
πρέπει να ξηρανθούν προ της δοκιμής μέχρις ότου το εξ υ-
γρασίαν περιεχόμενόν των είναι εκείνο που ορίζεται.

Επιπροσθέτως, στη περίπτωση των στερεών υλών πλήν
των υπό μορφήν πάστας υλών πρέπει να τηρούνται τα κάτωθι
σημεία:-

(α) ύλες υπό μορφήν κόνεως κοσκινίζονται (πλέγμα κοσκί-
νου 0.5 ΜΜ)· κάθε τι το οποίον διέρχεται δια του κο-
σκίνου χρησιμοποιείται δια την δοκιμήν·

(β) ύλες οι οποίες έχουν συμπιεσθεί, χυθεί ή άλλως ενο-
ποιηθεί θραύονται σε μικρά τεμάχια και κοσκινίζονται·
τα (απο)κοσκινίδια διαμέτρου από 0.5 ΜΜ έως I.0 ΜΜ
χρησιμοποιούνται για τη δοκιμή.

(6) Διαδικασία Ελέγχου (Δοκιμής):- 3155 (Συνεχίζεται)

Προκειμένου περί υλών υπό μορφήν κόνεως, λαμβάνεται δείγμα με κυλινδρικόν μέτρον ικανότητας/χωρητικότητας 40 MM^3 (διάμετρος 3.7 MM X 3.7 MM). Για όλες υπό μορφήν πάστας, κυλινδρικός σωλήνας αυτής χωρητικότητας χρησιμοποιείται, ο οποίος βυθίζεται στη μάζα. Μετά την ισοπέδωσιν του περισσεύματος του εκτεινομένου πέραν του μέτρου, το δείγμα εξάγεται με τη βοήθεια ξυλίνης ράβδου. Δι'εκρηκτικά υγρά μία λεπτά-εξηλασμένη πιπέττα (σιφόνι) 40 MM^3 χρησιμοποιείται.

Το δείγμα τοποθετείται πάνω στον ανοικτό μηχανισμό προσκρούσεως, ο οποίος είναι ήδη στον δακτύλιο στερεώσεως στον ενδιάμεσο άκμονα, και στη περίπτωση υλών υπό μορφήν κόνεως ή πάστας ο άνω χαλύβδινος κύλινδρος πιέζεται ελαφρώς και προσεκτικώς με τον δείκτην του χεριού μέχρις ότου ακουμπίσει το δείγμα χωρίς να το επιπεδώνει. Στην περίπτωση υγρών υλών ο άνω χαλύβδινος κύλινδρος πιέζεται προς τα κάτω με τη βοήθεια της κλίμακος βάθους βερνιέρου βαθυμέτρου μέχρις ότου απέχει I MM από τον κάτω κύλινδρον, και κρατείται στη θέση αυτή με ελαστικό δακτύλιο προηγουμένως ολισθήσαν εις τούτον. (Εικών I3).

Ο μηχανισμός τοποθετείται στο κέντρον επί του άκμονος, το προστατευτικό ξύλινο κιβώτιον κλείεται, η σφύρα αιωρουμένη στο απαιτούμενο ύψος αφήνεται (ελευθερώνεται), και ο εξαγωγέας αερίων τίθεται ακολούθως σε λειτουργία. Η δοκιμή εκτελείται έξι φορές σε κάθε ύψος ρίψεως (πτώσεως).

(7) Ερμηνεία των αποτελεσμάτων:-

Ερμηνεύοντες τα αποτελέσματα της δοκιμής ευαι- 3Ι55
σθησίας στη πρόσκρουση, διάκρισης γίνεται μεταξύ (Συνεχίζε-
"ουδεμία αντίδρασις" "αποσύνθεσις" (χωρίς φλόγα ή ται)
έκρηξιν· δυναμένη να αναγνωρισθεί δι' αλλαγής χρώματος
ή οσμής) και "έκρηξις" (με αδύνατη έως ισχυρή έκρηξη */).
Ο βαθμός ευαισθησίας σε πρόσκρουση μιας ύλης μετράται
δια καθορισμού του βάρους της σφύρας σε κιλά και του
κατωτάτου ύψους ρίψεως σε CM με την οποίαν λαμβάνει χώ-
ρα έκρηξις σε τουλάχιστο μία από έξι δοκιμές, και της
προκυπτούσης ενεργείας προσκρούσεως σε KGM. Η ευαισθη-
σία της ύλης στην πρόσκρουση ούσα μεγαλυτέρα, χαμηλοτέ-
ρα είναι η ενέργεια προσκρούσεως σε KGM.

Δοκιμή ευαισθησίας στην τριβή (βλέπε περιθώρια 3Ι03 έως 3Ι56
3ΙΙΟ και 3ΙΙ2)

(α) Δοκιμή τριβής σε ιγδίον (γουδί) εκ πορσελάνης

(Ι) Το εκρηκτικόν ξηραίνεται σε χλωριούχο ασβέ-
στιο. Δείγμα του εκρηκτικού συμπιέζεται και αλέθεται
(τρίβεται) σε αβερνίκωτο ιγδίον (γουδί) εκ πορσελάνης με γου-
δοχέρι, επίσης αβερνίκωτο. Το ιγδίον (γουδί) και γουδο-
χέρι πρέπει να έχουν θερμοκρασίαν περίπου Ιο βαθμούς με-
γαλύτερη της θερμοκρασίας του περιβάλλοντος (Ι5° έως
30°C).

(2) Τα αποτελέσματα της δοκιμής συγκρίνονται
με τα επιτευχθέντα με το βασικό (ελέγχου) εκρηκτικό
(πρότυπο εκρηκτικό), και ταξινομούνται ως παρακάτω:

Ι.- ουδέν αποτέλεσμα·

2.- αδύνατος συμπτωματικός σπινθηρισμός·

3.- συχνός σπινθηρισμός ή πολύ έντονος συμπτωματικός σπινθηρισμός. 3156 (Συνεχίζεται)

ο/ Για μερικές ύλες υπάρχει "ανάφλεξις χωρίς έκρηξη". Η αντίδρασις αυτή, εν τούτοις, θεωρείται ως έκρηξις (και χαρακτηρίζεται εκ των εντός των εισαγωγικών όρων) διότι συνεπάγεται ολόκληρον το δείγμα και έκρηξις μπορεί επίσης να λάβει χώραν υπό ιδίας συνθήκας.

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(3) Εκρηκτικά τα οποία, κατόπιν δοκιμής, δίδουν το αποτέλεσμα το αναφερόμενον εις Ι. πρέπει να θεωρούνται ως πρακτικώς μη ευπαθή εις την τριβήν· εάν δίδουν το αποτέλεσμα το αναφερόμενον εις 2. πρέπει να θεωρούνται ως μετρίως ευαίσθητα εις την τριβήν· εάν δίδουν το αποτέλεσμα το αναφερόμενον εις 3. πρέπει να θεωρούνται ως πολύ ευαίσθητα εις την τριβήν.

(β) Έλεγχος (δοκιμή) με τη συσκευή τριβής (Εικόνες Ι4 και Ι5)

(Ι) Η δοκιμή η περιγραφομένη εις (α) μπορεί να αντικατασταθεί δια της εξής δοκιμής:

(2) Περιγραφή της συσκευής:

Η συσκευή τριβής κατασκευάζεται από βάσιν χυτοχάλυβος επί της οποίας ο κατάλληλος μηχανισμός τριβής, αποτελούμενος από σταθερόν γόμφον εκ πορσελάνης και κινητήν πλάκα εκ πορσελάνης (Εικών Ι4), μοντάρεται. Η πλάκα εκ πορσελάνης φέρεται επί κινητού συστήματος το οποίον λειτουργεί επί δύο οδηγών. Ανοίγοντες τον διακόπτην (πλήκτρον-ωθήσεως) το κινητόν σύστημα μετακινείται υπό ηλεκτρικού κινητήρος μέσω διωστήρος, εκκεντρικού δίσκου και καταλλή-

λου μηχανισμού κατά τοιούτον τρόπον ώστε η πλάκα εκ 3156
πορσελάνης να κινείται πίσω-μπρός μόνο μία φορά (Συνεχίζεται)
κάτωθι του γόμφου εκ πορσελάνης, της αποστάσεως της διαδρομής ούσης 10 ΜΜ. Ο συγκρατητής του γόμφου περιστρέφεται επί άξονος εις τρόπον ώστε ο εκ πορσελάνης γόμφος να μπορεί να αλλαγεί· εκτείνεται διά τινος βραχίονος φορτώσεως με έξι εγκοπές δι' ανάρτησιν βάρους. Η ισορροπία εις την θέσιν "μηδέν" (χωρίς βάρη) επιτυγχάνεται δια ρυθμίσεως αντιβάρου. Όταν χαμηλώσωμε (κατεβάσωμε) τον συγκρατητή του γόμφου επί της πλάκας εκ πορσελάνης ο επιμήκης άξων του εκ πορσελάνης γόμφου είναι κάθετος επί της άνω επιφανείας της πλάκας. Ένα από τα βάρη κρέμεται μέσω ενός δακτυλίου και αγκίστρου εις την κατάλληλη εγκοπή· το επί του γόμφου φορτίο μπορεί να ποικίλει από 0.5 έως 36 ΚΓ.

(3) Περιγραφή των εκ πορσελάνης πλακών και γόμφου:

Αι επίπεδοι εκ πορσελάνης πλάκες κατασκευάζονται από καθαρή τεχνική πορσελάνη και έχουν τις παρακάτω διαστάσεις:- 25 ΜΜ Χ 25 ΜΜ Χ 5 ΜΜ. Προτού πυροδοτηθούν (αναφλεγούν) αι επιφάνειες λειάνσεως καθίστανται ανώμαλες τριβόμενες με σπόγγον. Τα σημεία (ενδείξεις) του σπόγγου είναι σαφώς ορατά.

Οι κυλινδρικοί εκ πορσελάνης γόμφοι κατασκευάζονται επίσης εκ τεχνικής λευκής πορσελάνης· είναι μήκους 15 ΜΜ και διαμέτρου 10 ΜΜ και τα ανώμαλα άκρα τους στρογγυλεύονται, με ακτίνα καμπυλότητος 10 ΜΜ.

Δείγματα των εκ πορσελάνης γόμφων και πλακών της ανωτέρω περιγραφομένης ποιότητας είναι κατατεθειμένα εις BUNDESANSTALT FÜR MATERIALPRÜFUNG, Βερολίνον-DAHLEM, από όπου μπορούν να ληφθούν οι διευθύνσεις των κατασκευαστών. 3156 (Συνεχίζεται)

Επειδή η φυσική μη-κατεστραμένη τραχύτης των πλακών και κόμβων αποτελεί ουσιώδη προϋπόθεση για την αντίδραση της εκρηκτικής ύλης, κάθε τμήμα της επιφανείας πρέπει να χρησιμοποιείται μόνο μία φορά. Συνεπώς, οι δύο ακραίες επιφάνειες κάθε γόμφου είναι αρκετές για δύο δοκιμές, και οι δύο επιφάνειες τριβής της πλάκας θα χρησιμεύσουν η κάθε μία για τρείς έως έξι περίπου δοκιμές.

(4) Προετοιμασία δειγμάτων:

Η εκρηκτική ύλη δοκιμάζεται σε ξηρά κατάσταση. Οι ύλες του περιθωρίου 2101, 11^{o} έως 14^{o} δοκιμάζονται όπως παραδίδονται εφ'όσον το σε νερό περιεχόμενόν των συμφωνεί με την τιμήν την οριζομένην υπό του κατασκευαστού. Εάν το σε ύδωρ περιεχόμενον είναι μεγαλύτερον, τα μίγματα πρέπει να ξηρανθούν προ της δοκιμής μέχρις ότου το σε υγρασίαν περιεχόμενόν των είναι το οριζόμενον.

Επιπροσθέτως, για στερεές ύλες, πλην των χυλών υπό μορφήν πάστας, πρέπει να τηρούνται τα παρακάτω σημεία:-

(α) ύλες υπό μορφήν κόνεως κοσκινίζονται (πλέγμα κοσκίνου 0.5 MM)· κάθε τι που διέρχεται από το κόσκινο χρησιμοποιείται για τη δοκιμή·

(β) ύλες οι οποίες έχουν συμπιεσθεί, χυθεί ή άλλως ενοποιη-

θεί θραύονται σε μικρά τεμάχια και κοσκινίζονται· κάθε τι το οποίον διέρχεται από το πλέγμα του κοσκίνου 0.5 ΜΜ χρησιμοποιείται για τη δοκιμή. 3156 (Συνεχίζεται)

(5) Διαδικασία (μέθοδος) δοκιμής:

Πλάκα εκ πορσελάνης στερεώνεται στο κινητό σύστημα της συσκευής τριβής κατά τρόπον ώστε οι αύλακες των σημείων του σπόγγου λειτουργούν εγκαρσίως προς την κατεύθυνση της κινήσεως. Η υπό εξέταση ποσότης, περίπου 10 MM^3, λαμβάνεται από ύλης υπό μορφήν κόνης μέσω κυλινδρικού μέτρου (διαμέτρου 2.3 ΜΜ Χ 2.4 ΜΜ)· στην περίπτωση ύλης υπό μορφήν πάστας το δείγμα μετράται υπό κυλινδρικού σωλήνος ο οποίος βυθίζεται στη μάζα. Μετά την επιπέδωση του περισσεύματος του εκτεινομένου πέραν του μέτρου, το δείγμα λαμβάνεται μέσω ξυλίνης ράβδου και τοποθετείται επάνω στη πλάκα εκ πορσελάνης. Ο σταθερά σφιγμένος γόμφος εκ πορσελάνης τοποθετείται επί της σωρευθείσης ποσότητας ως εικονίζεται στην Εικόνα 15· ο βραχίων φορτώσεως φορτώνεται με το απαραίτητον βάρος και τίθεται εις λειτουργίαν το πλήκτρον ώσεως του διακόπτου. Μέριμνα πρέπει να ληφθεί όπως ο γόμφος επικάθεται στο δείγμα και όπως υπάρχει αρκετή ύλη έμπροσθεν αυτού δια να έλθει κάτω από τον γόμφο καθώς κινείται η πλάκα.

(6) Ερμηνεία αποτελεσμάτων:

Ερμηνεύοντες τα αποτελέσματα της δοκιμής, διάκρισις γίνεται μεταξύ "ουδεμία αντίδρασις", "αποσύνθεσις" (αλλαγή χρώματος, οσμή), "ανάφλεξις", "σπινθηρισμός" και "έκρηξις".

Ο σχετικός βαθμός ευαισθησίας ύλης στη τριβή 3I56
μέσα στη συσκευή τριβής όπως περιγράφεται καθορίζε- (Συνεχίζε-
ται (χωρίς να ληφθεί υπ'όψη ο συντελεστής τριβής) ται)
από το μικρότερο επί του γόμφου φορτίο σε KG (κιλά),
με το οποίον λαμβάνει χώραν ανάφλεξις, σπινθηρισμός ή
έκρηξις σε τουλάχιστο μία από έξι δοκιμές. Εν προκειμένω,
ακόμη και η ανάφλεξις και ο σπινθηρισμός θεωρούνται ως
επικίνδυνες αντιδράσεις./Όσο ευαισθησία εκρηκτικής ύλης
στην τριβή είναι μεγαλυτέρα, τόσο μικρότερο το εξακριβού-
μενο επί του γόμφου φορτίο (βάρος φορτώσεως σε σχέση με
το μήκος του γόμφου φορτώσεως).

Εκρηκτικά υγρά και ύλαι υπό μορφήν πάστας δεν
είναι γενικώς ευαίσθητα στη τριβή υπό τας συνθήκας της
δοκιμής αυτής, επειδή λόγω της λιπαντικής επιδράσεως η
παραγομένη ελαφρά επί τριβής θερμότης δεν είναι αρκετή
δια να επάγει ανάφλεξιν. Με τέτοιες ύλες η έλλειψις οιασ-
δήποτε αντιδράσεως δεν είναι ένδειξις ότι η ύλη δεν εί-
ναι ι επικίνδυνος.

Η σταθερότης των προϊόντων των αναφερομένων στο 3I57
περιθώριο 3III πρέπει να ελέγχεται δια συνήθων εργαστη-
ριακών μεθόδων.

<u>Έλεγχος δυναμίτου δι'εξίδρωσιν</u> (βλέπε περιθώ- 3I58
ριον 3I07)

(I) Η συσκευή δια την δοκιμήν του δυναμίτου δι'
εξίδρωσιν (Εικών I6 έως I8) αποτελείται από ένα κοίλο
ορειχάλκινο κύλινδρο. Ο κύλινδρος αυτός, ο οποίος είναι
κλεισμένος στο ένα άκρον από πλάκα του αυτού μετάλλου,

έχει εσωτερική διάμετρο I5.7 ΜΜ και βάθος 40 ΜΜ. 3I58
Φέρει 20 οπές διαμέτρου 0.5 ΜΜ (4 σειρές από 5 οπές) (συνεχίζεται)
επί της περιφερείας. Ορειχάλκινο έμβολον, κυλινδρικόν 48 ΜΜ του συνολικού του μήκους των 52 ΜΜ, μπορεί να ολισθαίνει στον κατακόρυφο κύλινδρο· το έμβολο αυτό του οποίου η διάμετρος είναι I5.6 ΜΜ, φορτώνεται με βάρος 2,220 γραμμαρίων ώστε να παραχθεί πίεσις εξ I.2 KG/CM^2.

(2) Μικρό πώμα δυναμίτου ζυγίζον 5 έως 8 γραμμάρια, μήκους 30 ΜΜ και διαμέτρου I5 ΜΜ, τυλίσσεται σε πολλή λεπτή γάζα και τοποθετείται στον κύλινδρο· το έμβολο και το βάρος φορτώσεως τοποθετούνται ακολούθως επ' αυτού εις τρόπον ώστε ο δυναμίτης να υπόκειται σε πίεση I.2 KG/CM^2.

Σημειούται το χρονικό διάστημα που περνά για την εμφάνισιν των πρώτων ενδείξεων λιπαρών σταγονιδίων (νιτροκυτταρίνης) στις εξωτερικές επιφάνειες των οπών του κυλίνδρου.

(3) Ο δυναμίτης θεωρείται ικανοποιητικός εάν ο διαρρεύσας χρόνος προ της εμφανίσεως των υγρών εξιδρώσεων είναι περισσότερος των 5 λεπτών, της δοκιμής εχούσης διεξαχθεί σε θερμοκρασία I5° έως 25°C.

3I59-
3I99

Έλεγχος (Δοκιμή) Καύσεως

Περί περιθωρίου 3Ι54(γ)

Εικών Ι:- Χαλύβδινο κιβώτιο (σχήμα σελ. 2844)

πάχος τοιχώματος Ι ΜΜ

διαστάσεις σε ΜΜ

(Ι) γενική άποψις

(2) κάθετος τομή

(3) τομή Α-Β

(4) κατασκευή τοιχώματος

(5) κατασκευή βάσεως και καλύμματος

(6) άκρα υποκείμενα σε πτύχωση

Έλεγχος δια θερμάνσεως σε χαλύβδινο σωλήνα με βαθμονομημένη διάτρητο πλάκα

Περί περιθωρίου 3Ι54(δ)

Εικών 2: Χαλύβδινος σωλήνας και εξαρτήματα (σχήμα σελ. 2844)

Εικών 3: Θέρμανσις και προστατευτικός μηχανισμός (σχήμα σελ. 2844)

διαστάσεις σε ΜΜ· δια υλικά κατασκευής

βλέπε περιθώριο 3Ι54(δ) (2) και (3)

(Ι) σωλήνας

(Ια) εξωτερική φλάντζα

(2) κοχλιωτό κολλάρο· χαμηλής-τριβής νήμα

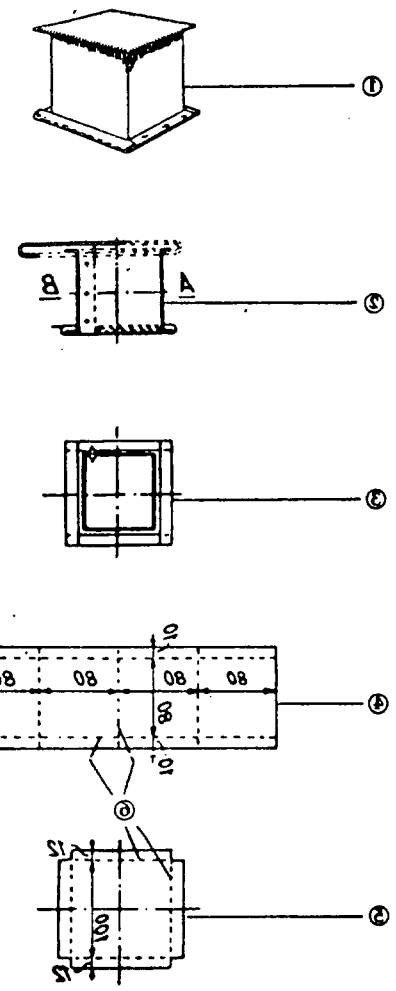
(3) διάτρητος πλάκα α = Ι.0 .... 20.0 διάμετρος

(4) περικόχλιο (παξιμάδι) β = διαμέτρου Ι0 ή 20

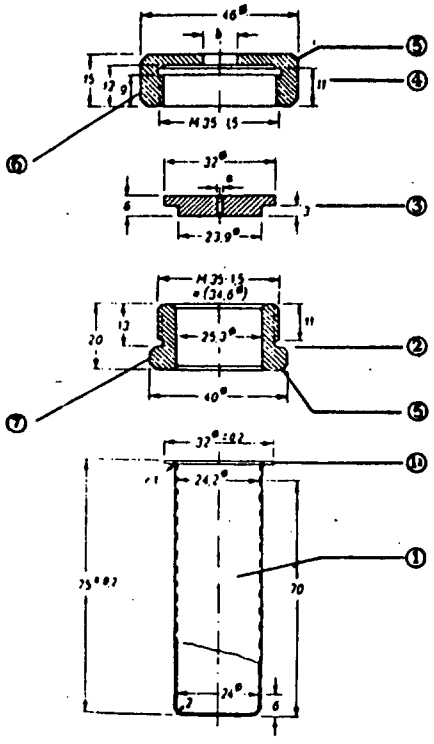
(5) λοξοτμημένη επιφάνεια

(6) 2 επίπεδα (FLATS) για κλειδί μεγέθους 4Ι

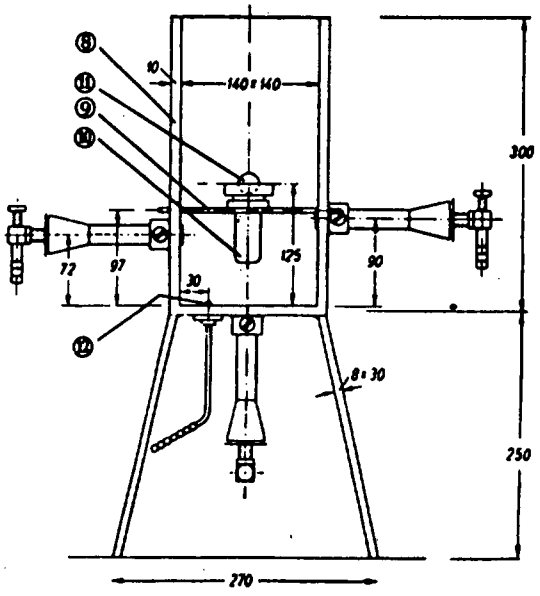
ΕΙΚΟΝΑ 1



ΕΙΚΟΝΑ 2



ΕΙΚΟΝΑ 3



(7) 2 επίπεδα για κλειδί μεγέθους 36

(8) κιβώτιο ανθεκτικό στα θραύσματα

(9) 2 ράβδοι υποστηρίξεως δια τον σωλήνα

(10) συναρμολογημένος σωλήνας

(11) θέσις οπισθίου καυστήρος· οι άλλοι καυστήρες είναι ορατοί

(12) βοηθητικός αναβλυστήρ

Έλεγχος θερμάνσεως σε αγγείον (σκεύος) πιέσεως με διάτρητο πλάκα και διαρρηκτικόν δίσκον

Περί περιθωρίου 3Ι54(ε)

Εικών 4: Συναρμολογημένον αγγείον πιέσεως· κάθετος τομή και σχέδιον (σχήμα σελ. 690)

Εικών 5: Αγγείον (σκεύος) πιέσεως (σχήμα σελ. 690) διαστάσεις σε ΜΜ

(Ι) αγγείον (σκεύος) πιέσεως (ανοξείδωτος χάλυψ)

(Ια) συγκολλημένη ένωσις

(2) περικόχλιο (παξιμάδι) κιβωτίου (πλήρως-κεκορεσμένος δυνάμενος να συγκολληθεί χάλυψ)

(3) κεντρική-διάτρητος πλάκα (ανοξείδωτος χάλυψ)

(4) αδρανής δακτύλιος συγκρατήσεως, πάχους 0.5

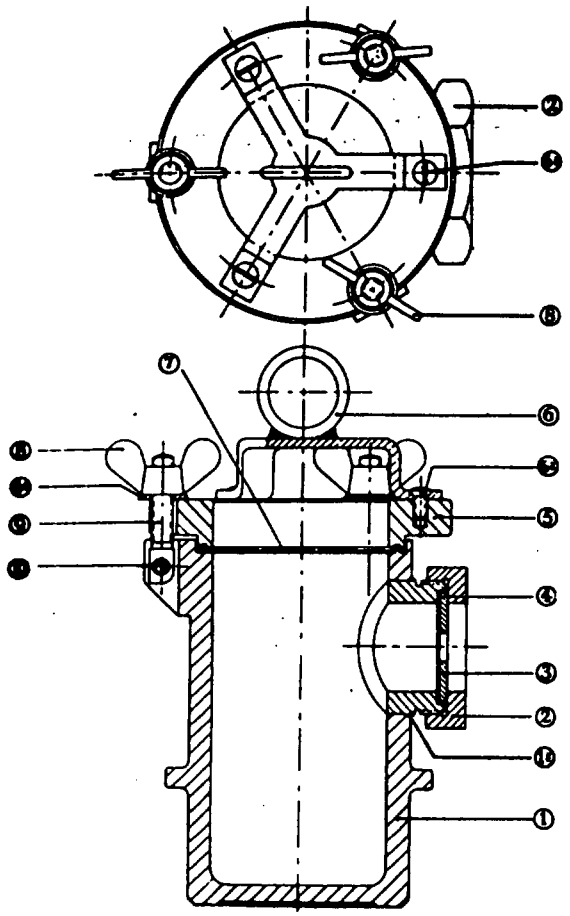
(5) δακτύλιος πιέσεως (ανοξείδωτος χάλυψ)

(6) ορειχάλκινος λαβή

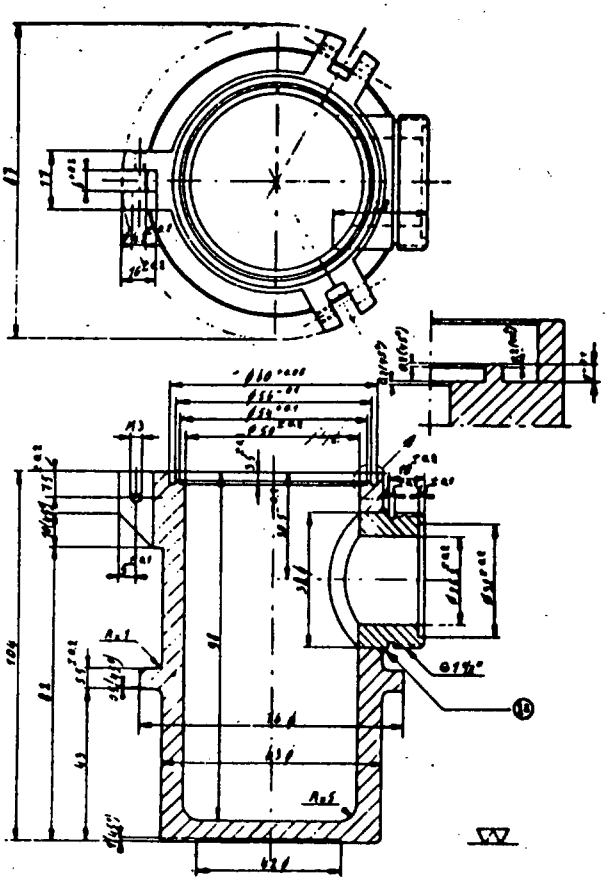
(6α) ορειχάλκινος κοχλίας (υλικό Μ4 Χ 8 DIN 88)

(7) διαρρηκτικός δίσκος (για υλικό βλέπε περιθώριο 3Ι54 (ε) (2))

(8) πλευρικά περικόχλια (παξιμάδια) (ορείχαλκος Μ6 DIN 3Ι5)



ΕΙΚΟΝΑ 4



ΕΙΚΟΝΑ 5

(8α) ροδέλα (ορειχάλκινος 6 DIN I25)

(9) κοχλίας αρτήσεως (οφθαλμοκοχλίας) (ανοξείδωτος χάλυψ)

(I0) αξονίσκος για πλευρικά περικόχλια (ανοξείδωτος χάλυψ)

Σημείωσις:- Ανοξείδωτος χάλυψ έχων την κατωτέρω μέση σύνθεσιν θεωρείται κατάλληλος: CR I8°/o, Ni 9°/o, MN ≤ 2°/o, Si ≤ I°/o, C ≤ 0.I2°/o.

Εικών 6: Δακτύλιος πιέσεως του αγγείου· λεπτομέρειαι καθέτου τομής και κατόψεως (PLAN VIEW)

διαστάσεις σε MM (σχήμα σελ. 2847)

Δοκιμή Ι ρίψεως-σφύρας (FALL-HAMMER)

Περί περιθωρίου 3155(α)

Εικών 7: Μηχανισμός προσπρούσεως, πάθετος τομή

διαστάσεις σε ΜΜ (σχήμα σελ. 2847)

Εικών 8: Βάσις για μηχανισμόν προσπρούσεως, πάθετος τομή

διαστάσεις σε ΜΜ (σχήμα σελ. 2848)

Α.- συμπαγές εκ μπετόν συγκρότημα (BLOCK)

Β.- χαλύβδινο συγκρότημα (BLOCK)

Γ.- προστατευτικός κύλινδρος

Δ.- επικρουστήρ

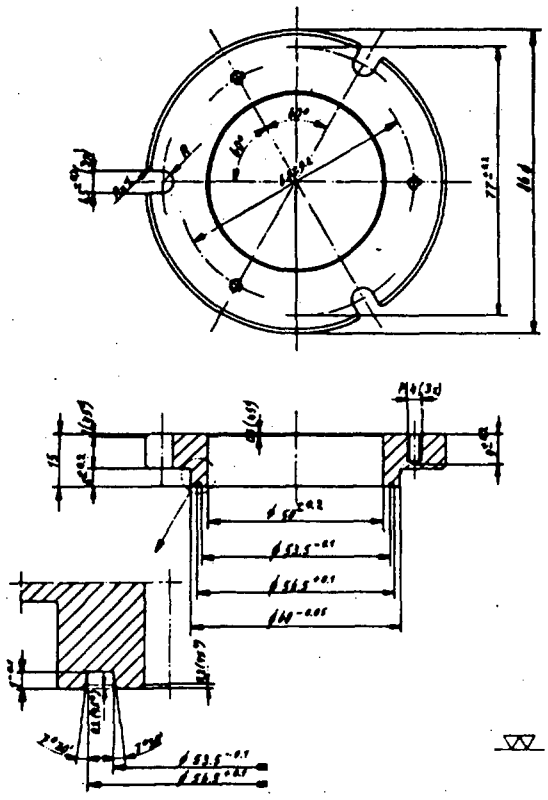
Ε.- άκμωνας(αμόνι)

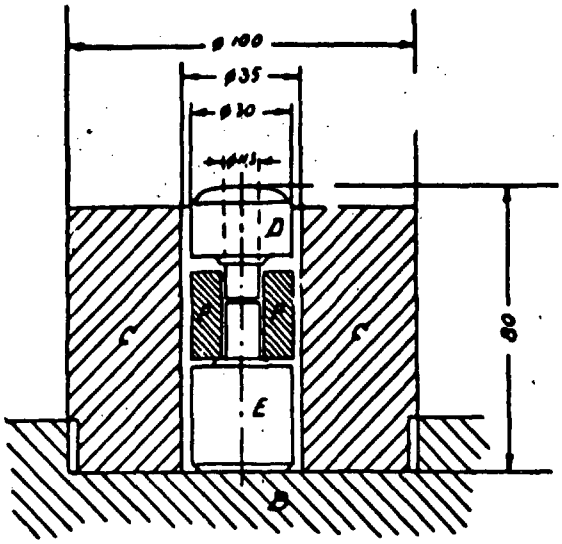
ΣΤ.- οδηγός δακτύλιος

Εικών 9: Ρίψις-σφύρας (FALL-HAMMER) ΙΙ

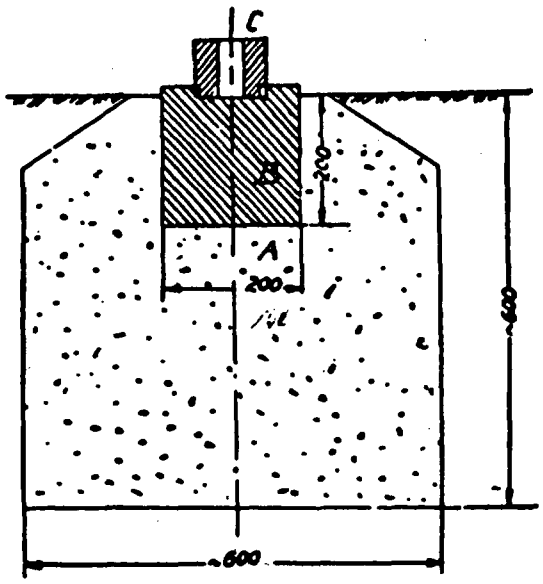
προσθία και πλευρική, γενική άποψις

διαστάσεις σε ΜΜ (σχήμα σελ. 2848)

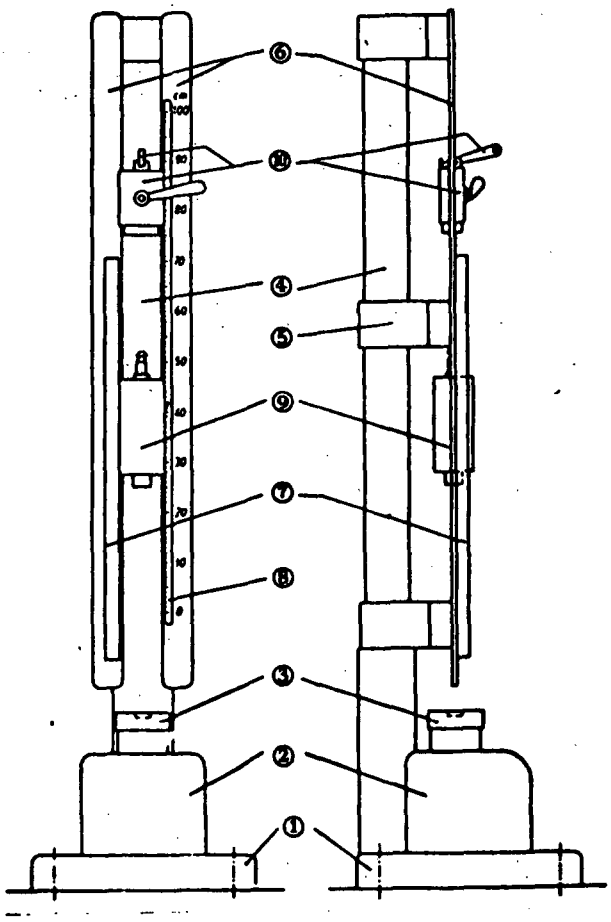




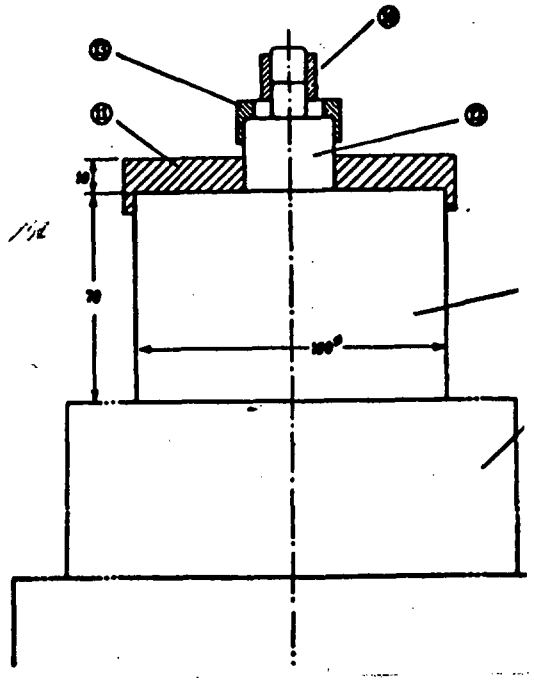
ΕΙΚΟΝΑ 1



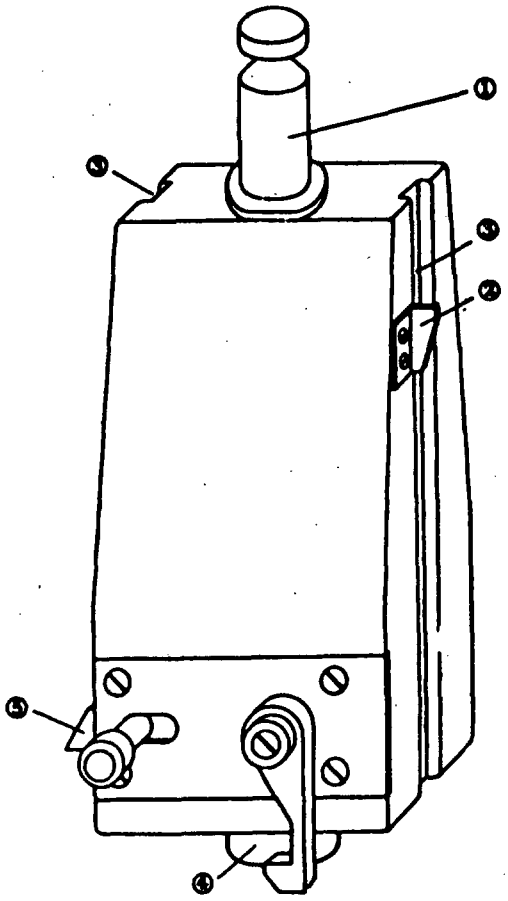
ΕΙΚΟΝΑ 8.



ΕΙΚΟΝΑ 9



ΕΙΚΟΝΑ 10.



ΕΙΚΟΝΑ 11

Εικών IO: Ρίψις-σφύρας II,
κάτω τμήμα (σχήμα σελ. 2848)
διαστάσεις σε ΜΜ

(I) βάσις, 450 X 450 X 60
(2) χαλύβδινο συγκρότημα (BLOCK), 230 X 250 X 200
(3) άκμων ας, I00 διαμέτρου X 70
(4) στήλη
(5) μέσος εγκάρσιος-δοκός
(6) 2 οδηγοί
(7) οδοντωτή ράβδος
(8) βαθμονομημένη κλίμακα
(9) σφύρα-ρίψεως (πίπτον βάρος)
(IO) μηχανισμός συγκρατήσεως και αφέσεως
(II) πλάκα στερεώσεως
(I2) ενδιάμεσος άκμων ας (ανταλλάξιμος), διαμέτρου 26 X 26
(I3) δακτύλιος στερεώσεως με οπές
(I4) μηχανισμός προσκρούσεως

Εικών II: Σφύρα (πίπτον βάρος) 5 KG (σχήμα σελ. 2848)

(I) αξονίσκος αιωρήσεως
(2) δείκτης ύψους
(3) αύλαξ εμφράξεως
(4) κυλινδρική κεφαλή προσκρούσεως
(5) αρπάγη αναπηδήσεως

Εικών I2: Μηχανισμός προσκρούσεως για ύλες υπό μορφήν κόνεως ή πάστας (σχήμα σελ. 2851)
διαστάσεις σε ΜΜ

Εικών 13: Μηχανισμός προσκρούσεως για ύλες υπό μορφήν υγρού (σχήμα σελ. 2851)

(1) χαλύβδινοι κύλινδροι†

(2) οδηγός δακτύλιος για χαλύβδινους κυλίνδρους†

(3) δακτύλιος στερεώσεως με οπές

(α) πάθετος τομή

(β) κάτοψις

(4) ελαστικός δακτύλιος

(5) υγρή ύλη (40 MM^3)

(6) χώρος ελεύθερος από υγρό

† Ο χάλυψ μπορεί να έχει την παρακάτω σύνθεσιν:

CR ≤ 1.55°/ο, C ≤ 1°/ο, Si MAX 0.25°/ο

MN ≤ 0.35°/ο, HRC 58 ... 65 (επεξεργασθείς επί θερμώ χάλυψ)

Έλεγχος (δοκιμή) με συσκευή τριβής

Περί περιθωρίου 3156(β)

Εικών 14: Συσκευή τριβής· πρόσοψις και κάτοψις (σχήμα σελ. 2851)

(1) χαλύβδινη βάσις

(2) κινητό σύστημα (MOVABLE CARRIAGE)

(3) πλάκα εκ πορσελάνης, 25 X 25 X 5 MM, επί του κινητού συστήματος

(4) σταθερό γομφίο εκ πορσελάνης, διαμέτρου 10 X 15 MM

(5) δείγμα υπό έλεγχον, περίπου 10 MM^3

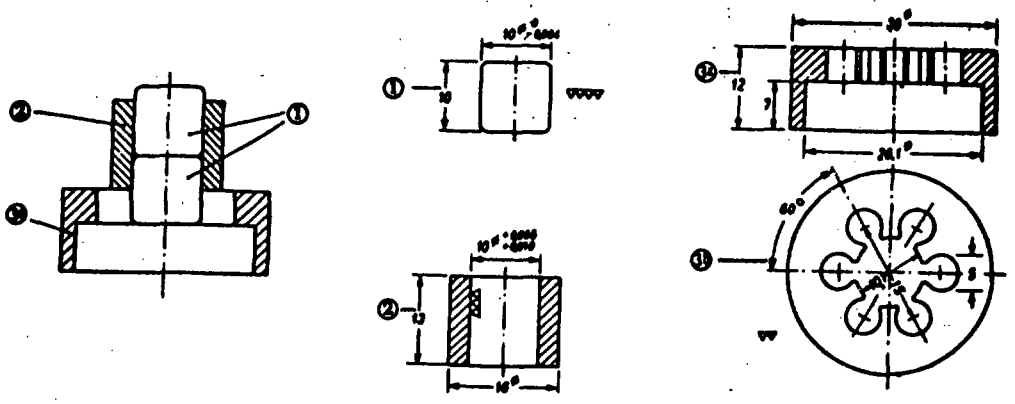
(6) συγκρατητής γομφίου

(7) βραχίων φορτώσεως

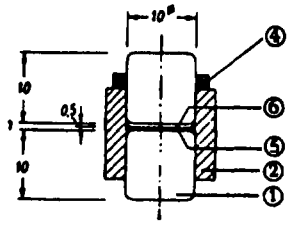
(8) αντίβαρον

(9) διακόπτης

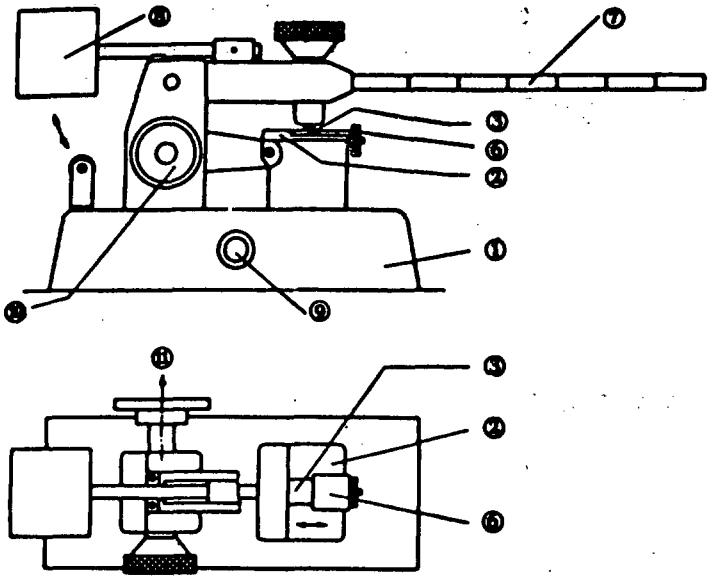
(10) τροχός προς ρύθμισιν του κινητού συστήματος σε θέση εκκινήσεως



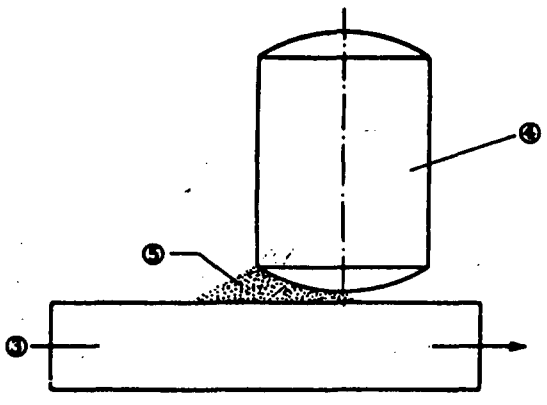
ΕΙΚΟΝΑ 12



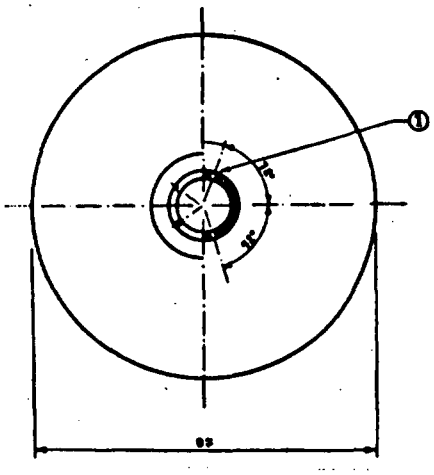
ΕΙΚΟΝΑ 13



ΕΙΚΟΝΑ 14.



ΕΙΚΟΝΑ 15.



ΕΙΚΟΝΑ 16

(II) κατεύθυνσις προς ηλεκτρικόν κινητήρα

Εικών I5: Θέσις εκκινήσεως του γόμφου επί του δείγματος (6χ 6ε. 2851)

Έλεγχος δυναμίτου δι' εξίδρωσιν

Περί περιθωρίου 3I58

Εικών I6: Κοίλος ορειχάλκινος κύλινδρος, κλειστός στο ένα άκρο, κάτοψις και κάθετος τομή (σχήμα 6ε λ. 2851) διαστάσεις σε MM

Εικών I7: Βάρος σχήματος κώδωνος 2220 γραμ., ικανόν να αιωρείται επί ορειχαλκίνου εμβόλου (σχήμα 6ε λ. 2852)

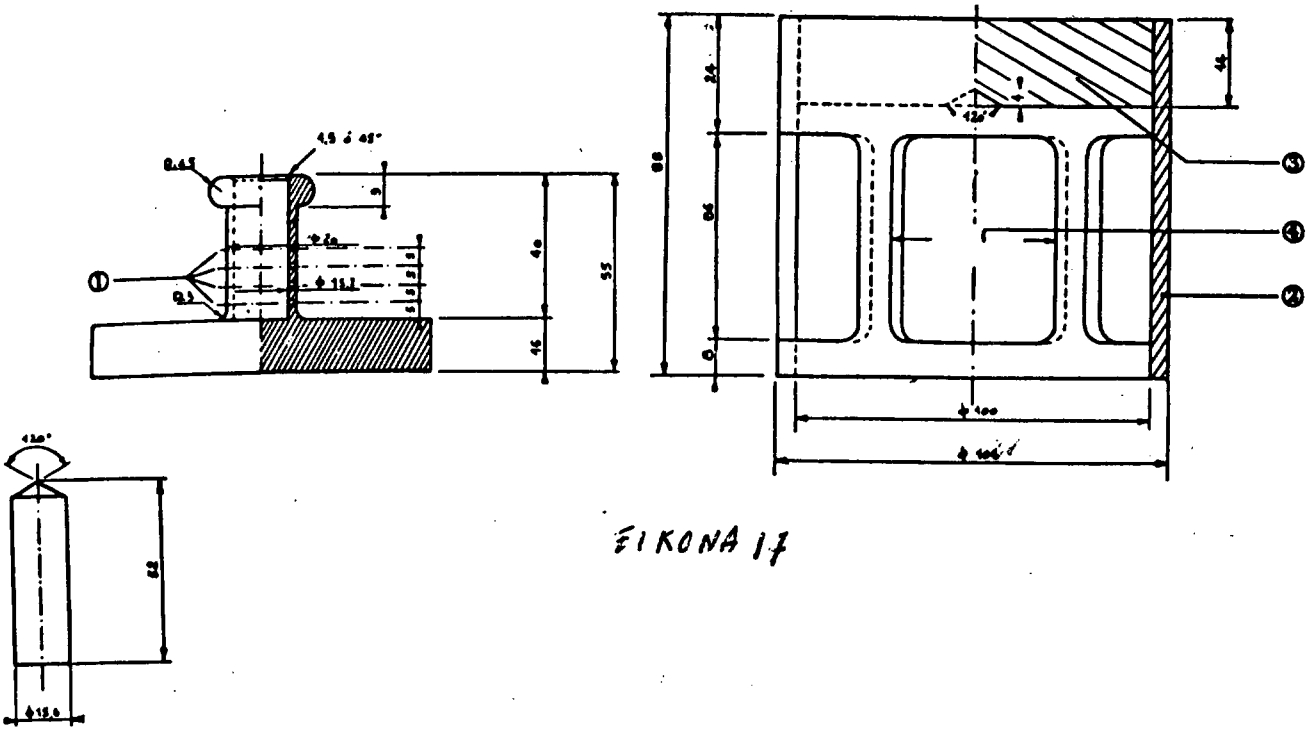
Εικών I8: Κυλινδρικό ορειχάλκινο έμβολο διαστάσεις σε MM (σχήμα 6ε λ. 2852)

(I) 4 σειρές 5 οπών διαμέτρου 0.5

(2) χαλκός

(3) πλάκα από μόλυβδο με κεντρική κωνική υποδοχή στη κάτω πλευρά

(4) 4 ανοίγματα, περίπου 46 X 56, ομοιομόρφως χωρισμένη κυκλική περιφέρεια



ΕΙΚΟΝΑ 17

ΠΡΟΣΘΗΚΗ Α.2

Α.- Διατάξεις αφορώσαι την φύσιν των δοχείων (RECEPTACLES) εκ κράματος αλουμινίου για συγκεκριμένα αέρια της Κλάσεως 2

Ι.- Ποιότης του υλικού

(Ι) Τα υλικά των δοχείων εκ κράματος αλουμινίου 3200 τα οποία πρόκειται να γίνουν δεκτά για τα αέρια τα αναφερόμενα στο περιθώριο 2203 (2) (β) θα πληρούν τους παρακάτω όρους:

	Α	Β	Γ	Δ
Αντοχή εις εφελκυσμόν, RM, σε KG/MM^2	5 έως 19	20 έως 38	20 έως 38	35 έως 50
Κρίσιμον σημείον ελαστικότητος, Re, σε KG/MM^2 (μόνιμο σετ $\lambda = 0.2\%$)	1 έως 17	6 έως 32	14 έως 34	21 έως 42
Μόνιμος επιμήκυνσις σε ρήγμα (L=5D) επί τοις εκατόν	12 έως 40	12 έως 30	12 έως 30	11 έως 16
Δοκιμή κάμψεως (διάμετρος προηγουμένου: D=N.E, όπου E είναι το πάχος του υπό δοκιμήν τεμαχίου)	N=5(RM ≤ 10) N=6(RM > 10)	N=6(RM ≤ 33) N=7(RM > 33)	N=6(RM ≤ 33) N=7(RM > 33)	N=7(RM ≤ 40) N=8(RM > 40)
Αριθμός Σειράς Σωματείου Αλουμινίου†	1000	5000	6000	2000

† Βλέπε "Πρότυπα και Στοιχεία Αλουμινίου", πέμπτη έκδοσις, Ιανουάριος 1976, δημοσιευθέν υπό του Σωματείου Αλουμινίου, 750 THIRD AVENUE Νέα Υόρκη.

(Συνεχίζεται)

Οι πραγματικές ιδιότητες θα εξαρτηθούν εκ της συνθέσεως του προκειμένου κράματος και εκ της τελικής επεξεργασίας του δοχείου, αλλά οποιοδήποτε κράμα χρησιμοποιηθεί το πάχος του δοχείου θα υπολογίζεται δια του παρακάτω τύπου:

$$\varepsilon = \frac{P \times D}{\frac{200\,R\varepsilon}{1.30} + P},$$

όπου ε = κατώτατο πάχος του τοιχώματος του δοχείου, σε ΜΜ·

P = πίεσις δοκιμής, σε KG/CM^2·

D = ονομαστική εξωτερική διάμετρος του δοχείου, σε ΜΜ· και

Rε = εγγυημένη κατωτάτη 0.2όταν εκατό τάσις δοκιμής, σε KG/MM^2.

Επιπροσθέτως, η τιμή της κατωτάτης εγγυημένης τάσεως δοκιμής (Rε) του τύπου, σε κάμια περίπτωση θα είναι μεγαλυτέρα των 0.85 φορών της εγγυημένης κατωτάτης αντοχής εις εφελκυσμόν (RM), οποιοσδήποτε και εάν είναι ο χρησιμοποιηθείς τύπος του κράματος.

Σημειώσεις:- (σχήμα σε 2856)

I.- Τα ανωτέρω χαρακτηριστικά βασίζονται επί προηγουμένης δια τα παρακάτω υλικά τα χρησιμοποιηθέντα για δοχεία:

Στήλη Α: Αλουμίνιον, καθαρόν, 99.5% καθαρόν·

Στήλη Β: Κράματα αλουμινίου και μαγνησίου·

Στήλη Γ: Κράματα αλουμινίου, πυριτίου και μαγνησίου, ως ISO/R209-AI-Si-MG (Σωματείον Αλουμινίου 635Ι)·

2.- Η μόνιμος επιμήκυνσις σε ρήγμα (L = 5D) μετράται δια τεμαχίων-δοκιμής κυκλικής τομής εις τα οποία το μήκος του μετρητού L ισούται με πέντε φορές τη διάμετρο D· εάν τεμάχια ορθογωνίου τομής χρησιμοποιηθούν, το μήκος του μετρητού πρέπει να υπολογισθεί δια του τύπου $L = 5.65 \sqrt{F_o}$, όπου F_o είναι η αρχική επιφάνεια (εμβαδόν) της διατομής του τεμαχίου δοκιμής. 3200 (Συνεχίζεται

3.- (α) Η δοκιμή κάμψεως (βλέπε διάγραμμα) θα διεξάγεται επί δειγμάτων λαμβανομένων δια κοπής εις δύο ίσα μέρη πλάτους 3ε, αλλά εν ουδεμιά περιπτώσει ολιγώτερο των 25 ΜΜ, δακτυλιοειδούς τμήματος κυλίνδρου. Τα δείγματα θα τορναρισθούν μόνον στα άκρα.

(β) Η δοκιμή κάμψεως θα διεξάγεται μεταξύ εργαλείου κάμψεως (μαντρέλι) διαμέτρου (D) και δύο κυκλικών στηριγμάτων χωριζομένων δι'αποστάσεως των (D + 3ε). Διαρκούσης της δοκιμής οι εσωτερικές όψεις θα χωρίζονται δι'αποστάσεως όχι μεγαλυτέρας της διαμέτρου του εργαλείου κάμψεως (μαντρελιού).

(γ) Το δείγμα δεν θα παρουσιάζει ρωγμάς όταν καμφθεί προς τα μέσα πέριξ του εργαλείου κάμψεως (μαντρελιού) μέχρις ότου οι εσωτερικές όψεις χωρισθούν δι'αποστάσεως όχι μεγαλυτέρας της διαμέτρου του εργαλείου κάμψεως (μαντρελιού).

(δ) Ο λόγος (N) μεταξύ της διαμέτρου του εργα-

λείου κάμψεως (μαντρελιού) και του πάχους του δείγματος θα συμφωνεί με τις τιμές που δίδονται στον πίνακα. (Συνεχίζεται)

D + 3e περίπου.

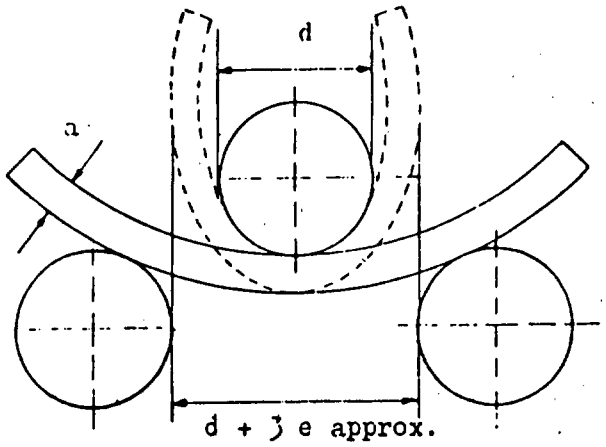


Diagram of bend test

Διάγραμμα δοκιμής κάμψεως

(2) Χαμηλωτέρα τιμή κατωτάτης επιμηκύνσεως είναι δεκτή υπό τον όρον ότι πρόσθετος δοκιμή εγκριθείσα υπό της αρμοδίας αρχής της χώρας εις την οποίαν κατασκευάζονται τα δοχεία αποδείξει ότι η ασφάλεια της μεταφοράς εξασφαλίζεται σε άλλα έκτασι εξασφαλίζεται δια δοχεία κατασκευασμένα συμφώνως προς τα χαρακτηριστικά τα διδόμενα εις την παράγραφον (I) του πίνακος.

(3) Το πάχος του τοιχώματος των δοχείων εις το λεπτότερον σημείον θα είναι το κάτωθι:-

οσάκις η διάμετρος του δοχείου είναι μικροτέρα των 50 MM: όχι μικρότερο των I.5 MM·

οσάκις η διάμετρος του δοχείου είναι από 50 έως I50 MM: όχι μικρότερο των 2 MM· και

οσάκις η διάμετρος του δοχείου είναι μεγαλυτέρα των I50 MM: όχι μικρότερο των 3 MM.

(4) Τα άκρα των δοχείων θα έχουν ημικυκλικόν, ελλειπτικόν ή "λαβής καλάθου" τμήμα·θα παρέχουν τον αυτόν βαθμόν ασφαλείας ως το σώμα του δοχείου.

II.- Πρόσθετος επίσημος δοκιμή κραμάτων αλουμινίου

(I) Επιπροσθέτως των δοκιμών των απαιτουμένων υπό 320I
των περιθωρίων 22I5, 22I6 και 22I7, είναι απαραίτητον να γίνει έλεγχος για πιθανή ενδοκρυσταλλική διάβρωση του εσωτερικού τοιχώματος του δοχείου όπου γίνεται χρήσις κράματος αλουμινίου περιέχοντος χαλκόν, ή όπου γίνεται χρήσις κράματος αλουμινίου περιέχοντος μαγνήσιον και μαγγάνιον και το εις μαγνήσιον περιεχόμενον είναι μεγαλύτερον του 3.5 τοις εκατό ή το εις μαγγάνιο περιεχόμενο είναι μικρότερο του 0.5 τοις εκατό.

(2) Προκειμένου περί κράματος αλουμινίου/χαλκού η δοκιμή θα διεξαχθεί υπό του κατασκευαστού κατά την έγκρισιν νέου κράματος υπό της αρμοδίας αρχής· εν συνεχεία θα επαναλειφθεί, κατά την πορείαν της παραγωγής για κάθε χύσιμον του κράματος.

(3) Προκειμένου περί κράματος αλουμινίου/μαγνησίου η δοκιμή θα διεξαχθεί υπό του κατασκευαστού κατά την έγκρισιν του νέου κράματος και της μεθόδου κατασκευής υπό της αρμοδίας αρχής. Η δοκιμή θα επαναλειφθεί όσάκις γίνεται αλλαγή εις την σύνθεσιν του κράματος ή εις την μέθοδον κατασκευής.

(4) (α) Προπαρασκευή κραμάτων αλουμινίου/χαλκού

Προτού το κράμα αλουμινίου/χαλκού υποβληθεί εις την δοκιμή της διαβρώσεως, τα δείγματα θα καθαρισθούν από το λίπος δια καταλλήλου διαλυτικού, και ξηρανθούν.

(β) Προπαρασκευή κραμάτων αλουμινίου/μαγνησίου

Προτού το κράμα αλουμινίου/μαγνησίου υποβληθεί εις την δοκιμήν της διαβρώσεως, τα δείγματα θα θερμανθούν επί επτά ημέρες σε 100°C· ακο-

λούθως θα καθαρισθούν από το λίπος δια καταλλήλου διαλυτικού, και ξηρανθούν. 3201

(Συνεχίζεται)

(γ) Εκτέλεσις της δοκιμής

Η εσωτερική πλευρά του δείγματος μετρήσεως 1,000 MM^2 (33,3 X 30 MM) του υλικού του περιέχοντος χαλκόν θα επεξεργασθεί σε θερμοκρασία του περιβάλλοντος, επί 24 ώρες, με 1,000 ML υδατώδους διαλύματος περιέχοντος 3 τοις εκατό NaCL και 0.5 τοις εκατόν HCL.

(δ) Εξέτασις

Αφού πλυθεί και ξηρανθεί, τμήμα του δείγματος μήκους 20 MM θα εξετασθεί μικρογραφικώς σε μεγέθυσιν 100 έως 500 X, κατά προτίμησιν μετά την ηλεκτροστίλβωσιν.

Το βάθος της προσβολής δεν θα προχωρήσει πέραν του δευτέρου στρώματος κόκκων εκ της επιφανείας της υποκειμένης εις την δοκιμήν της διαβρώσεως· κατ'αρχήν, εάν ολόκληρον το πρώτον στρώμα των κόκκων προσβληθεί, μόνον μέρος της δευτέρας σειράς πρέπει να προσβληθεί.

Προκειμένου περί τμημάτων, η εξέτασις θα εκτελείται εις ορθάς γωνίας προς την επιφάνειαν.

Οσάκις μετά την ηλεκτροστίλβωσιν ευρεθεί απαραίτητον, όπως τα όρια των κόκκων είναι ιδιαιτέρως ορατά δια μεταγενεστέραν εξέτασιν, τούτο θα γίνει δια μεθόδου αποδεκτής από την αρμοδίαν αρχήν.

III.- Προστασίας της εσωτερικής επιφανείας

Η εσωτερική επιφάνεια των δοχείων εκ κράματος αλου- 3202

μινίου θα είναι εφοδιασμένη με κατάλληλον αντιδιαβρωτι- 3202
κήν επένδυσιν εάν οι αρμόδιοι σταθμοί ελέγχου (δοκιμών) (Συνεχί-
το θεωρήσουν απαραίτητον. ζεται)

3203-
3249

Β.- Όροι αφορώντες τα υλικά και την κατα-
σκευήν των δοχείων των προοριζομένων
δια την μεταφοράν των βαθειά-κατεψυγμέ-
νων υγροποιημένων αερίων της Κλάσεως 2

(1) Δοχεία, δεξαμεναί και περιβλήματα πρέπει να εί- 3250
ναι κατασκευασμένα από χάλυβα, αλουμίνιον, κράμα αλουμι-
νίου, χαλκόν, ή κράμα χαλκού, π.χ. ορείχαλκον. Εν τού-
τοις, δοχεία, δεξαμεναί και περιβλήματα κατασκευασμένα
από χαλκό ή κράμα χαλκού θα γίνονται δεκτά μόνον δι' αέ-
ρια μη περιέχοντα ακετυλένιον· αιθυλένιον μπορεί εν τού-
τοις να περιέχει όχι άνω του 0.005 τοις εκατό ακετυλένιον.

(2) Μόνον υλικά κατάλληλα δια την χαμηλοτέραν θερ-
μοκρασίαν λειτουργίας των δοχείων, δεξαμενών και περιβλη-
μάτων, και των εξαρτημάτων και παρακολουθημάτων των, μπο-
ρούν να χρησιμοποιηθούν.

Τα παρακάτω υλικά θα γίνονται δεκτά δια την 3251
κατασκευήν δοχείων, δεξαμενών και περιβλημάτων:

(α) χάλυβες μη υποκείμενοι εις εύθρυπτον ρήγμα εις την χα-
μηλωτέραν θερμοκρασίαν λειτουργίας (βλέπε περιθώριο
3265).

Δύνανται να χρησιμοποιηθούν οι κάτωθι:-

I.- λεπτό-κοκκοι καθαροί χάλυβες, σε θερμοκρασία
μέχρι -60°C·

2.- Νικελιούχοι χάλυβες (με περιεχόμενον εις νικέλιον 0.5 έως 9 τοις εκατό), μέχρι θερμοκρασίας -196°C, εξαρτωμένης εκ του εις νικέλιον περιεχομένου. 3251 (Συνεχίζεται)

3.- Χρωμιονικελιούχοι μετά ωστενίτου χάλυβες, μέχρι θερμοκρασίας -270°C.

(β) αλουμίνιον όχι ολιγώτερο του 99.5 τοις εκατό καθαρόν, ή κράματα αλουμινίου (βλέπε περιθώριον 3266)·

(γ) αποξειδωμένος χαλκός όχι ολιγώτερο του 99.9 τοις εκατόν καθαρός, ή κράματα χαλκού έχοντα περιεχόμενον εις χαλκόν άνω του 56 τοις εκατό (βλέπε περιθώριον 3267).

(Ι) Δοχεία, δεξαμεναί και περιβλήματα θα είναι είτε άνευ ραφών είτε συγκολλημένα. 3252

(2) Δοχεία του περιθωρίου 2207 κατασκευασμένα από ωστενίτη χάλυβα, χαλκόν ή κράμα χαλκού μπορούν εναλλακτικώς να υποβληθούν εις σκληράν συγκόλλησιν.

Τα εξαρτήματα και παρακολουθήματα μπορούν είτε να βιδώνωνται στα δοχεία, δεξαμενές και περιβλήματα είτε να προσκολλώνται σ'αυτά ως κάτωθι:- 3253

(α) δοχεία, δεξαμεναί και περιβλήματα κατασκευασμένα από χάλυβα, αλουμίνιο ή κράμα αλουμινίου: δια συγκολλήσεως·

(β) δοχεία, δεξαμεναί και περιβλήματα κατασκευασμένα από ωστενίτη χάλυβα, χαλκό ή κράμα χαλκού: δια συγκολλήσεως ή σκληράς-συγκολλήσεως.

Η κατασκευή των δοχείων, δεξαμενών και περιβλημάτων και ο τρόπος της προσκολλήσεώς των εις το όχημα, κάτω από το σασσί ή εις το φέρον υποδοχέα (CONTAINER) σασσί· 3254

θα είναι κατά τρόπον ώστε να αποκλείεται μετά βεβαιότη- 3254
σιαδήποτε τοιαύτη μείωσις της θερμοκρασίας των φερόντων (Συνεχίζε-
το φορτίον εξαρτημάτων που θα τα καθίστα ενδεχομένως εύ- ται)
θρυπτα (εύθραυστα). Τα στερεώματα (δεσίματα) των δοχείων,
δεξαμενών και περιβλημάτων θα έχουν έτσι υπολογισθεί ώστε
ακόμη και όταν το δοχείον, η δεξαμενή ή το περίβλημα είναι
στη χαμηλωτέρα θερμοκρασία της λειτουργίας του να εξακολου-
θούν να κατέχουν τις απαραίτητες μηχανικές ιδιότητες.

3255-
3264

I.- Υλικά, δοχεία, δεξαμενές και περιβλήματα

(α) Χαλύβδινα δοχεία, δεξαμενές και περιβλήματα

Τα υλικά τα χρησιμοποιούμενα δια την κατασκευήν 3265
δοχείων, δεξαμενών και περιβλημάτων, και αι συγκολλητι-
καί των πλαισιώσεις, πρέπει εις την χαμηλωτέραν θερμοκρα-
σίαν λειτουργίας των να πληρούν τουλάχιστον τους κατωτέρω
όρους, ως προς την αντοχήν εις κρούσιν.

Οι δοκιμές μπορούν να διεξαχθούν με τεμάχια-δοκιμών
έχοντα εγκοπήν σχήματος U ή σχήματος V.

Υλικό	Αντοχή εις κρούσιν 1/ 2/ ελάσματος και συγκολλητικών πλαισιώσεων (WELD BEADS) στη χαμηλωτέρα θερμοκρασία λειτουργίας	
	KGM/CM^2 3/	KGM/CM^2 4/
Καθαρός ανοξείδωτος χάλυψ	3.5	2.8
Χάλυψ κράματος Φερρίτη Νι/ 5°/ο	3.5	2.2
Χάλυψ κράματος Φερρίτη 5°/ο/Νι/9°/ο	4.5	3.5
Ωστενίτης CR-Νι Χάλυψ	4.0	3.2

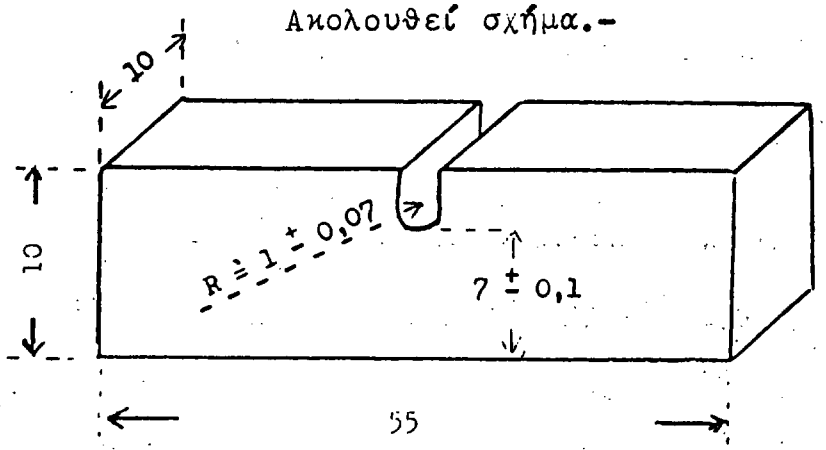
I/ Αντοχαί εις κρούσιν καθοριζόμεναι με διαφορετικά 3265
τεμάχια-δοκιμών δεν είναι αμοιβαίως παραβλητέαι.

2/ Βλέπε περιθώρια 3275 έως 3277.

3/ Αι τιμαί αφορούν τεμάχια δοκιμών με εγκοπήν σχήματος U ως εικονίζεται κατωτέρω.

4/ Αι τιμαί αφορούν τεμάχια δοκιμών με εγκοπήν σχήματος V σύμφωνον προς ISO R I48.

Ακολουθεί σχήμα.-



Προκειμένου περί ωστενίτου χάλυβος, μόνον η συγκολλητική πλαισίωσις χρειάζεται να υποβληθεί σε δοκιμήν αντοχής εις κρούσιν.

Δια θερμοκρασίες λειτουργίας κάτω των -I96°C, η δοκιμή αντοχής εις κρούσιν δεν εκτελείται στη χαμηλωτέρα θερμοκρασία λειτουργίας, αλλά στους -I96°C.

(β) Δοχεία, δεξαμενές και περιβλήματα κατασκευασμένα από αλουμίνιον ή κράμα αλουμινίου

Αι ραφαί των δοχείων, δεξαμενών και περιβλημάτων 3266
σε θερμοκρασία του περιβάλλοντος πρέπει να πληρούν τους παρακάτω όρους ως προς τον συντελεστήν κάμψεως:

Πάχος φύλλου ε σε MM	Συντελεστής κάμψεως K^{I}/ δια την ραφήν	
	Ρίζα εις ζώνην συμπιέσεως	Ρίζα εις ζώνην τάσεως
≤ I2	≥ I5	≥ I2
> I2 έως 20	≥ I2	≥ I0
> 20	≥ 9	≥ 8

I/ Βλέπε περιθώριο 3285

(γ) Δοχεία, δεξαμεναί και περιβλήματα κατασκευασμένα από χαλκό ή κράμα χαλκού

Δεν είναι απαραίτητον να διεξαχθούν δοκιμαί προς καθορισμόν εάν η αντοχή εις κρούσιν είναι κατάλληλος. 3267

3268-3274

2.- Δοκιμαί (Έλεγχοι)

(α) Δοκιμαί αντοχής εις κρούσιν

Η αντοχή εις κρούσιν η εικονιζομένη στο περιθώριο 3265 αφορά τεμάχια-δοκιμών μετρήσεως IO X IO MM και έχοντα εγκοπήν σχήματος U ή σχήματος V. 3275

Σημειώσεις:- I.- Αναφορικώς με το σχήμα του τεμαχίου δοκιμής, βλέπε περιθώριο 3265 (πίνα ξ), υποσημειώσεις 3/ και 4/.

2.- Για ελάσματα μικρότερα των IO MM αλλά πάχους όχι μικροτέρου των 5MM, τεμάχια δοκιμών έχοντα διατομήν IO X ε MM, όπου "ε" αντιπροσωπεύει το πάχος του ελάσματος, θα χρησιμοποιούνται. Τέτοιες δοκιμές αντοχής εις κρούσιν γενικώς αποδίδουν υψηλότερες τιμές εκείνων των τοιούτων δοκιμών επί βασικών (στάνταρντ) τεμαχίων δοκιμών.

3.- Ουδεμία δοκιμή αντοχής εις κρούσιν θα διεξάγεται επί φλασμάτων πάχους μικροτέρου των 5 MM, ή επί των ραφών των.

(I) Για την δοκιμή ελάσματος η αντοχή εις κρούσιν θα προσδιορίζεται επί τριών τεμαχίων-δοκιμών. Τα τεμάχια δοκιμών θα αφαιρούνται εις ορθές γωνίες προς την διεύθυνσιν ελάσεως (κυλίσεως) προκειμένου περί τεμαχίων-δοκιμών 3276

με εγκοπήν σχήματος U και εις την διεύθυνσιν ελάσεως (κυλίσεως) προκειμένου περί τεμαχίων δοκιμών με εγκοπήν σχήματος "V". 3276 (Συνεχίζεται)

(2) Για την δοκιμήν ραφών τα τεμάχια-δοκιμών θα λαμβάνονται ως κάτωθι:

ε / ΙΟ

Τρία τεμάχια-δοκιμών εκ του κέντρου της συγκολλήσεως·

τρία τεμάχια-δοκιμών εκ της ζώνης παραμορφώσεως της δημιουργηθείσης υπό της συγκολλήσεως (η εγκοπή θα ευρίσκεται τελείως έξω της τηχθείσης περιοχής αλλά όσο το δυνατόν πλησιέστερον αυτής)·

Σχήματα: (σελ. 2865) Κέντρον συγκολλήσεως Ζώνη παραμορφώσεως

τ.έ. εξ τεμάχια-δοκιμών συνολικώς.

Τα τεμάχια δοκιμών θα υποστούν μηχανικήν επεξεργασίαν (τορνευθούν) ώστε να έχουν το ανώτατο δυνατόν πάχος.

Ιο / ε /20

Τρία τεμάχια-δοκιμών εκ του κέντρου συγκολλήσεως·
τρία τεμάχια-δοκιμών εκ της ζώνης παραμορφώσεως·

Σχήμα

κέντρον συγκολλήσεως

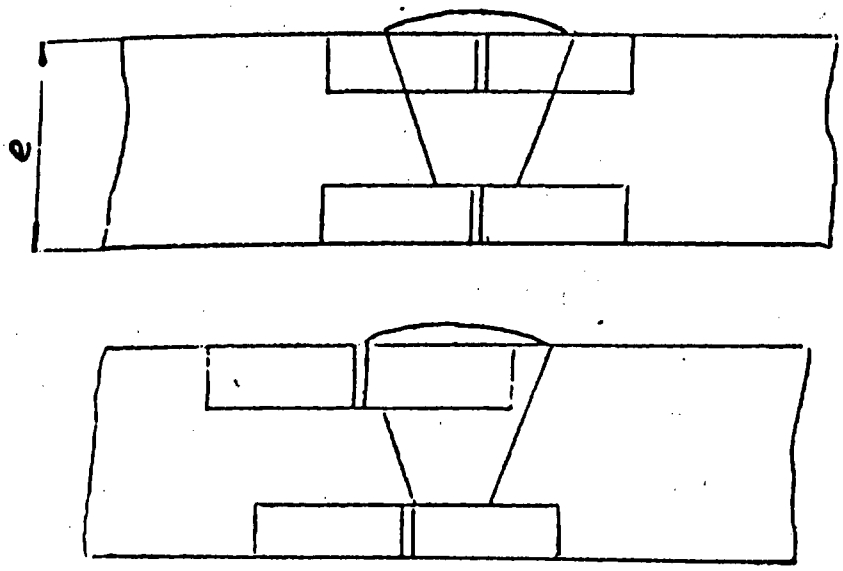
Σχήμα

Ζώνη παραμορφώσεως

τ.έ. εξ τεμάχια-δοκιμών συνολικώς.

ε 20

Δύο σειρές (σετ) των τριών τεμαχίων δοκιμών (μια σειρά στην



άνω όψιν, μία σειρά στην κάτω όψιν) σε κάθε ένα των παρακάτω οριζομένων σημείων: 3276 (Συνεχίζεται)

Σχήμα (σελίδας 2866)

Κέντρον Συγκολλήσεως

Σχήμα (σελίδας 2866)

Ζώνη Παραμορφώσεως

τ.έ. δώδεκα τεμάχια δοκιμών συνολικώς.

(1) Για έλασμα ο μέσος όρος των τριών δοκιμών θα πληροί τις κατώτατες τιμές τις διδόμενες στο περιθώριο 3265· καμμία των τιμών δεν μπορεί να είναι μεγαλυτέρα του 30 στο εκατό κάτω της κατωτάτης ορισθείσης τιμής. 3277

(2) Για συγκολλήσεις οι μέσες τιμές τριών τεμαχίων δοκιμών ληφθέντων εκ διαφορετικών σημείων, κέντρου συγκολλήσεως και ζώνης παραμορφώσεως, θα αντιστοιχούν προς τις κατώτατες εικονιζόμενες τιμές. Καμμία των τιμών δεν μπορεί να είναι μεγαλυτέρα του 30 στο εκατό κάτω της κατωτάτης ορισθείσης τιμής.

3278-3284

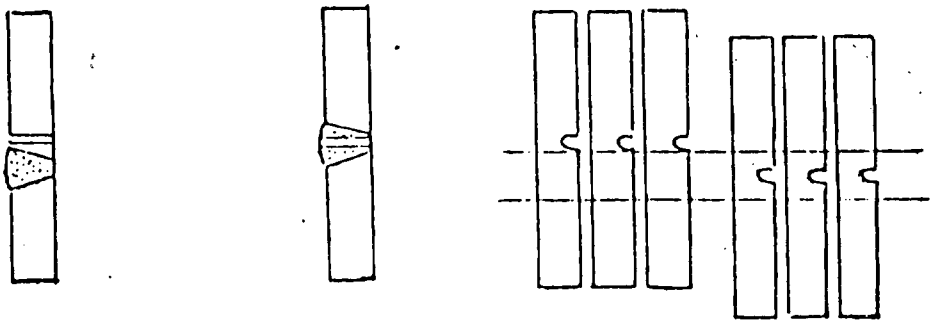
(β) Προσδιορισμός συντελεστού κάμψεως

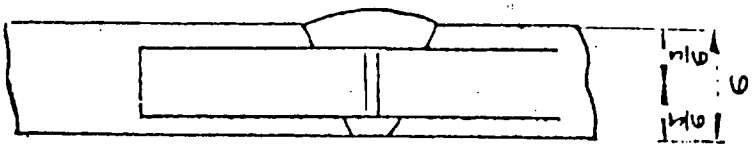
(Ι) Ο συντελεστής κάμψεως Κ ο αναφερόμενος στο περιθώριο 3266 προσδιορίζεται ως κάτωθι:-

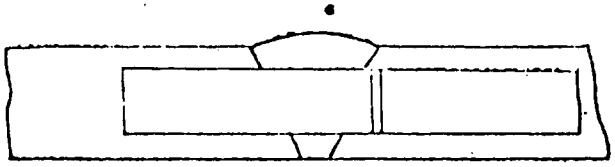
$$K = 50 \frac{\varepsilon}{R},$$

όπου ε = πάχος του ελάσματος σε ΜΜ· και

R = μέση ακτίνα καμπυλότητος σε ΜΜ του τεμαχίου δοκιμής όταν η πρώτη ρωγμή εμφανισθεί στη ζώνη τάσεως.







(2) Ο συντελεστής κάμψεως Κ θα προσδιορίζεται για τη ραφή. Το πλάτος του τεμαχίου δοκιμής θα είναι ίσο με 3 ε. 3285 (Συνεχίζεται)

(3) Τέσσερες δοκιμές θα εκτελούνται επάνω στη ραφή, δύο με τη ρίζα στη ζώνη συμπιέσεως (Εικών I) και δύο με τη ρίζα στη ζώνη τάσεως (Εικών2)· όλαι αι λαμβανόμεναι τιμαί θα πληρούν τους όρους των κατωτάτων τιμών του περιθωρίου 3266.

Εικών I



Εικών 2



3286-3290

Γ.- <u>Διατάξεις αφορώσαι δοκιμές σε διανεμητές αεροζόλ και μιάς χρήσεως (μη-δυναμένους να γεμισθούν εκ νέου) υποδοχείς (CONTAINERS) δι'αέρια υπό πίεσιν της Κλάσεως 2, 10° και 11°</u>

Ι.- <u>Δοκιμαί πιέσεως και εκρήξεως επί μοντέλου δοχείου</u>

Δοκιμαί υδραυλικής πιέσεως θα διεξάγονται σε τουλάχιστον πέντε άδεια δοχεία εκάστου μοντέλου: 3291

(α) μέχρις επιτεύξεως της προβλεπομένης πιέσεως δοκιμής, όταν ουδεμία διαρροή ή ορατή μόνιμος παραμόρφωσις θα έχει λάβει χώρα· και

(β) μέχρις ότου διαρροή ή έκρηξις λάβει χώρα· το, τυχόν, κοίλον άκρον, πρέπει να υποχωρήσει πρώτον, και το δοχείον δεν πρέπει να παρουσιάσει διαρροήν ή έκρηξιν μέχρις ότου επιτευχθεί πίεσις Ι.2 φορές της πιέσεως δοκιμής.

2.- Δοκιμαί στεγανότητος (διαρροής) σε όλα τα δοχεία

(I) Για τη δοκιμή σε διανεμητές αεροζόλ (10°) και 3292
μιάς χρήσεως (μη-δυναμένους να γεμισθούν εκ νέου) υποδοχείς (CONTAINERS) δι'αέριον υπό πίεσιν (11°) σε λουτρό καυτού ύδατος, η θερμοκρασία του λουτρού και η διάρκεια της δοκιμής θα είναι τέτοια ώστε η εσωτερική πίεσις εκάστου δοχείου να φθάσει τουλάχιστον το 90 στα εκατό της εσωτερικής πιέσεως που θά έφθανε σε 55°C.

Εν τούτοις, εάν το περιεχόμενον είναι ευαίσθητον στη θερμότητα ή εάν τα δοχεία είναι κατασκευασμένα από πλαστικό υλικό το οποίο μαλακώνει στη θερμοκρασία αυτής της δοκιμής, η θερμοκρασία του λουτρού θα είναι από 20° έως 30°C· επιπροσθέτως, ένας διανεμητής από κάθε παρτίδα 2.000 θα δοκιμάζεται στη θερμοκρασία τη προβλεπομένη από τη προηγούμενη παράγραφο.

(2) Ουδεμία διαρροή ή μόνιμος παραμόρφωσις των δοχείων θα προκύψει. Η διάταξις η αφορώσα τη μόνιμο παραμόρφωση δεν ισχύει για δοχεία τα οποία, κατασκευασμένα από πλαστική ύλη, μαλακώνουν.

3293-
3299

ΠΡΟΣΘΗΚΗ Α.3

Δοκιμαί αφορώσαι άφλεκτα υγρά των Κλάσεων 3 και 6.1

(I) Το σημείον αναφλέξεως προσδιορίζεται μέσω ενός 3300
των κατωτέρω τύπων συσκευών:

(α) δια χρήσιν σε θερμοκρασίες μη υπερβαίνουσες τους 50°C:
ABEL, ABEL-PENSKY, LUCHAIRE-FINANCES, TAG·

(β) δια χρήσιν σε θερμοκρασίες άνω των 50°C: PENSKY-MARTENS,

LUCHAIRE-FINANCES·

3300

(γ) ελλείψει αυτών, οποιαδήποτε πλειστή με καπάκι συσκευή ικανή να δώσει αποτελέσματα εντός 2°C τα οποία συσκευή που αναφέρεται ανωτέρω θα έδιδε στον αυτόν τόπον. (Συνεχίζεται)

(2) Προς καθορισμόν του σημείου αναφλέξεως των βαφών (χρωμάτων), κόμμι (γομμωδών ουσιών) και παρομοίων ιξωδών προϊόντων περιεχόντων διαλυτικά, μόνον συσκευές και μέθοδοι ελέγχου κατάλληλοι για τον καθορισμόν του σημείου αναφλέξεως των ιξωδών υγρών μπορούν να χρησιμοποιηθούν, όπως

μέθοδος Α του IP προτύπου I70/59 ή περισσότερον προσφάτων IP προτύπων, Γερμανικών προτύπων DIN 53 2I3 και TGL I4 30I, φυλλάδιον 2.

Η διαδικασία της δοκιμής (ελέγχου) θα είναι: 330I

(α) για τη συσκευή ABEL, εκείνη του IP (Ινστιτούτου Πετρελαίου, οδός NEW CAVENDISH, αρ. 6I, Λονδίνον, W.I.) προτύπου 34/47, το πρότυπο αυτό μπορεί να χρησιμοποιηθεί επίσης για τη συσκευή ABEL-PENSKY·

(β) για τη συσκευή PENSKY-MARTENS, εκείνη του IP (Ινστιτούτου Πετρελαίου, οδός NEW CAVENDISH, αρ. 6I, Λονδίνον, W.I) προτύπου 34/47, ή εκείνην του ASTM (Αμερικανικού Σωματείου Δοκιμών και Υλικών, I9I6 RACE STREET, Φιλαδελφείας 3, (PA.) προτύπου D.93/46·

(γ) για τη συσκευή TAG, εκείνην του ASTM (Αμερικανικού Σωματείου Δοκιμών και Υλικών, I9I6 RACE STREET, Φιλαδελφείας 3, (PA.)) προτύπου D.53/46·

(δ) για τη συσκευή LUCHAIRE, εκείνη των Οδηγιών συνημμένων

στην υπουργικήν απόφασιν (ARRETE MINISTERIEL) (Γαλλίας) της 26ης Οκτωβρίου 1925 την εκδοθείσαν υπό του Υπουργείου Εμπορίου και Βιομηχανίας και δημοσιευθείσαν εις την Εφημερίδα της Κυβερνήσεως (JOURNAL OFFICIEL) της 29ης Οκτωβρίου 1925.

Εάν οποιαδήποτε άλλη συσκευή χρησιμοποιειθεί, πρέπει να ληφθούν αι παρακάτω προφυλάξεις:-

I.- η δοκιμή πρέπει να εκτελεσθεί σε τόπο απαλλαγμένο από ρεύματα. 3301 (Συνεχίζεται)

2.- ο ρυθμός αυξήσεως της θερμοκρασίας του υπό δοκιμήν υγρού δεν πρέπει να υπερβαίνει τους $5^{o}C$ ανά λεπτόν.

3.- η ενδεικτική-φλόγα πρέπει να έχει μήκος 5 MM ($\pm$ 0.5 MM).

4.- η ενδεικτική-φλόγα πρέπει να εφαρμοσθεί στο άνοιγμα του δοχείου μετά από κάθε αύξηση $I^{o}C$ της θερμοκρασίας του υγρού.

Εις περίπτωσιν διαφωνίας ως προς την ταξινόμησιν 3302 του αφλέκτου υγρού, ο αριθμός είδους (ITEM NUMBER) ο προτεινόμενος υπό του αποστολέως θα γίνεται δεκτός εάν δοκιμή-ελέγχου του σημείου αναφλέξεως, διεξαχθείσα στο πρωτότυπο υγρό, αποδώσει αποτέλεσμα μη διαφορετικό κατά περισσότερο των 2^{o} εκ των ορίων ($2I^{o}$, 55^{o} και $I00^{o}C$ αντιστοίχως) των αναφερομένων στο περιθώριο 2301. Εάν δοκιμή-ελέγχου αποδώσει αποτέλεσμα διαφορετικό από άνω των $2^{o}C$ εκ των ορίων αυτών, δεύτερη δοκιμή-ελέγχου πρέπει να διεξαχθεί, και να υιοθετηθεί ο ληφθείς ανώτατος αριθμός.

Το εις υπεροξείδιον περιεχόμενον ενός υγρού 3303 θα προσδιορίζεται ως κάτωθι:-

Ποσότης P (περίπου 5 γραμ., ζυγισθείσα στο πλησιέστερο CG) του υγρού του οποίου πρόκειται να καθορισθεί η πυκνότης τοποθετείται σε φιάλην ERLENMEYER· προστίθενται 20 CM^3 ανυδρίτου του οξικού οξέος και περίπου I γραμ. κονιοποιημένου στερεού ιωδιούχου καλίου· κουνάμε τη φιάλη και, μετά από δέκα λεπτά, τη θερναίνομε για 3 λεπτά σε περίπου 60^oC· ακολούθως την αφήνομε να ψυχθεί επί 5 λεπτά, μετά τα οποία προσθέτομε 25 CM^3 νερό. Αφού την αφήσωμε ακίνητη για μισή ώρα, η πυκνότης του ελευθερωθέντος ιωδίου καθορίζεται με δεκατοπανονικόν διάλυμα θειοθειϊκού νατρίου, Πλήρης αποχρωματισμός καθορίζει το τέλος της αντιδράσεως. Εάν N είναι ο αριθμός των CM^3 του απαιτουμένου θειοθειϊκού διαλύματος, το ποσοστόν του υπάρχοντος υπεροξειδίου (υπολογιζόμενον ως H_2O_2) εις το δείγμα λαμβάνεται δια του τύπου $\frac{I7\ N}{I00\ P}$.

3303 (Συνεχίζεται)

3304–3399

ΠΡΟΣΘΗΚΗ Α.4

Υπό επιφύλαξιν 3400-3499

ΠΡΟΣΘΗΚΗ Α.5

Διατάξεις αφορώσαι εις δοκιμάς επί μεταλλικών βαρελίων αναφερομένων στα περιθώρια 2303(6) και 2813(Ι) (γ)

Ι.- Δοκιμή υδραυλικής πιέσεως

Η δοκιμή αυτή θα εκτελείται υπό εγκεκριμένης υπηρεσίας. 3500

Αριθμός δειγμάτων

Τρία βαρέλια ανά τύπον σχεδίου και ανά κατασκευαστήν.

Διαδικασία (μέθοδος) δοκιμής και πίεσις δοκιμής

Τα βαρέλια θα υποβληθούν σε πίεση υδραυλικού θλιβομέτρου όχι κάτω των 0.75 KG/CM^2 επί πέντε λεπτά, κατά τη διάρκεια του οποίου χρόνου η πίεσις πρέπει να παραμείνει σταθερά. Τα βαρέλια δεν θα υποστηρίζονται μηχανικώς διαρκούσης της δοκιμής.

Κριτήρια καθοριστικά της επιτυχούς διεξαγωγής της δοκιμής

Τα βαρέλια πρέπει να παραμείνουν στεγανά.

ΙΙ.- Δοκιμή ρίψεως

Η δοκιμή αυτή θα εκτελείται υπό εγκεκριμένης υπηρεσίας. 3501

Αριθμός δειγμάτων

Έξι βαρέλια ανά τύπον σχεδίου και ανά κατασκευαστήν.

Προετοιμασία συσκευασιών (κόλων) για δοκιμή

Τα βαρέλια θα πληρούνται μέχρι του 98 τα εκατό της χωρητικότητός των.

Στόχος

Ο στόχος θα είναι άκαμπτος, ομαλή, επίπεδος και οριζόν-

τιος επιφάνεια.

Ύψος ρίψεως 3501
(Συνεχίζεται)

Εάν η δοκιμή διεξάγεται με νερό

(α) οσάκις τα προς μεταφοράν υγρά έχουν ειδικόν βάρος μη υπερβαίνον το I.2 : I.20 Μ·

(β) οσάκις τα προς μεταφοράν υγρά έχουν ειδικόν βάρος υπερβαίνον το I.2 : ύψος εκφραζόμενον σε μέτρα δι'αριθμού ίσου προς τον αριθμόν τον εκφράζοντα το ειδικόν βάρος του προς μεταφοράν υγρού στρογγυλευομένου μέχρι ενός δεκαδικού ψηφίου.

Εάν η δοκιμή διεξάγεται με το υπό μεταφοράν υγρόν ή με υγρόν του οποίου το ειδικόν βάρος είναι τουλάχιστον ίσον προς το του υπό μεταφοράν υγρού : I.20 Μ.

Σημείον προύσεως

Η δοκιμή θα περιλαμβάνει ρίψεις δύο ειδών:-

Πρώτη ρίψις (χρησιμοποιούντες τρία βαρέλια):

Το βαρέλι θα κτυπά τον στόχον διαγωνίως επί της ούγιας, η εάν δεν έχει ούγια, επί περιφερειακής ραφής. Όταν ριφθεί, το βαρέλι θα αιωρείται κατά τέτοιο τρόπο ώστε το κέντρον της βαρύτητός του να είναι καθέτως υπεράνω του σημείου προύσεως.

Δεύτερη ρίψις (χρησιμοποιούντες τα άλλα τρία βαρέλια):

Το βαρέλι θα κτυπά τον στόχον οριζοντίως επί της συγκολλημένης επιμήκους ραφής του κορμού του βαρελιού.

Κριτήρια καθοριστικά της επιτυχούς διεξαγωγής της δοκιμής

Μετά την ρίψιν, όλα τα βαρέλια πρέπει να είναι στεγανά όταν αποκατασταθεί η ισορροπία μεταξύ της εξωτερικής πιέ-

σεως και της εσωτερικής πιέσεως. Εάν ένα βαρέλι δεν είναι στεγανό, θα δοκιμασθούν άλλα δώδεκα βαρέλια. Κανένα από αυτά τα βαρέλια δεν πρέπει να παρουσιάζει οποιαδήποτε διαρροή μετά τις δοκιμές. Εάν περισσότερα του ενός της πρώτης παρτίδος των έξι βαρελιών δεν είναι στεγανά, το περί ού πρόκειται βαρέλι θα απορριφθεί. 3501 (Συνεχίζεται)

III.- Δοκιμή διαρροής

Κάθε βαρέλι θα δοκιμάζεται (ελέγχεται): 3502

(α) προτού χρησιμοποιηθεί στη μεταφορά για τη πρώτη φορά· και

(β) μετά την ανακαίνισιν, προτού χρησιμοποιηθεί και πάλιν στη μεταφορά.

Διαδικασία (μέθοδος) δοκιμής (ελέγχου)

Το βαρέλι θά βυθισθεί στο νερό· ο τρόπος διατηρήσεως του βαρελιού κάτω από το νερό θα είναι τέτοιος ώστε να μη διαφευσθεί το αποτέλεσμα της δοκιμής. Εναλλακτικώς το βαρέλι μπορεί να καλυφθεί με διάλυμα σάπωνος, βαρέος ελαίου ή ετέρου καταλλήλου υγρού επί των ραφών και επί οιουδήποτε άλλου μέρους όπου θα μπορούσε να προκύψει διαρροή. Μπορούν επίσης να χρησιμοποιηθούν άλλαι μέθοδοι τόσον τουλάχιστ αποτελεσματικαί, όπως η διαφορική δοκιμή πιέσεως αέρος ("AIR-POCKET TESTER") ("δοκιμαστής κενού αέρος").

Εφαρμοσθησομένη ατμοσφαιρική πίεσις

Η πίεσις δεν θα είναι μικρότερη των 0.2 KG/CM^2.

Κριτήρια καθοριστικά της επιτυχούς διεξαγωγής της δοκιμής

Δεν πρέπει να υπάρχει διαρροή αέρος.

IV.- Μαρκάρισμα

Βαρέλια δοκιμασθέντων τύπων κατασκευής θα μαρκάρονται 3503

ΙΙ ανεξίτηλα με τυπωμένην την ένδειξιν του Κράτους εις το οποίον διεξήχθη η δοκιμή, την ένδειξιν "ADR" ή "RID" και τον αριθμόν μητρώου των εκχωρηθέντα υπό της Υπηρεσίας που διεξήγαγε τις δοκιμές. 3503 (Συνεχίζεται)

V.- Έκθεσις δοκιμής

Έκθεσις δοκιμής πρέπει να συνταχθεί, η οποία θα περιλαμβάνει:- 3504

I.- στοιχεία αναγνωρίσεως του κατασκευαστού του βαρελιού·

2.- περιγραφήν (π.χ. χρησιμοποιηθέν υλικόν, πάχος τοιχωμάτων και άκρων, ενώσεων, ραφών) και σχέδιον·

3.- το αποτέλεσμα των δοκιμών·

4.- το σήμα του βαρελιού.

Αντίγραφον της εκθέσεως της δοκιμής θα σταλεί εις Υπηρεσίαν ορισθείσαν υπό της αρμοδίας αρχής του Κράτους εις το οποίον διεξήχθη η δοκιμή.

3505-3599

Οι αναφερόμεναι ενδείξεις είναι αι εθνικαί διακριτικαί ενδείξεις αυτοκινήτων διεθνούς κυκλοφορίας.

ΠΡΟΣΘΗΚΗ Α.6

ΔΙΑΤΑΞΕΙΣ ΔΙΕΠΟΥΣΑΙ ΤΙΣ ΡΑΔΙΕΝΕΡΓΕΙΣ ΥΛΕΣ ΤΗΣ ΚΛΑΣΕΩΣ 7

ΚΕΦΑΛΑΙΟΝ Ι - ΟΡΟΙ ΣΥΣΚΕΥΑΣΙΑΣ ΚΑΙ ΣΧΕΔΙΟΝ ΚΟΛΟΥ

Α.- ΓΕΝΙΚΟΙ ΟΡΟΙ ΣΧΕΔΙΟΥ ΣΥΣΚΕΥΑΣΙΑΣ ΚΑΙ ΚΟΛΩΝ

(Ι) Η συσκευασία θα είναι έτσι σχεδιασμένη ώστε 3600
το κόλον να μπορεί να χειρίζεται ευχερώς και να μπορεί να ασφαλίζεται (στερεώνεται) κανονικά διαρκούσης της μεταφοράς.

(2) Κόλον μικτού βάρους ΙΟ KG και άνω και μέχρι 50 KG θα είναι εφωδιασμένον με χειρολαβήν.

(3) Κόλον μικτού βάρους άνω των 50 KG θα είναι έτσι σχεδιασμένον ώστε να μπορεί ο ασφαλής χειρισμός του να γίνεται δια μηχανικού μέσου.

(4) Το σχέδιο θα είναι τέτοιο ώστε οποιαδήποτε εξαρτήματα (συγκρατητήρες) ανυψώσεως επί του κόλου, όταν χρησιμοποιηθούν κατά τον προτιθέμενον τρόπον, να μην επιβάλουν ανασφαλείς τάσεις επί της δομής του κόλου· η εκτίμησις θα λαμβάνει υπόψει τους ενδεδειγμένους συντελεστάς ασφαλείας προς κάλυψιν της "ανά τεμάχιον" ανυψώσεως.

(5) Εξαρτήματα (συγκρατητήρες) και οποιαδήποτε άλλα χαρακτηριστικά επί της εξωτερικής επιφανείας της συσκευασίας που θα μπορούσαν να χρησιμοποιηθούν δια την ανύψωσιν των κόλων θα δύνανται να αφαιρεθούν ή άλλως ακινητοποιηθούν δια μεταφοράν ή θα σχεδιάζονται δια να(υπο)στηρίζουν το βάρος του κόλου συμφώνως προς τους όρους της ανωτέρω παραγράφου (4).

(6) Το εξωτερικό στρώμα της συσκευασίας θα είναι έτσι σχεδιασμένο ώστε να αποφεύγεται, όσον είναι πρακτικώς δυνατόν, η συλλογή και η συγκράτησις του ύδατος.

(7) Οι εξωτερικές επιφάνειες της συσκευασίας θα 3600
έχουν, όσο είναι πρακτικώς δυνατόν, σχεδιασθεί και υποστεί τελικήν επεξεργασίαν κατά τρόπον ώστε να μπορούν ευχερώς να απολυμανθούν.

(8) Οποιαδήποτε χαρακτηριστικά προστεθέντα εις το κόλον κατά τον χρόνον της μεταφοράς τα οποία δεν είναι εξαρτήματα του κόλου δεν θα μειώνουν την ασφάλειαν του κόλου.

(9) Η μικρότερη γενική εξωτερική διάστασις της συσκευασίας δεν θα είναι μικρότερη των IO CM.

(IO) Ύλες που έχουν κρίσιμον θερμοκρασίαν κάτω των $50^{\circ}C$ ή, στη θερμοκρασία αυτή, πίεσιν ατμού άνω των 3 KG/CM^2 θα περιέχεται εις τα δοχεία τα οποία επίσης θα είναι σύμφωνα προς τις διατάξεις των περιθωρίων 2202 και 22II έως 22I8.

Β.- ΠΡΟΣΘΕΤΟΙ ΟΡΟΙ ΓΙΑ ΚΟΛΑ ΤΥΠΟΥ Α

(I) Το εξωτερικόν κάθε κόλου θα ενσωματώνει χα- 360I
ρακτηριστικόν ως μία σφραγίδα, η οποία δεν θα μπορεί ευχερώς να σπάσει και η οποία, ενόσω θα είναι ανέπαφη, θα αποτελεί απόδειξιν ότι το κόλον δεν ανοίχθηκε.

(2) Όσον είναι πρακτικώς δυνατόν, η συσκευασία θα έχει έτσι σχεδιασθεί ώστε οι εξωτερικές επιφάνειες να είναι ελεύθερες από προεξέχοντα χαρακτηριστικά.

(3) Το σχέδιο της συσκευασίας θα λάβει υπόψη τις μεταβολές της θερμοκρασίας στις οποίες η συσκευασία μπορεί να υποβληθεί διαρκούσης της μεταφοράς και αποθηκεύσεως. Από της απόψεως αυτής, $-40^{\circ}C$ και $70^{\circ}C$ θα θεωρούνται ως ικανοποιητικά όρια δια την επιλογήν των υλικών· ειδική προσο-

χή, εν τούτοις, θα δίδεται σε εύθυπτο (εύθραυστο) θραύ- 3601
ση στά όρια της ανωτέρω θερμοκρασίας. (Συνεχίζεται)

(4) Το σχέδιον και η τεχνική της κατασκευής για συγκολλημένες, συγκολλημένες δι'ορειχάλκου ή άλλης μεταλλικής τήξεως ενώσεις θα είναι σύμφωνα προς τα εθνικά ή διεθνή πρότυπα ή προς πρότυπα αποδεκτά από την αρμόδια αρχή.

(5) Το κόλον θα είναι ικανόν να αντέχει τας επιδράσεις οιασδήποτε επιταχύνσεως, κραδασμού ή ταλαντώσεως η οποία ενδέχεται να υπάρξει διαρκούσης της κανονικής μεταφοράς χωρίς οιανδήποτε χειροτέρευσιν της αποτελεσματικότητος των μηχανισμών κλεισίματος επί των διαφόρων δοχείων ή της ακεραιότητος του κόλου ως ένσύνολον. Ειδικώτερον, περικόχλια, βίδες και λοιποί μηχανισμοί ασφαλείας θα είναι έτσι σχεδιασμένοι ώστε να τας εμποδίζουν να καταστούν χαλαρά (να χαλαρώνουν) ή να ελευθερούνται (λύονται) ασκόπως, ακόμη και μετά από επανειλημμένην χρήσιν.

(6) Ραδιενεργείς ύλες ειδικού τύπου (μορφής) μπορούν να θεωρούνται ως συστατικόν στοιχείον του συστήματος υποδοχέων (CONTAINMENT SYSTEM).

(7) Το σχέδιον θα περιλαμβάνει σύστημα υποδοχέων κλειόμενον δια θετικού μηχανισμού στερεώσεως, δηλαδή δια μηχανισμού ο οποίος δεν θα μπορεί να ανοίγει μόνος του, θα μπορεί μόνον να ανοίγει εκ προθέσεως και θα ανθίσταται εις την επίδρασιν πιθανής αυξήσεως της πιέσεως εσωτερικώς του δοχείου.

(8) Εάν σύστημα υποδοχέων (CONTAINMENT SYSTEM) αποτελεί χωριστήν μονάδα της συσκευασίας, θα είναι ικανόν

να κλείνει ασφαλώς δια θετικού μηχανισμού στερεώσεως 3601
(προσδέσεως) ο οποίος θα είναι ανεξάρτητος από οποιο- (Συνεχίζε-
δήποτε άλλο εξάρτημα της συσκευασίας. ται)

(9) Τα υλικά της συσκευασίας και οποιαδήποτε συστατικά μέρη ή δομαί θα συμφωνούν φυσικώς και χημικώς μεταξύ των και με το περιεχόμενον του κόλου· δέον να λαμβάνεται υπόψει η συμπεριφορά των υπό ακτινοβολίαν.

(10) Το σχέδιον οιουδήποτε συστατικού μέρους του συστήματος υποδοχέων (CONTAINMENT SYSTEM) θα λαμβάνει υπόψη, οσάκις είναι δυνατόν να εφαρμοσθεί, την ραδιολυτικήν αποσύνθεσιν των υγρών και άλλων τρωτών υλικών και την παραγωγήν αερίου δια χημικής αντιδράσεως και ραδιολύσεως.

(11) Το σύστημα υποδοχέων (CONTAINMENT SYSTEM) θα κρατεί το ραδιενεργόν περιεχόμενόν του κάτω της ελαττώσεως της περιβαλλοντικής πιέσεως μέχρι 0.25 KG/CM^2.

(12) Όλες οι βαλβίδες, πλήν των βαλβίδων ανακουφίσεως της πιέσεως, δια των οποίων το ραδιενεργόν περιεχόμενον θα μπορούσε άλλως να διαφύγει θα προστατεύονται κατά της μη-εξουσιοδοτηθείσης λειτουργίας των και θα είναι εφοδιασμένες με καλύπτρα δια να συγκρατείται οποιαδήποτε διαρροή εκ της βαλβίδος.

(13) Προστευτικόν της ακτινοβολίας κάλυμμα το οποίον εγκλείει συστατικόν μέρος της συσκευασίας οριζόμενον ως τμήμα του συστήματος υποδοχέων (CONTAINMENT SYSTEM) θα είναι έτσι σχεδιασμένον ώστε να εμποδίζεται ή μη ηθελημένη ελευθέρωσις του συστατικού τούτου μέρους εκ του προ-

στατευτικού καλύμματος. Οσάκις το προστατευτικόν της ακτι- 3601
νοβολίας κάλυμμα και το εντός αυτού τοιούτον συστατικόν (Συνεχίζε-
μέρος αποτελούν χωριστήν μονάδα, το προστατευτικόν της ται)
ακτινοβολίας κάλυμμα θα είναι ικανόν να κλείνει ασφαλώς
δια θετικού μηχανισμού στερεώσεως (προσδέσεως) ο οποίος
θα είναι ανεξάρτητος από οιανδήποτε άλλην δομήν συσκευασίας.

(Ι4) Οποιαδήποτε συνδετικά προσαρτήματα επί του κόλου θα είναι έτσι σχεδιασμένα ώστε, υπό κανονικάς και τυχαίας συνθήκας, αι δυνάμεις εις τα προσαρτήματα αυτά δεν θα εξασθενούν την ικανότητα του κόλου να αντιμετωπίσει τους όρους της παρούσης προσθήκης.

(Ι5) Η συσκευασία τύπου Α θα είναι έτσι σχεδιασμένη ώστε, εάν υπεβάλετο στις δοκιμές τις οριζόμενες υπό του περιθωρίου 3635 θα εμπόδιζε:-

(α) την απώλειαν ή διασποράν του ραδιενεργού περιεχομένου, και

(β) οιανδήποτε αύξησιν της προ της δοκιμής καταγραφείσης ή υπολογισθείσης εις την εξωτερικήν επιφάνειαν ανωτάτης ακτινοβολίας.

(Ι6) Η σχεδιασμένη για υγρά συσκευασία Τύπου Α θα είναι, επιπροσθέτως, κατάλληλος να αντιμετωπίσει τους όρους τους προβλεπομένους υπό του ανωτέρω περιθωρίου (Ι5) εάν το κόλον υποβληθεί στις δοκιμές τις οριζόμενες στο περιθώριο 3636.

Εν τούτοις, οι δοκιμές αυτές δεν απαιτούνται όταν αρκετό απορροφητικό υλικό απορροφά δύο φορές τον όγκον του περιεχομένου του υγρού ευρίσκεται εντός του συστήματος υποδοχέων (CONTAINMENT SYSTEM) και :

(α) το απορροφητικό υλικό ευρίσκεται εντός του προστατευτικού καλύμματος ακτινοβολίας· ή 3601 (Συνεχίζεται)

(β) το απορροφητικό υλικό ευρίσκεται εκτός του προστατευτικού καλύμματος ακτινοβολίας, υπό τον όρον ότι θα μπορεί να αποδειχθεί ότι εάν το περιεχόμενον του υγρού απερροφείτο υπό του απορροφητικού υλικού το προκύπτον επίπεδον ακτινοβολίας εις την επιφάνειαν του κόλου δεν θα υπερέβαινε τα 200 MREM/H (ωριαίως).

(17) Η συσκευασία Τύπου Α η σχεδιασμένη για πεπιεσμένα ή μη πεπιεσμένα αέρια, θα εμποδίζει, επιπροσθέτως, με απώλειαν ή διασποράν του ραδιενεργού περιερχομένου εάν το κόλον υποβληθεί εις τις δοκιμές τις οριζόμενες στό περιθώριο 3636. Συσκευασία σχεδιασθείσα για τρίτιο και αργό-37, υπό αεριώδη μορφήν και για δράσιν μέχρι 200 Ci, θα εξαιρείται του παρόντος όρου.

Γ.- ΒΑΣΙΚΟΙ ΠΡΟΣΘΕΤΟΙ ΟΡΟΙ ΓΙΑ ΚΟΛΑ ΤΥΠΟΥ Β(U) ΚΑΙ ΤΥΠΟΥ Β(Μ)

(1) Εκτός ως προβλέπεται εις περιθώριον 3603(1)(α) και 3604(2) αντιστοίχως, τα κόλα Τύπου Β(U) και Τύπου Β(Μ) θα σχεδιάζονται ώστε να πληρούν τους πρόσθετους όρους τους οριζομένους για κόλα Τύπου Α εις περιθώριον 3601(1) έως (15) συμπεριλαμβανομένων. 3602

(2) Η συσκευασία θα είναι έτσι σχεδιασμένη ώστε εάν υποβληθεί στις δοκιμές του περιθωρίου 3637 θα συγκρατούσε αρκετήν ακτινοβολίαν εις τρόπον ώστε να εξασφαλίζεται ότι το επίπεδον ακτινοβολίας εις 1 Μ από της επιφανείας του κόλου δεν θα υπερβαίνει 1 REM/H (ωριαίως) εάν το κόλον

περιείχε αρκετό ιρίδιο-192 ώστε να παραχθεί επίπεδον ακτι- 3602
νοβολίας 10 MREM/H εις 1 M από της επιφανείας προ των δο- (Συνεχίζε-
κιμών. Οσάκις η χρήσις της συσκευασίας πρόκειται να πε- ται)
ριορισθεί εις συγκεκριμένα ραδιονουκλείδια, τα ραδιονου-
κλείδια αυτά μπορούν να χρησιμοποιούνται ως πηγή παραπομπής
(αναφοράς) αντί του ιρίδιο-192. Επιπροσθέτως, εάν η συσκευα-
σία πρόκειται να χρησιμοποιηθεί για πομπούς ουδετερονίων
(NEUTRON EMITTERS), κατάλληλος πηγή παραπομπής (αναφοράς)
εις ουδετερόνια θα πρέπει επίσης να χρησιμοποιείται. Δεν
απαιτείται όπως γίνει απαραιτήτως μέτρησις με δοκιμαστικήν
πηγήν ακτινοβολίας αλλά όπως υπολογισμοί γίνουν εν σχέσει
με την εξεταζομένην συγκεκριμένην παραπομπήν πηγής ακτινο-
βολίας.

(3) Τα κόλα/Β(U) και Τύπου Β(Μ) θα είναι έτσι σχε-
διασμένα, κατασκευασμένα και προετοιμασμένα για φόρτωσιν
ώστε, υπό συνθήκας περιβάλλοντος οριζομένας στην παράγρα-
φον (4), να ικανοποιούν (πληρούν) τους κατωτέρω όρους (α)
και (β):

(α) Θερμότης παραγομένη εντός του κόλου υπό του
ραδιενεργού περιεχομένου δεν θα επηρεάζει
δυσμενώς, υπό κανονικάς συνθήκας μεταφοράς
(ως εδείχθη δια των δοκιμών του περιθωρίου
3635), το κόλον κατά τοιούτον τρόπον ώστε
τούτο να μη πληροί τους ισχύοντας όρους για
υποδοχείς και προστασίαν εάν αφεθεί απαρακο-
λούθητον δια χρονικήν περίοδον μιάς εβδομά-
δος. Ιδιαίτερη προσοχή θα δίδεται στις επι-
δράσεις της θερμότητος που μπορούν:-

(ι) να τροποποιήσουν την διευθέτησιν, την γεωμε- 3602
τρικήν μορφήν ή την φθσικήν κατάστασιν του (Συνεχίζε-
ραδιενεργού περιεχομένου ή, εάν το υλικόν ται)
κλεισθεί σε μπιτόνι ή δοχείον (π.χ. επενδεδυ-
μένα στοιχεία καυσίμου), να προκαλέσουν το
λυώσιμο του μπιτονιού, δοχείου ή υλικού·

(ιι) να ελαττώσουν την αποτελεσματικότητα της
συσκευασίας δια διαφορικής θερμικής διαστολής
η ραγίσματος ή λυωσίματος του προστατευτικού
κατα της ακτινοβολίας υλικού·

(ιιι) εν συνδυασμώ με την υγρασίαν να επιταχύνουν την
διάβρωσιν.

(β) Η θερμοκρασία των προσιτών επιφανειών κόλου Τύπου B(U) ή Τύπου B(M) δεν θα υπερβαίνει τους 50°C υπό σκιάν εκτός εάν το κόλον μεταφερθεί ως πλήρες φορτίον.

(4) Εφαρμόζοντες την παράγραφον (3)(α) θα πρέπει:

(α) η θερμοκρασία του περιβάλλοντος να είναι 38°C

(β) η εις τον ήλιον έθεσις να είναι σύμφωνος προς τον κατωτέρω Πίνακα I.

Εφαρμόζοντες την παράγραφον (3)(β), προϋποτίθεται η ύπαρξις του κατωτέρω όρου:

Θερμοκρασία περιβάλλοντος 38°C.

Προκειμένου περί κόλων Τύπου B(M) τα οποία πρόκειται να μεταφερθούν αποκλειστικώς μεταξύ οριζομένων χωρών, εναλλακτικοί όροι μπορούν να γίνουν δεκτοί από συμφώνου μετά των αρμοδίων αρχών των χωρών αυτών.

3602
(Συνεχίζεται)

ΠΙΝΑΞ Ι

ΣΤΟΙΧΕΙΑ ΕΚΘΕΣΕΩΣ ΕΙΣ ΤΟΝ ΗΛΙΟΝ

Σχήμα και επιφάνεια	Έκθεσις εις ήλιον σε GCAL/CM^2 για 12 ώρες ημερησίως
Επίπεδοι επιφάνειαι μεταφερόμεναι οριζοντίως:	
- βάσις	ουδεμία
- λοιπαί επιφάνειαι	800
Επίπεδοι επιφάνειαι μη-μεταφερόμεναι οριζοντίως:	
- πάθε επιφάνεια	200 α/
Κυρταί επιφάνειαι	400 α/

α/ Εναλλακτικώς, ημιτονοειδής συνάρτησις δύναται να χρησιμοποιηθεί, υιοθετούντες συντελεστήν απορροφήσεως και αδιαφορούντες δια τα αποτελέσματα πιθανής ανακλάσεως εκ γειτνιαζόντων αντικειμένων.

(5) Συσκευασία η οποία περιλαμβάνει θερμικήν προστασίαν με τον σκοπόν της ικανοποιήσεως των όρων της θερμικής δοκιμής της οριζομένης εις περιθώριον 3637(3) θα είναι έτσι σχεδιασμένη ώστε η τοιαύτη προστασία να παραμένει αποτελεσματική εάν η συσκευασία υποβληθεί εις τις δοκιμές τις οριζόμενες εως περιθώριον 3635 και περιθώριον 3637(2). Οποιαδήποτε τέτοια προστασία επί του εξωτερικού του κόλου θα καθίσταται αποτελεσματική έναντι συνθηκών κοινώς (συνήθως)

αντιμετωπιζομένων κατά τον κανονικόν χειρισμόν ή εις ατυχήματα και μη εμφανιζομένων εις τας ανωτέρω αναφερομένας δοκιμάς, π.χ. σχίσιμον, κοπήν, ολίσθησιν, εκτριβήν ή ανώμαλον χειρισμόν. 3602 (Συνεχίζεται)

Δ.- ΕΙΔΙΚΟΙ ΠΡΟΣΘΕΤΟΙ ΟΡΟΙ ΓΙΑ ΚΟΔΑ ΤΥΠΟΥ Β(U)

(1) Το κόλον θα είναι έτσι σχεδιασμένον ώστε, εάν υπεβάλετο στις ανωτέρω αναφερόμενες δοκιμές:

(α) θα περιώριζε, αναφορικώς με τις δοκιμές τις οριζόμενες στο περιθώριο 3635 την απώλειαν του ραδιενεργού περιεχομένου εις όχι άνω των $A_2 \times 10^{-6}$ ωριαίως.

(β) θα περιώριζε, αναφορικώς με τις δοκιμές του περιθωρίου 3637, την συσσωρευθείσαν απώλειαν του ραδιενεργού περιεχομένου εις όχι άνω των $A_2 \times 10^{-3}$ σε χρονικήν περίοδον μιάς εβδομάδος.

Οσάκις μίγματα διαφορετικών ραδιονουκλειδίων (RADIONUCLIDES) υπάρχουν, θα ισχύουν οι όροι του περιθωρίου 3691.

Δια την (α) ανωτέρω, η εκτίμησις θα λάβει υπόψει τα όρια της εξωτερικής μολύνσεως, του περιθωρίου 3651. Δι'αμφότερα τα (α) και (β) ανωτέρω, αι τιμαί A_2 ευγενών αερίων θα είναι εκείναι της μη-πεπιεσμένης καταστάσεως.

(2) Η συμμόρφωσις προς τα επιτρεπόμενα όρια αφέσεως της δράσεως δεν θα εξαρτάται ούτε από τα φίλτρα ούτε από σύστημα μηχανικής ψύξεως.

(3) Το κόλον δεν θα ενσωματώνει χαρακτηριστικόν το οποίον αποσκοπεί εις το να επιτρέπει συνεχή εξαερισμόν διαρκούσης της μεταφοράς.

(4) Το κόλον δεν θα περιλαμβάνει σύστημα αναψυφίσεως

της πιέσεως εκ του συστήματος υποδοχέων (CONTAINMENT SYSTEM) το οποίον θα επέτρεπε την ελευθέρωσιν ραδιενεργών υλών εις το περιβάλλον υπό τους όρους των δοκιμών τους οριζομένους εις τα περιθώρια 3635 και 3637. 3603 (Συνεχίζεται)

(5) Οσάκις η ανωτάτη συνήθης λειτουργική πίεσις (βλέπε περιθώριον 2700(2)) του συστήματος υποδοχέων (CONTAINMENT SYSTEM) προστιθεμένη εις οιανδήποτε διαφορικήν πίεσιν κάτω της μέσης ατμοσφαιρικής πιέσεως της επιφανείας της θαλάσσης εις την οποίαν οιονδήποτε συστατικόν μέρος της συσκευασίας οριζόμενον ως τμήμα του συστήματος υποδοχέων μπορεί να υποβληθεί υπερβαίνει τα 0.35 KG/CM^2, το συστατικόν τούτο μέρος θα είναι ικανόν να ανθέξει εις πίεσιν όχι μικροτέραν της μιας και ημίσεος φοράς του αθροίσματος των πιέσεων αυτών· η έντασις της τελευταίας αυτής πιέσεως δεν θα είναι μεγαλυτέρα του 75 τοις εκατό της κατωτάτης αντοχής διαρροής (υλικού) και όχι μεγαλυτέρα του 40 τοις εκατό της μεγίστης αντοχής του συστατικού τούτου μέρους στην ανωτάτην αναμενομένην λειτουργικήν θερμοκρασίαν.

(6) Με το κόλον εις την ανωτάτην συνήθη λειτουργικήν πίεσιν (βλέπε περιθώριον 2700(2)) υποβαλλόμενον εις την θερμικήν δοκιμήν την οριζομένην εις το περιθώριον 3637(3), η πίεσις οιουδήποτε συστατικού μέρους της συσκευασίας οριζομένου ως τμήματος του συστήματος υποδοχέων θα εμφανίζεται ως μη υπερβαίνουσα την πίεσιν η οποία αντιστοιχεί εις την κατωτάτην αντοχήν διαρροής του συστατικού τούτου μέρους εις την ανωτάτην θερμοκρασίαν εις την οποίαν θα ανεμένετο να φθάσει κατά την δοκιμήν.

(7) Το κόλον δεν θα έχει ανωτάτην συνήθη (κανονικήν) 3603
λειτουργικήν πίεσιν (βλέπε περιθώριον 2700(2)) πλέον των (Συνεχίζεται)
7 KG/CM^2(GAUGE).

(8) Η ανωτάτη θερμοκρασία οιασδήποτε επιφανείας ευχερώς προσιτής διαρκούσης της μεταφοράς του κόλου δεν θα υπερβαίνει τους 82°C υπό σκιάν υπό κανονικάς συνθήκας μεταφοράς (βλέπε επίσης περιθώριο 3602(3)(β) ανωτέρω).

(9) Το σύστημα υποδοχέων (CONTAINMENT SYSTEM) ενός κόλου περιεχόντων υγρόν δεν θα εξασθενεί εάν το κόλον υποβληθεί εις θερμοκρασίαν -40°C υπό κανονικάς συνθήκας μεταφοράς.

Ε.- ΠΡΟΣΘΕΤΟΙ ΟΡΟΙ ΓΙΑ ΚΟΛΑ ΤΥΠΟΥ Β(Μ)

3604

(Ι) Επιπροσθέτως των όρων του περιθωρίου 3602, τα κόλα Τύπου Β(Μ), όσον είναι πρακτικώς δυνατόν, θα πληρούν τους πρόσθετους ειδικούς όρους των κόλων Τύπου Β(U) τους διδομένους εις το περιθώριον 3603.

(2) Κόλον του Τύπου Β(Μ) θα είναι έτσι σχεδιασμένον ώστε, εάν υπεβάλετο εις τας δοκιμάς τας αναφερομένας εις τον Πίνακα ΙΙ θα απηγόρευε την απώλειαν του ραδιενεργού περιεχομένου εις όχι άνω των εν Πίνακι ΙΙ οριζομένων ορίων δράσεως. Η εκτίμησις όσον αφορά τας δοκιμάς τας οριζομένας εις το περιθώριον 3635 θα λαμβάνει υπόψη τα εν περιθωρίω 3651 αναφερόμενα όρια εξωτερικής μολύνσεως.

ΠΙΝΑΞ ΙΙ.- ΟΡΙΑ ΔΡΑΣΕΩΣ (ΕΝΕΡΓΟΤΗΤΟΣ) ΔΙΑ ΤΗΝ ΑΠΩΛΕΙΑΝ ΡΑΔΙΕΝΕΡΓΟΥ ΠΕΡΙΕΧΟΜΕΝΟΥ ΕΚ ΤΩΝ ΚΟΛΩΝ ΤΥΠΟΥ Β(Μ) 3604

(Συνεχίζεται)

Συνθήκαι	Κόλα Τύπου Β(Μ) μη-σχεδιασμένα δια συνεχή αερισμόν	Κόλα τύπου Β(Μ) ειδικώς σχεδιασμένα να επιτρέπουν συνεχή αερισμόν
Μετά τις δοκιμές του περιθωρίου 3635	$A_2 \times 10^{-6}$ ωριαίως	$A_2 \times 5 \times 10^{-5}$ ωριαίως
Μετά τις δοκιμές του περιθωρίου 3637	Κρυπτόν-85: 10 000 Ci σε 1 εβδομάδα Άλλα ραδιονουκλεΐδια: A_2 σε 1 εβδομάδα	Κρυπτόν-85: 10 000 Ci σε 1 εβδομάδα Άλλα ραδιονουκλεΐδια: A_2 σε 1 εβδομάδα

Αι τιμαί A_2 αι χρησιμοποιούμεναι για ευγενή αέρια θα είναι για μη-πεπιεσμένη κατάστασι. Οσάκις μίγματα ραδιονουκλεΐδίων είναι παρόντα θα ισχύουν οι διατάξεις του περιθωρίου 3691.

(3) Εάν η πίεση στο σύστημα υποδοχέων (CONTAINMENT SYSTEM) πόλου Τύπου Β(Μ) θα μπορούσε να καταλήξει σε έντασιν υπερβαίνουσαν, υπό τας συνθήκας των δοκιμών των περιθωρίων 3635 και 3637, την κατωτάτην αντοχήν διαρροής οιουδήποτε κατασκευαστικού υλικού του συστήματος υποδοχέων (CONTAINMENT SYSTEM) στη θερμοκρασία στην οποία ανεμένετο να φθάσει κατά τις δοκιμές, η συσκευασία θα είναι εφοδιασμένη με σύστημα ανακουφίσεως της πιέσεως δια να εξασφα-

λισθεί ότι δεν υπερβαίνεται η κατωτάτη αντοχή διαρροής.

3605-
3609

ΚΕΦΑΛΑΙΟΝ ΙΙ - ΔΙΑΣΠΑΣΤΕΣ ΥΛΕΣ

Α.- ΕΞΑΙΡΕΣΕΙΣ ΔΙΑΣΠΑΣΤΩΝ ΥΛΩΝ ΑΠΟ ΣΥΝΤΑΓΕΣ ΚΟΛΩΝ ΔΙΑΣΠΑΣΤΗΣ ΚΑΛΑΣΕΩΣ

Κόλα περιέχοντα ραδιενεργείς ύλες που είναι επίσης διασπαστές ύλες εκτός δια τα αέρια τα οριζόμενα εις (α) και (ζ) κατωτέρω, θα σχεδιάζονται κατά τρόπον σύμφωνον προς τους όρους του παρόντος κεφαλαίου. 3610

(α) Κόλα περιέχοντα ατομικώς όχι περισσότερα των 15 γραμ. ουρανίου-233, ουρανίου-235, πλουτονίου-238, πλουτονίου-239, πλουτονίου-241, ή 15 γραμ. οιουδήποτε συνδυασμού των ραδιονουκλεϊδίων αυτών, εφ'όσον η κατωτάτη εξωτερική διάστασις του κόλου δεν είναι μικρότερη των 10 CM. Οσάκις το υλικόν μεταφέρεται εις χύμα, τα όρια ποσοτήτων θα ισχύον δια το όχημα.

(β) Κόλα περιέχοντα μόνον φυσικόν ή εξασθενημένον (DEPLETED) ουράνιον που έχει υποστεί ακτινοβολίαν σε θερμούς αντιδραστήρες μόνον.

(γ) Κόλα περιέχοντα ομοιογενή υδρογονώδη διαλύματα ή μίγματα πληρούντα τους όρους τους αναφερομένους στον Πίνακα ΙΙΙ. Όταν το υλικόν μεταφέρεται εις χύμα, οι περιορισμοί ποσοτήτων θα ισχύουν δια το όχημα.

3610

ΠΙΝΑΞ ΙΙΙ.- (Συνεχίζεται)

ΠΕΡΙΟΡΙΣΜΟΙ ΟΜΟΙΟΓΕΝΩΝ ΥΔΡΟΓΟΝΙΚΩΝ ΔΙΑΛΥΜΑΤΩΝ Η ΜΙΓΜΑΤΩΝ

Παράμετροι	Οποιεσδήποτε άλλες διασπαστές ύλες (συμπεριλαμβανομένων των μιγμάτων)	^{235}U μόνον
Κατωτάτη H/X α/	5200	5200
Ανωτάτη συμπύκνωσις διασπαστού νουκλεϊδίου σε G/L	5	5
Ανωτάτη μάζα διασπαστού νουκλεϊδίου σε G/κόλον	500	800 β/

α/ Όπου H/X είναι ο λόγος του αριθμού των ατόμων υδρογόνου προς τον αριθμόν των ατόμων διασπαστου νουκλεϊδίου.

β/ Με ανοχήν δια PU και ^{233}U όχι μεγαλυτέραν του 1 τοις εκατόν της μάζας του ^{235}U.

(δ) Κόλα περιέχοντα ουράνιον εμπλουτισμένον με ουράνιον-235 το ανώτατον 1 τοις εκατό κατά βάρος, και με ολικόν εις πλουτόνιον και ουράνιον-233 περιεχόμενον μέχρι του 1 τοις εκατό της μάζας ουρανίου-235, εφ'όσον, οι διασπαστές ύλες διανέμονται ομοιογενώς καθ'όλον το υλικόν. Επιπροσθέτως, εάν ουράνιον-235 είναι παρόν υπό μεταλλικήν μορφήν ή υπό μορφήν οξειδίου, δεν θα σχηματίζει δικτύωμα εντός του κόλου.

(ε) Κόλα περιέχοντα οιεσδήποτε διασπαστές ύλες εφ'όσον δεν περιέχουν άνω των 5 γραμ. διασπαστών υλών σε οιονδήποτε όγκον IO-λιτρών. Οι ύλες θα συσκευάζονται σε κόλα τα οποία θα διατηρούν τους περιορισμούς επί της διανομής των διασπαστών υλών διαρκούσης της κανονικής μεταφοράς. 3610 (Συνεχίζεται)

(στ) Κόλα περιέχοντα ατομικώς όχι άνω του I KG ολικού πλουτονίου, εκ του οποίου όχι περισσότερον του 20 τοις εκατό κατά μάζα μπορεί να αποτελείται από πλουτόνιον-239, πλουτόνιον-24I, ή οποιονδήποτε συνδυασμόν των ραδιονουκλεϊδίων αυτών.

(ζ) Κόλα περιέχοντα υγρά διαλύματα νιτρικού ουρανυλίου εμπλουτισμένα εις ουράνιον-235 μέχρι το ανώτατον 2 τοις εκατό κατά βάρος, με ανοχήν δια πλουτόνιον και ουράνιον-233 μέχρι του 0.I τοις εκατό της μάζης ουρανίου-235.

Τα κόλα θα είναι επίσης σύμφωνα με τα λοιπά οικεία τμήματα της παρούσης Προσθήκης.

Β.- ΓΕΝΙΚΟΙ ΟΡΟΙ/ΔΙΑΤΑΞΕΙΣ ΠΥΡΗΝΙΚΗΣ ΑΣΦΑΛΕΙΑΣ

(I) Όλες οι διασπαστές ύλες θα συσκευάζονται και φορτώνονται κατά τοιούτον τρόπον ώστε να μην είναι δυνατόν να φθάσουν εις σημείον κρισιμότητος υπό οιασδήποτε δυναμένας να προβλεφθούν συνθήκας μεταφοράς. Ειδικώτερον, αι κατωτέρω απρόβλεπτοι περιπτώσεις θα λαμβάνονται υπόψη:- 3611

(α) διαρροή ύδατος εντός ή εκτός των κόλων

(β) η απώλεια της αποδοτικότητος ενσωματωμένων απορροφητών ή μετριαστών νετρονίων

(γ) δυνατή διάταξις του περιεχομένου σε περισ- 36II
σότερο ενεργούς σειρές, είτε εντός του κό- (Συνεχίζεται
λου είτε σαν αποτέλεσμα απωλειών εκ του κό-
λου·

(δ) ελάττωσις των χώρων μεταξύ κόλων ή περιεχο-
μένου·

(ε) κόλα βυθιζόμενα στο ύδωρ ή θαπτόμενα στο χιόνι·

(στ) γενική αύξησις της δραστικότητος λόγω αλλαγών
στη θερμοκρασία·

(2) Επιπροσθέτως, για ακτινοβολούν πυρηνικόν καύσιμον (IRRADIATED NUCLEAR FUEL) ή μη καθοριζόμενες (απροσδιόριστες) διασπαστές ύλες θα υπάρχουν οι παρακάτω προϋποθέσεις:-

(α) Ακτινοβολούν πυρηνικόν καύσιμον δια το οποίον
ο βαθμός ακτινοβολίας δεν είναι γνωστός και
του οποίου η δραστικότης μειούται όταν καεί
θα θεωρείται ως μη ακτινοβολούν για τον έλεγ-
χον του σημείου κρισιμότητος. Εάν η δραστικό-
της του αυξηθεί ότανκαεί, θα θεωρείται ως ακτι-
νοβολούν μέχρι του σημείου της ανωτάτης δρα-
στικότητος. Η δραστικότης του πυρηνικού καυ-
σίμου δια το οποίο ο βαθμός ακτινοβολίας εί-
ναι γνωστός μπορεί να εκτιμηθεί καταλλήλως.

(β) Για απροσδιόριστες διασπαστές ύλες όπως κατά-
λοιπα ή παλιοσίδερα των οποίων ο εμπλουτισμός,
η μάζα, η συμπύκνωσις, ο λόγος επιβραδύνσεως
ή η πυκνότης είναι άγνωστα ή δεν μπορούν να
εξακριβωθούν, η προϋπόθεσις θα είναι ότι κάθε

παράμετρος η οποία δεν είναι γνωστή έχει την τιμήν η οποία δίδει την ανωτάτη δραστικότητα υπό αξιοπίστους συνθήκας. 36II (Συνεχίζεται)

(3) Κόλα διασπαστών υλών, εκτός ως προβλέπεται εις περιθώριον 36IO, θα ταξινομούνται ως κάτωθι:-

(α) Κλάσις Διασπαστών Υλών I: κόλα τα οποία είναι πυρηνικώς ασφαλή οιουδήποτε αριθμού και οιασδήποτε διατάξεως υφ'όλα ς τας προβλεπομένας συνθήκας μεταφοράς·

(β) Κλάσις Διασπαστών Υλών II: κόλα τα οποία, εις περιωρισμένον αριθμόν, είναι πυρηνικώς ασφαλή σε οποιαδήποτε διάταξη υφ'όλας τας προβλεπομένας συνθήκας μεταφοράς·

(γ) Κλάσις Διασπαστών Υλών III: κόλα τα οποία είναι πυρηνικώς ασφαλή υφ'όλας τας προβλεπομένας συνθήκας μεταφοράς ένεκεν ειδικών προφυλάξεων, ή ειδικών διοικητικών ή λειτουργικών ελέγχων επιβληθέντων κατά την μεταφοράν της αποστολής.

I/ Εφαρμόζοντες τα στοιχεία σημείου κρισιμότητος (CRITICALITY DATA), τα ληφθέντα είτε κατόπιν υπολογισμού είτε πειραματικώς, επί του διανένου κρισιμότητος των μεταφερομένων κόλων, θα πρέπει να υπάρχει ανοχή χωριστά για οποιαδήποτε ανακρίβεια των στοιχείων ή αβεβαιότητα αναφορικώς με την ισχύν των.

Γ.- ΕΙΔΙΚΑΙ ΔΙΑΤΑΞΕΙΣ ΓΙΑ ΚΟΛΑ ΔΙΑΣΠΑΣΤΩΝ ΥΛΩΝ

ΚΛΑΣΕΩΣ I

(I) Κάθε κόλον Διασπαστών Υλών Κλάσεως I θα είναι 3612 έτσι σχεδιασμένο ώστε εάν υπεβάλετο στις δοκιμές τις οριζόμενες στο περιθώριο 3635:-

(α) το νέρό δεν θα διέρρεε εντός ή εκτός οιουδήποτε εξαρτήματος του κόλου εκτός εάν το νέρό διέρρεε εις, ή διέρρεε εκ, του τμήματος αυτού, εις τον βέλτιστον προβλεπόμενον βαθμόν, ως προϋπόθεσις για τους σκοπούς του περιθωρίου 3614(I)· και

(β) η διαμόρφωσις του περιεχομένου και η γεωμετρία του συστήματος υποδοχέων (CONTAINMENT SYSTEM) δεν θα ετροποποιείτο κατά τρόπον ώστε να αυξάνεται η δραστικότης σημαντικώς.

(2) Κόλα Διασπαστών Υλών Κλάσεως I θα ικανοποιούν τα κριτήρια της πυρηνικής ασφαλείας τα οριζόμενα στα περιθώρια 3613 και 3614.

I.- Για το ατομικό κόλον εξεταζόμενον μεμονομένως

(I) Οι κάτωθι όροι θα θεωρούνται ως δεδομένοι:- 3613

(α) το κόλον είναι "κατεστραμένον" (προς τον σκοπόν αυτόν "κατεστραμένον" θα εννοεί την εκτιμηθείσαν ή επιδειχθείσαν κατάστασιν του κόλου εάν τούτο υπεβλήθη είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(I) έως (3), τις ακολουθούμενες από τις δοκιμές τις οριζόμενες στό περιθώριο 3638, είτε στις δοκιμές τις οριζό-

μενες στα περιθώρια 3635 και 3637(4), οποιοσ- 3613
δήποτε συνδυασμός είναι πιο περιοριστικός· (Συνεχίζεται)
και

(β) το νερό μπορεί να διαρρέει εις ή έξω από όλους τους κενούς χώρους του κόλου συμπεριλαμβανομένων των εντός του συστήματος υποδοχέων (CONTAINMENT SYSTEM) τοιούτων, εκτός του ότι, οσάκις το σχέδιον του κόλου ενσωματώνει ειδικά χαρακτηριστικά για να αποφευχθεί η διαρροή του ύδατος εις ή έξω από ωρισμένους κενούς χώρους ακόμη και ως αποτέλεσμα ανθρωπίνου σφάλματος, η έλλειψις διαρροής μπορεί να θεωρηθεί ως δεδομένη εν σχέσει με τους κενούς τούτους χώρους. Τέτοια ειδικά χαρακτηριστικά μπορούν να περιλαμβάνουν είτε:-

(I) πολλαπλούς υψηλού επιπέδου φραγμούς νερού, ο καθένας των οποίων θα παρέμενε στεγανός εάν το κόλον υπεβάλετο στους συνδυασμούς των δοκιμών των οριζομένων στην παράγραφον (I)(α)· είτε

(II) υψηλού βαθμού ποιοτικός έλεγχος της παραγωγής και συντηρήσεως της συσκευασίας, μαζί με ειδικές δοκιμές για να καταδειχθεί το κλείσιμον κάθε κόλου προ της φορτώσεως.

(2) Το κόλον θα είναι δευτερογόντως ασφαλές (SUB-CRITICAL) δυνάμει καταλλήλου περιθωρίου[2/] υπό τας συνθήκας της παραγράφου (1), των φυσικών και χημικών χαρακτηριστικών λαμβανομένων υπόψει, συμπεριλαμβανομένης οιασδήποτε αλλαγής των χαρα-

κτηριστικών αυτών τα οποία θα μπορούσαν να προκύψουν υπό 3613
τας συνθήκας της παραγράφου (Ι), και με τους όρους επι- (Συνεχίζε-
βραδύνσεως (MODERATION) και ανακλάσεως ως ορίζονται κατω- ται)
τέρω:

2/ Π.χ., εάν η μάζα διασπαστής ύλης είναι μία κατάλληλος παράμετρος για έλεγχο, κατάλληλο περιθώριο θα αντιπροσωπεύετο δια περιορισμού της μάζης εις 80 στα εκατόν της μάζης εκείνης η οποία θα ήτο ακροσφαλής (CRITICAL) σε παρόμοιο σύστημα.

(α) με τις ύλες εντός του συστήματος υποδοχέων (CONTAINMENT SYSTEM):

(Ι) η πλέον δραστική διαμόρφωσις και επιβράδυνσις (MODERATION) που είναι δυνατόν να προβλεφθούν υπό τας συνθήκας της παραγράφου (Ι)·

(ΙΙ) τελεία πλήρους ύδατος ανάκλασις του συστήματος υποδοχέων (CONTAINMENT SYSTEM) ή τοιαύτη μεγαλυτέρα ανάκλασις του συστήματος υποδοχέων ως ήθελε επιπροσθέτως παρασχεθεί υπό του περιβάλλοντος την συσκευασίαν υλικού, και, επί πλέον,

(β) εάν οιονδήποτε τμήμα των υλών διαφύγει από το σύστημα υποδοχέων (CONTAINMENT SYSTEM) υπό τας συνθήκας της παραγράφου (Ι):

(Ι) η πλέον δραστική διαμόρφωσις και επιβράδυνσις που θεωρείται πιστευτή·

(II) τελεία πλήρους ύδατος ανάκλασις των υλών.

2.- Για αποστολές ενός ή περισσοτέρων κόλων

(I) Οιοσδήποτε αριθμός μη κατεστραμένων κόλων ενός 3614
σχεδίου οιασδήποτε διατάξεως θα είναι δευτερευόντως ακροσφαλής (SUB-CRITICAL)· για τον σκοπόν αυτόν με τον όρον "μη κατεστραμένον" θα νοείται η κατάσταση στην οποία τα κόλα έχουν σχεδιασθεί να παρουσιασθούν για μεταφορά.

(2) 250 τέτοια κόλα όταν (είναι) "κατεστραμένα" θα είναι δευτερευόντως ακροσφαλή (SUB-CRITICAL) εάν συσσωρευθούν ομού με οποιανδήποτε διάταξιν και (είναι) στενώς αναπλώμενα σε όλες τις πλευρές της σωρού υπό του ισοδυνάμου ύδατος (δια τον σκοπόν αυτόν με τον όρον "κατεστραμένον" θα νοείται η εκτιμηθείσα ή επιδειχθείσα κατάστασις του κόλου εάν είχε ταύτο υποβληθεί είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(I) έως (3), ακολουθούμενες από εκείνες του περιθωρίου 3638, είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(4), οποιοσδήποτε των συνδυασμών είναι περισσότερον περιοριστικός). Υδρογονική επιβράδυνσις (MODERATION) 3/ μεταξύ κόλων, και διαρροή ύδατος εντός ή εκτός των κόλων συμφώνως προς τα αποτελέσματα της δοκιμής θα εικάζεται μέχρι του σημείου που καταλήγει στη μεγαλυτέρα δραστικότητα.

3/ Η υδρογονική επιβράνδυσις μπορεί να θεωρηθεί ότι αποτελείται είτε από ομοιόμορφον στρώμα ύδατος πλήρους πυκνότητος περιβάλλοντος κάθε κόλον είτε από ύδωρ καταλλήλου πυκνότητος ομοιογενώς διεσπαρμένου μεταξύ των κόλων.

3.- Παραδείγματα σχεδίων κόλων απαιτούντων πολύπλευρον έγκρισιν

Παράδειγμα I

Ο υπολογισμός θα βασισθεί επί των κάτωθι προϋ- 3615
ποθέσεων:-

(α) Κάθε ένα κόλον θα συμμορφούται προς τα κριτήρια των περιθωρίων 3612 και 3613.

(β) Το κόλον, είτε κατεστραμένον είτε μη κατεστραμένον θα είναι τέτοιο ώστε να προστατεύει το διασπαστόν περιεχόμενον από θερμικά νετρόνια.

(γ) Όταν μία παράλληλος δέσμη νετρονίων έχουσα φάσμα ενεργείας ως ορίζεται στον Πίνακα IV προσπίπτει με γωνίαν οιανδήποτε επί μη κατεστραμένου κόλου ο παράγων πολλαπλασιασμού επιφανείας για επιθερμικά νετρόνια, τ.έ. ο λόγος του αριθμού των επιθερμικών νετρονίων των εγκαταλειπόντων το κόλον προς τον αριθμόν των επιθερμικών νετρονίων των εισερχομένων εις το κόλον, θα είναι ολιγώτερος του ενός, και το φάσμα ενεργείας των νετρονίων τα οποία εκπέμπονται υπό του κόλου σε άπειρο σειρά δεν θα είναι εντονώτερον (σκληρότερον) εκείνου του παρεπίμπτοντος νετρονίου.

(δ) Το σχέδιον του κόλου θα συμμορφούται προς τα κριτήρια του περιθωρίου 3614(2).

4.- Παραδείγματα σχεδίων κόλων απαιτούντων μονομερή έγκρισιν

Παράδειγμα I

(I) Η συσκευασία θα είναι έτσι κατασκευασμένη ώστε το 3616
διασπαστόν περιεχόμενον να περιβάλεται από στρώμα υλικού

ικανού να απορροφήσει όλα τα παρεπίμπτοντα θερμικά νετρόνια 4/ και το απορροφητικόν τούτο στρώμα νετρονίων περιβληθεί ακολούθως από ξύλον πάχους τουλάχιστον 10.2 CM έχοντος κατώτατον περιεχόμενον υδρογόνου 5.5 τοις εκατό κατά βάρος, εις τρόπον ώστε η κατωτάτη εξωτερική διάστασις υπεράνω του ξύλου να είναι 30.5 CM.

ΠΙΝΑΞ IV - ΦΑΣΜΑ ΕΝΕΡΓΕΙΑΣ ΝΕΤΡΟΝΙΩΝ α/

Ενέργεια νετρονίου E	Κλάσματα νετρονίων με ενέργειαν κάτω του E
11.0 MeV	1.000
2.4 MeV	0.802
1.1 MeV	0.590
0.55 MeV	0.460
0.26 MeV	0.373
0.13 MeV	0.319
43 KeV	0.263
10 KeV	0.210
1.6 KeV	0.156
0.26 KeV	0.111
42 eV	0.072
5.5 eV	0.036
0.4 eV	0

α/ Το φάσμα είναι το επιθερμικόν τμήμα του φάσματος ισορροπίας του αναδυομένου εκ κόλων ενσωματούντων ξύλον πάχους 5 CM σε ακροσφαλή σειρά τοιούτων κόλων.

4/ Το στρώμα τούτο μπορεί να αποτελείται από κάδμιον πάχους τουλάχιστον 0.38 ΜΜ ισοδύναμον προς 0.325 γραμ. καδμίου ανά CM^2.

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(2) Η συσκευασία θα είναι έτσι κατασκευασμένη ώστε όταν "κατεστραμένη" (για τον σκοπόν αυτόν "κατα- στραμένη" θα έχει την έννοιαν την διδομένην στο περι- θώριο 3613(Ι)) το διασπαστόν περιεχόμενον θα παραμένει περιβαλλόμενον από το απορροφητικόν στρώμα νετρονίων, το απορροφητικόν στρώμα νετρονίων θα παραμένει περιβαλλόμενον από το ξύλον, και το ξύλον δεν θα χαθεί σε βαθμό ώστε να ε- λαπωθεί το πάχος του υπολοίπου ξύλου κάτω των 9.2 CM ή ελαττωθεί η κατωτάτη εξωτερική διάσταση υπεράνω του υπο- λοίπου ξύλου σε ολιγώτερο των 28.5 CM. 3616 (Συνεχίζε- ται)

(3) Το περιεχόμενον δεν θα υπερβαίνει την επιτρεπτή μάζα των διασπαστών υλών την εικονιζομένην στους Πίνακες V έως XIII η οποία είναι σύμφωνος προς: (α) την φύσιν των υλών· (β) την ανωτάτην επιβράδυνσιν· και (γ) την ανωτάτην διάμετρον (ή όγκον) ο οποίος/οποία θα μπορούσε να προκύψει εάν το κόλον ήτο "κατεστραμένον" (δια τον σκοπόν αυτόν ο όρος "κατεστραμένον" θα έχει την έννοιαν την διδομένην στο περιθώριο 3613(Ι)).

Σημείωσις:- Λεπτομερής υπολογισμός για δεδομένο σχέδιον κόλου συμφώνως προς την μέθοδον την εκτιθεμέ- νην στο περιθώριο 3615 μπορεί να δώσει ολι- γώτερον περιοριστικές τιμές εκείνων των τιμών των Πινάκων V έως XIII.

Προσθήκη Α.6.-

ΠΙΝΑΞ V

ΥΔΑΤΩΔΗ ΔΙΑΛΥΜΑΤΑ ΦΘΟΡΙΟΥΧΟΥ ΟΥΡΑΝΥΛΙΟΥ[α/] Η ΝΙΤΡΙΚΟΥ ΟΥΡΑΝΥΛΙΟΥ[α/]

Επιτρεπτή μάζα ουρανίου ανά κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας

I.- Περιωρισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)
	0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 I.0 I.I I.I5 I.2 I.25
	KG ουρανίου ανά κόλον
I0.I6	Ουδέν όριον
Ουδέν όριον	0.084 0.I20 0.I57 0.I93 0.23I 0.267 0.30I 0.335 0.370 0.400 0.456 0.478 0.498

2.- Περιωρισμένη κατά ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)
	0.6 0.65 0.7 0.75 0.8 0.85 0.9 0.95 I.0 I.05 I.I I.I5 I.2 I.25
	KG ουρανίου ανά κόλον
2 3 κλπ. Ουδέν Όριον	Αριθμοί: ως ο Πίνακας

α/ Ουράνιο το οποίον δεν περιλαμβάνει U^{233} και όχι περισσότερο των $93^{I}/2^{o}/o$ U^{235} κατά βάρος.

Προσθήκη Α.6

ΠΙΝΑΞ VI

ΜΗ-ΥΔΡΟΓΟΝΙΚΑΙ ΕΝΩΣΕΙΣ ΟΥΡΑΝΙΟΥ(α) Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩΣΙΣ ΤΟΥ ΟΡΑΝΙΟΥ-235 ΔΕΝ ΥΠΕΡΒΑΙΝΕΙ ΤΑ 4.8 G/CM^3 (β)

(Συμπεριλαμβανομένου UNMODERATED URANIUM METAL (μετάλλου ουρανίου) εμπλουτισμού ουρανίου-235 μη υπερβαίνοντος το 25 τοις εκατόν κατά βάρος))

Επιτρεπτή μάζα ουρανίου ανά κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας

1.- Περιωρισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM^3 και όχι μικροτέρα 0.6 G/CM^3
	KG ουράνιον ανά κόλον
10.16	Ουδέν όριον
Ουδέν όριον	0.69

2.- Περιωρισμένη κατά ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25G/CM^3 και όχι μικροτέρα των (G/CM^3)					
	0.65	0.7	0.75	0.8	0.85	0.9
	KG ουρανίου ανά κόλον					
3 4 κλπ.	Ακολουθούν αριθμοί					
Ουδέν όριον						

(α) Ουράνιον το οποίον δεν περιλαμβάνει U^{233} και όχι περισσότερον των 93 I/2 τοις εκατόν U^{235} κατά βάρος.

(β) Μίγματα περιέχοντα βηρύλλιο ή δευτέριο αποκλείονται και η μάζα του άνθρακος δεν θα υπερβαίνει πέντε φορές την εγκριθείσα μάζαν ουρανίου.

Προσθήκη Α.6

ΠΙΝΑΞ VII

ΜΗ-ΥΔΡΟΓΟΝΙΚΑΙ ΕΝΩΣΕΙΣ ΟΥΡΑΝΙΟΥ α/ Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩΣΙΣ ΤΟΥ ΟΥΑΡΝΙΟΥ-235 δεν υπερβαίνει ΤΑ 9.6 G/CM^3 β/ (Συμπεριλαμβανομένου UNMODERATED URANIUM METAL (μετάλλου ουρανίου) εμπλουτισμού ουρανίου-235 μη υπερβαίνοντος το 50 τοις εκατόν κατά βάρος))

Επιτρεπτή μάζα ουρανίου ανα κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας

I.- Περιωρισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25G/CM^3 και όχι μικροτέρα των (G/CM^3)	
	0.6	0.65 κλπ. αριθμοί
	KG ουρανίου ανά κόλον	
Αριθμοί 7.5 κλπ.=	Ουδέν όριον	
Ουδέν όριον	Ουδέν όριον	
	Ουδέν όριον	
		Ουδέν όριον

2.- Περιωρισμένη κατά ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25G/CM^3 και όχι μικροτέρα των (G/CM^3)
	0.65 0.7 0.75 0.8 0.85 0.9 0.95 I.0
3 4 κλπ.- Ουδέν όριον	Ακολουθούν αριθμοί .....

α/ Ουράνιον το οποίον δεν περιλαμβάνει U^{233} και όχι περισσότερο των $93^I/2^o/o$ U^{235} κατά βάρος

β/ Μίγματα περιέχοντα βηρύλλιο ή δευτέριο αποκλείονται και η μάζα του άνθρακος δεν θα υπερβαίνει πέντε φορές την εγκριθείσα μάζα του ουρανίου.

Προσθήκη Α.6

ΠΙΝΑΞ VIII

ΟΥΡΑΝΙΟΝ "UNMODERATED URANIUM"α/ ΜΕΤΑΛΛΟ

Επιτρεπτή μάζα ουρανίου ανά κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας

I.- Περιωρισμένη κατά ανώτατον εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα τα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)
	0.6 0.65 κλπ. .....
	KG ουρανίου ανά κόλον
αριθμοί	..... Ουδέν όριον .....
	-..... Ουδέν όριον .....
	..... Ουδέν όριον

2.- Περιωρισμένη κατά ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)
	0.6 0.65 κλπ. .....
	KG ουρανίου ανά κόλον
2	
3 κλπ.-	
Ουδέν όριον	
Ουδέν όριον β/	

α/ Ουράνιον το οποίον δεν περιλαμβάνει U^{233} και όχι περισσότερο των $93^{I}/2^{o}/o$ U^{235} κατά βάρος

β/ Αυτές οι αυξημένες μάζες έχουν εφαρμογήν οσάκις οι διασπαστές ύλες είναι υπό μορφήν συμπαγών μεταλλικών τεμαχίων ζυγιζόντων όχι κάτω των 2 KG το καθένα και ελευθέρων από εισεχουσών επιφανειών.

Προσθήκη Α.6

ΠΙΝΑΞ IX

ΕΝΩΣΕΙΣ ΟΥΡΑΝΙΟΥ[α/] Η ΜΙΓΜΑΤΑ ΔΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩΣΙΣ ΤΟΥ ΟΥΡΑΝΙΟΥ ΔΕΝ ΥΠΕΡΒΑΙΝΕΙ ΤΑ --26.44--- G/CM^3

H/U ≠ I.4I

Επιτρεπτή μάζα ουρανίου ανά κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας

I.- Περιωρισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα τα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM3) 0.6 0.65 κλπ.-
	KG ουρανίου ανά κόλον
6 6.5 κλπ.-	αριθμοί .... Ουδέν όριον .... Ουδέν όριον .... Ουδέν όριον..

2.- Περιωρισμένη κατ'ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)
	KG ουρανίου ανά κόλον
2 3 κλπ.- Ουδέν όριον	αριθμοί .....

α/ Ουράνιον το οποίον δεν περιλαμβάνει U^{233} και όχι περισσότερο των 93^I/2 τοις εκατόν U^{235} κατά βάρος.

Προσθήκη Α.6

ΠΙΝΑΞ Χ

ΜΗ-ΥΔΡΟΓΟΝΙΚΑΙ ΕΝΩΣΕΙΣ ΠΛΟΥΤΩΝΙΟΥ Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩΣΗ ΤΟΥ ΠΛΟΥΤΩΝΙΟΥ-239 ΔΕΝ ΥΠΕΡΒΑΙΝΕΙ τα ΙΟ G/CM^3 α/

Επιτρεπτή μάζα πλουτωνίου ανά κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας.-

I.- Περιωρισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα τα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των(G/CM^3) 0.6 0.65 κλπ.-
	KG πλουτωνίου ανάκόλον
6	..... Ουδέν όριον .....
6.5	αριθμοί ..... Ουδέν όριον .....
7	..... Ουδέν όριον .....
7.5	..... Ουδέν όριον .....
IO	.....
Ουδέν όριον	.....

2.- Περιωρισμένη κατ'άνώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3) 0.6 0.65 0.7 0.75 0.8
	KG πλουτωνίου ανά κόλον
3	
4 κλπ.-	αριθμοί .....
Ουδέν όριον	

α/ Μίγματα περιέχοντα βηρύλλιο και δευτέριο αποκλείονται και η μάζα του άνθρακος δεν θα υπερβαίνει το I/IO της εγκριθείσης μάζας πλουτωνίου.

Προσθήκη Α.6

ΠΙΝΑΞ XI

ΠΛΟΥΤΩΝΙΟΝ "UNMODERATED PLUTONIUM" ΜΕΤΑΛΛΟ

Επιτρεπτή μάζα πλουτωνίου ανά κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας

I.- Περιωρισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου						
Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα τα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)					
	0.6	0.65	0.7	0.75	0.8	0.85
	KG πλουτωνίου ανά κόλον					
4	3.20	.....Ουδέν όριον.....				
IO	3.20	3.60	3.90	4.2	4.4	4.5
Ουδέν όριον	0.405	0.405	0.405	0.405	0.405	0.405
Ουδέν όριον[α/]	3.20	3.60	3.90	4.2	4.4	4.5
2.- Περιωρισμένη κατ'ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου						
Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)					
	0.6	0.65	0.7	0.75	0.8	0.85
	KG πλουτωνίου ανά κόλον					
3	3.20	3.60	3.90	4.2	4.4	4.5
4	3.20	3.60	3.84	3.84	3.84	3.84
κλπ.-	.....					
Ουδέν όριον	.....					
Ουδέν όριον[α/]						

α/ Αυτές οι αυξημένες μάζες έχουν εφαρμογήν οσάκις οι διασπαστές όλες είναι υπό μορφήν συμπαγών μεταλλικών τεμαζίων ζυγιζόντων όχι κάτω των 2 KG το κάθενα και ελευθέρων από εισέχουσες επιφάνειες.

Προσθήκη Α.6

ΠΙΝΑΞ XII

ΕΝΩΣΕΙΣ ΠΛΟΥΤΩΝΙΟΥ Η ΜΙΓΜΑΤΑ ΣΤΑ ΟΠΟΙΑ Η ΣΥΜΠΥΚΝΩΣΗ ΤΟΥ ΠΛΟΥΤΩΝΙΟΥ ΔΕΝ ΥΠΕΡΒΑΙΝΕΙ τα $\frac{26.56}{H/PU+I.35}$ G/CM^3

Επιτρεπτή μάζα πλουτωνίου ανά κόλον ως συνάρτησις της πυκνότητος του ξύλου της συσκευασίας

I.- Περιωρισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα τα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)			
	0.6	0.65	0.7	κλπ.-
	KG πλουτωνίου ανά κόλον			
4	..... Ουδέν όριον ------			
5	..... Ουδέν όριον			
6 κλπ.-	αριθμοί			
Ουδέν όριον	.....			

2.- Περιωρισμένη κατ'ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα I.25 G/CM^3 και όχι μικροτέρα των (G/CM^3)			
	0.6	0.65	0.7	κλπ.-
	KG πλουτωνίου ανά κόλον			
2	0.I52	0.309	0.52	0.80 κλπ. .....
3	0.047	0.I35	0.247	0.380 κλπ.- .....
4	0.022	0.076	0.095	0.I33 κλπ.- .....
5	0.022	0.053	0.085	0.II8 κλπ.- .....
7	0.022	0.053	0.084	0.II4 κλπ.- .....
Ουδέν όριον	0.022	0.053	0.084	0.II4 κλπ.- .....

Προσθήκη Α.6

ΠΙΝΑΞ XIII

ΥΔΑΤΩΔΗ ΔΙΑΛΥΜΑΤΑ ΝΙΤΡΙΚΟΥ ΟΥΡΑΝΙΟΥ-233 Η ΦΘΟΡΙΟΥΧΟΥ ΟΥΡΑΝΙΟΥ-233

Επιτρεπτή μάζα ουρανίου ανά κόλον ως συνάρτησις της πυκνότητος του ξύλου συσκευασίας

1.- Περιωρισμένη κατά ανωτάτην εσωτερικήν διάμετρον εσωτερικού δοχείου

Διάμετρος εσωτερικού δοχείου μη υπερβαίνουσα (CM)	Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM^3 και όχι μικροτέρα των (G/CM^3) 0.6 0.65 0.7 κλπ.-
	KG ουρανίου ανά κόλον
9	..... ουδέν όριον .....
9.5	..... ουδέν όριον ....
10	..... ουδέν όριον ..
Ουδέν όριον	..... αριθμοί .....

2.- Περιωρισμένη κατ'ανώτατον εσωτερικόν όγκον εσωτερικού δοχείου

Όγκος εσωτερικού δοχείου μη υπερβαίνων (I)	Πυκνότης ξύλου μη υπερβαίνουσα τα 1.25 G/CM^3 και όχι μικροτέρα των (G/CM^3) 0.6 0.65 0.7 κλπ.-
	KG ουρανίου ανά κόλον
2	0.152 0.309 0.475 κλπ.- .....
3	0.085 0.133 0.180 κλπ.- .....
4	0.085 0.109 0.133 κλπ.- .....
5	0.035 0.076 0.114 κλπ.- .....
7	0.035 0.073 0.109 κλπ.- .....
Ουδέν όριον	0.035 0.067 0.100 κλπ.- .....

Προσθήκη Α.6

3617

- ΕΙΔΙΚΑΙ ΔΙΑΤΑΞΕΙΣ ΓΙΑ ΚΟΛΑ ΔΙΑΣΠΑΣΤΩΝ ΥΛΩΝ ΚΛΑΣΕΩΣ ΙΙ

(Ι) Κάθε κόλον Διασπαστών Υλών Κλάσεως ΙΙ θα σχεδιάζεται κατά τοιούτον τρόπον ώστε εάν υπεβάλετο στις δοκιμές τις οριζόμενες στο περθώριο 3635:

(α) Ουδέ ο όγκος ουδέ οιοσδήποτε χώρος βάσει του οποίου η πυρηνική ασφάλεια δια την εφαρμογήν του περιθωρίου 3619(α) εξετιμήθη, θα υφίστατο μείωσιν άνω του 5 έτοι εκατό, και η κατασκευή του κόλου δεν θα επέτρεπε την είσοδον κύβου 10 CM.

(β) Το νερό δεν θα διέρρεε εντός ή εκτός οιουδήποτε εξαρτήματος του κόλου εκτός εάν το νερό διέρρεε εις, ή διέρρεε εκ, του τμήματος αυτού, εις τον βέλτιστον προβλεπόμενον βαθμόν ως προϋπόθεσιν δια την εκτίμησιν του επιτρεπομένου αριθμού δια την εφαρμογήν του περιθωρίου 3619(α).

(γ) Η διαμόρφωσις του περιεχομένου και η γεωμετρία του συστήματος υποδοχέων (CONTAINMENT SYSTEM) δεν θα ετροποποιείτο κατά τρόπον ώστε να αυξάνεται η δραστικότης σημαντικώς.

(2) Κόλα Διασπαστών Υλών Κλάσεως ΙΙ θα ικανοποιούν τα κριτήρια της πυρηνικής ασφαλείας τα περιγραφόμενα εις τα περιθώρια 3618 και 3619.

Ι.- Το ατομικόν κόλον εξεταζόμενον μεμονωμένως 3618

(Ι) Οι κάτωθι όροι λαμβάνονται ως δεδομένοι:-

(α) το κόλον είναι "κατεστραμένον" (δια του όρου "κατεστραμμένον" θα νοείται η εκτιμηθείσα ή επιδειχθείσα

καταστασις του κόλου έάν έχει υποβληθεί είτε 3618
στις δοκιμές τις οριζόμενες στα περιθώρια (Συνεχί-
3635 και 3637(I) έως (3), ακολουθούμενες από ζεται)
τος δοκιμές του περιθωρίου 3638 είτε στις δοκι-
μές τις οριζόμενες στα περιθώρια 3635 και 3637
(4), οποιοσδήποτε συνδυασμός είναι περισσότερον
περιοριστικός)· και

(β) το νερό μπορεί να διαρρέει εις ή έξω από όλους τους κενούς χώρους του κόλου συμπεριλαμβανομένων των εντός του συστήματος υποδοχέων (CONTAINMENT SYSTEM) τοιούτων, εκτός του ότι, οσάκις το σχέδιον του κόλου ενσωματώνει ειδικά χαρακτηριστικά για να αποφευχθεί η διαρροή του νερού εις ή έξω από ωρισμένους κενούς χώρους ακόμη και ως αποτέλεσμα ανθρωπίνου σφάλματος, η έλλειψις διαρροής μπορεί να θεωρηθεί ως δεδομένη εν σχέσει με τους κενούς τούτους χώρους. Τέτοια ειδικά χαρακτηριστικά μπορούν να περιλαμβάνουν είτε:-

(I) πολλαπλούς υψηλού επιπέδου φραγμούς νερού ο καθένας των οποίων θα παρέμενε στεγανός εάν το κόλον υπεβάλετο στους συνδυασμούς ρων δοκιμών των οριζομένων στην παράγραφον (I)(α)· είτε

(II) υψηλού βαθμού ποιοτικός έλεγχος της παραγωγής και συντηρήσεως της συσκευασίας, μαζί με ειδικές δοκιμές για να καταδειχθεί το κλείσιμον κάθε κόλου προ της φορτώσεως.

(2) Το κόλον θα είναι δευτερεόντως ακροσφαλές (SUB-CRITICAL) δυνάμει καταλλήλου περιθωρίου (βλέπε σημείωσιν 2) υπό τας συνθήκας τας οριζομένας εις την παράγραφον (I), των φυσικών και χημικών χαρακτηριστικών λαμβανομένων υπόψη, συμπεριλαμβανομένης οιασδήποτε αλλαγής των χαρακτηριστικών αυτών τα οποία θα μπορούσαν να προκύψουν υπό τας συνθήκας της παραγράφου (I), και με τους όρους επιβραδύνσεως (MODERATION) και ανακλάσεως ως ορίζονται κατωτέρω 3618 (Συνεχίζεται)

(α) με τις ύλες εντός του συστήματος υποδοχέων (CONTAINMENT SYSTEM):

(I) η πλέον δραστική διαμόρφωσις και επιβράδυνσις (MODERATION) που είναι δυνατόν να προβλεφθούν υπό τας σθνθήκας της παραγράφου (I)·

(II) τελεία πλήρους ύδατος ανάκλασις του συστήματος υποδοχέων ως ήθελεν επιπροσθέτως παρασχεθεί υπό του περιβάλλοντος την συσκευασίαν υλικού, και, επί πλέον,

(β) εάν οιονδήποτε τμήμα των υλών διαφύγει από το σύστημα υποδοχέων (CONTAINMENT SYSTEM) υπό τας συνθήκας της παραγράφου (I)·

(I) η πλέον δραστική διαμόρφωσις και επιβράδυνσις που θεωρείται πιστευτή·

(II) τελεία πλήρους ύδατος ανάκλασις των υλών.

2.- Αποστολαί ενός ή πλειόνων κόλων

Ο "επιτρεπόμενος αριθμός" θα εξάγεται δι'έκαστον 3619 σχέδιον κόλου Διασπαστών Υλών Κλάσεως ΙΙ, κατά τρόπον ώστε:

(α) πέντε φορές ο επιτρεπόμενος αριθμός μη κατεστραμένων κόλων θα είναι δευτερευόντως ακροασφαλής εάν συσσωρευθούν ομού σε οποιαδήποτε διάταξιν χωρίς τίποτε μεταξύ των κόλων. Για τον σκοπόν αυτόν με τον όρον "μη κατεστραμένον" θα νοείται η κατάσταση στην οποία τα κόλα έχουν σχεδιασθεί να παρουσιασθούν για μεταφοράν.

θεωρουμένης ως δεδομένης της κλειστής ανακλάσεως εφ'όλων των πλευρών της σωρού υπό ισοδυνάμου ύδατος.

(β) δύο φορές ο επιτρεπόμενος αριθμός των τοιούτων κόλων όταν είναι κατεστραμένα θα είναι δευτερευόντως ακροασφαλής (SUB-CRITICAL) εάν συσσωρευθούν με οποιανδήποτε διάταξιν και είναι στενώς ανακλώμενα σε όλες τις πλευρές της σωρού υπό του ισοδυνάμου ύδατος (δια τον σκοπόν αυτόν με τον όρον "κατεστραμένον" θα νοείται η εκτιμηθείσα ή επιδειχθείσα κατάστασις του κόλου εάν είχε τούτο υποβληθεί είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(I) έως (3), ακολουθούμενες από εκείνες του περιθωρίου 3638, είτε στις δοκιμές τις οριζόμενες στα περιθώρια 3635 και 3637(4), οποιοσδήποτε των συνδυασμών είναι περισσότερον περιοριστικός)· υδρογονικαί επιβραδύνσεις (MODERATIONS)[3/] μεταξύ κόλων, και διαρροή ύδατος εντός ή εκτός των κόλων συμφώνως προς τα αποτελέσματα της δοκιμής θα εικάζεται μέχρι του σημείου που καταλήγει στη μεγαλυτέρα δραστικότητα.

3.- Παραδείγματα σχεδίων κόλων μη απαιτούντων την έγκρισιν

αρμοδίας αρχής

Παράδειγμα Ι (απαιτούν πολύπλευρον έγκρισιν 3620
φορτώσεως). Κόλα δια Διασπαστές Ύλες Κλάσεως ΙΙ δεν απαιτούν την έγκρισιν του σχεδίου του κόλου υπό αρμοδίας αρχής, εφ'όσον τηρούνται οι κατωτέρω όροι:-

(α) Συσκευασία:- η ασφάλεια κρισιμότητος των αποστολών αυτών δεν εξαρτάται εκ της ακεραιότητος της συσκευασίας. Κάθε συσκευασία η οποία πληροί τους λοιπούς οικείους όρους της Κλάσεως ΙΥβ εν σχέσει με μη-διασπαστά ραδιενεργά χαρακτηριστικά δύναται, επομένως, να χρησιμοποιηθεί.

(β) Περιεχόμενον - μέταλλο ουρανίου, ενώσεις ή και μίγματα:

το περιεχόμενον οιασδήποτε αποστολής αποτελουμένης εκ του "επιτρεπομένου αριθμού" των κόλων δεν θα υπερβαίνει την επιτρεπτήν μάζα του ουρανίου-235 την αναγραφομένην εις τον Πίνακα ΧΙΥ ανά αποστολήν ως συνάρτισιν εμπλουτισμού δι'ύλας ικανοποιούσας (πληρούσας) τους κατωτέρω όρους:-

(Ι) Δεν θα πρέπει να υπάρχει ουράνιον-235.

(ΙΙ) Δεν θα πρέπει να υπάρχουν βυρήλλιο ή υδρογονικόν υλικόν εμπλουτισμένον με δευτέριον.

(ΙΙΙ) Η ολική μάζα του υπάρχοντος γραφίτου δεν θα υπερβαίνει 150 φορές την ολική μάζα του ουρανίου-235.

(ΙΥ) Δεν θα πρέπει να υπάρχουν μίγματα δια-

σπαστών υλών με ύλες που έχουν υψηλοτέραν πυκνότητα υδρογόνου της του ύδατος, π.χ., μερικά έλαια υδρογονανθράκων. Τούτο δεν θα αποκλείει την χρήσιν πολυαιθυλενίου δια συσκευασίαν ή περιτύλιγμα. (Συνεχίζεται)

ΠΙΝΑΞ XIV.- ΕΠΙΤΡΕΠΤΗ ΜΑΖΑ ΟΥΡΑΝΙΟΥ-235 ΑΝΑ ΑΠΟΣΤΟΛΗΝ

Εμπλουτισμός ουρανίου εις βάρος % εκατό ουρανίου-235 μη υπερβαίνον	Επιτρεπτή μάζα ανα αποστολήν γραμμαρίων ουρανίου-235
93	I60
75	I68
80	I76
40	I84
30	I92
20	203
I5	224
II	240
I0	256
9.5	262
9	270
8.5	276
8	284
7.5	294
7	300
6.5	3I2
6	324
5.5	340
5	360
4.5	380
4	400
3.5	440

Εμπλουτισμός ουρανίου εις βάρος ίσον προς εκατόν ουρανίου-235 μη υπερβαίνον	Επιτρεπτή μάζα ανά αποστολήν γραμμαρίων ουρανίου-235
(Σ υ ν έ χ ε ι α)	
3	500
2.5	600
2	820
I.5	I360
I.35	I600
I	3400
0.92	6000

(γ) Περιεχόμενον - μέταλλο ουρανίου, ενώσεις ή και μίγματα μη δημιουργούντα πιγκλίδα (LATTICE): το περιεχόμενον οιασδήποτε αποστολής αποτελουμένης εκ του επιτρεπομένου αριθμού κόλων δεν θα υπερβαίνει την επιτρεπτήν μάζα ουρανίου-235 την αναφερομένην εις τον Πίνακα XV ανά αποστολήν ως συνάρτησιν του εμπλουτισμού διά ύλες πληρούσας τους κάτωθι όρους:-

(I) Δεν θα υπάρχει ουράνιον-233.

(II) Δεν θα υπάρχουν βερύλλιον και υδρογονικόν υλικόν εμπλουτισμένον εις δευτέριον.

(III) Η υπάρχουσα ολική μάζα του γραφίτου δεν θα υπερβαίνει την ολικήν μάζα του ουρανίου-235.

(IV) Δεν θα υπάρχουν μίγματα διασπαστών υλών με ύλες που έχουν πυκνότητα υδρογόνου υψηλοτέραν της του ύδατος, π.χ., μερικά έλαια υδρογονανθράκων. Τούτο δεν αποκλείει την χρήσιν πολυαιθυλενίου δια συσκευασίαν ή περιτύλιγμα.

(V) Οι διασπαστές ύλες θα διανέμωνται ομοιογενώς εις ολόκληρον το περιεχόμενον. Επιπροσθέτως, οι ύλες δέν θα σχηματίζουν διάταξιν πιγκλίδος εντός του κόλου. (Συνεχίζεται)

ΠΙΝΑΞ XV.- ΕΠΙΤΡΕΠΤΗ ΜΑΖΑ ΟΥΡΑΝΙΟΥ-235 ΑΝΑ ΑΠΟΣΤΟΛΗΝ

Εμπλουτισμός ουρανίου εις βάρος ότοι εκατό ουρανίου-235 μη υπερβαίνον	Επιτρεπτή μάζα ανά αποστολήν γραμμαρίων ουρανίου-235
4	420
3.5	460
3	560
2.5	740
2	1200
1.5	2800
1.35	4000

(δ) Περιεχόμενον - μέταλλον ουρανίου ή και πλουτωνίου, ενώσεις ή και μίγματα: οι ύλες θα πληρούν τους κάτωθι όρους:

(I) Δεν θα υπάρχουν βηρύλλιον και υδρογονικόν υλικόν εμπλουτισμένον με δευτέριον.

(II) Η υπάρχουσα ολική μάζα του γραφίτου δεν θα υπερβαίνει 150 φορές την ολική μάζα του ουρανίου και πλουτωνίου.

(III) Δεν θα υπάρχουν μίγματα διασπαστών υλών με ύλες που έχουν πυκνότητα υδρογόνου υψηλοτέραν της του ύδατος, π.χ., μερικά έλαια υδρογονανθράκων, κλπ.. Τούτο δεν αποκλείει την χρήσιν πολυαιθυλενίου δια συσκευασίαν ή περιτύλιγμα.

Η ολική μάζα των διασπαστών υλών ανά αποστολήν θα είναι 3620 τέτοια ώστε:- (Συνεχίζεται)

$$\frac{\text{(γραμμ.) } ^{235}U}{160} + \frac{\text{(γραμμ.) PU}}{90} + \frac{\text{(γραμμ.) } ^{233}U}{100}$$

δεν είναι μεγαλύτερα της I

(ε) Επιτρεπόμενος αριθμός:- ο επιτρεπόμενος αριθμός δια συγκεκριμένον κόλον της προδιαγραφής αυτής θα εξαρτάται εκ του πραγματικού περιεχομένου και θα είναι ίσον προς το όριον διασπαστής μάζας ανά αποστολήν διηρημένον δια της υπαρχούσης εις το κόλον πραγματικής διασπαστής μάζας. Στη περίπτωση των μικτών νουκλείδίων της (δ) ανωτέρω, ο επιτρεπόμενος αριθμός είναι:

$$\frac{160}{^{235}U + 1.6 \times ^{233}U + 1.778 \times PU}$$

όπου τα ^{235}U, ^{233}U και PU είναι οι αριθμοί των γραμμαρίων των ^{235}U, ^{233}U και PU που υπάρχουν εις το κόλον. Οσάκις το κόλον σχηματίζει τμήμα μικτής αποστολής θα πρέπει να τηρούνται οι όροι της σημειώσεως I του περιθωρίου 2700(2).

(στ) Η φόρτωσις θα υπόκειται εις μονόπλευρον έγκρισιν.

Ε.- ΕΙΔΙΚΑΙ ΔΙΑΤΑΞΕΙΣ ΔΙΑ ΚΟΛΑ ΔΙΑΣΠΑΣΤΩΝ ΥΛΩΝ ΚΛΑΣΕΩΣ III

Τα κόλα διασπαστών υλών Κλάσεως III πρέπει 3621 να πληρούν τους γενικούς όρους του περιθωρίου 3611 και θα εγκρίνωνται συμφώνως προς τα περιθώρια 3674 και 3675.

I.- Παραδείγματα σχεδίων κόλων απαιτούντων πολύπλευρον έγκρισιν

Παράδειγμα I (απαιτούν πολύπλευρον έγκρισιν της φορτώσεως)

Κόλα της κατωτέρω προδιαγραφής απαιτούν μόνον 3622
μονόπλευρον έγκρισιν του σχεδίου του κόλου εφ'όσον πληρούν τους κάτωθι όρους:-

(α) Ο αριθμός των κόλων οιασδήποτε μιάς αποστολής θα είναι έτσι περιωρισμένος ώστε:-

(I) δύο φορές ο αριθμός αυτός των μη κατεστραμένων κόλων θα είναι δευτερευόντως ακροασφαλής (SUB-CRITICAL) εάν συσσωρευθούν ομού σε οιανδήποτε διάταξιν με τίποτε μεταξύ των κόλων, δεδομένης της κλειστής ανακλάσεως εφ'όλων των πλευρών της σωρού υπό του ισοδυνάμου ύδατος· δια τον σκοπόν αυτόν δια του όρου "μη κατεστραμένον" θα νοείται η κατάστασις εις την οποίαν τα κόλα έχουν σχεδιασθεί να παρουσιαστούν προς φόρτωσιν· και

(II) ο αριθμός αυτός των κόλων όταν (είναι) αυτά "Κατεστραμένα" θα είναι δευτερευόντως ακροασφαλής (SUB-CRITICAL) εάν συσσωρευθούν ομού σε οιανδήποτε διάταξιν και στενώς ανακλώνται εφ'όλων των πλευρών της σωρού υπό του ισοδυνάμου ύδατος (δια τον σκοπόν αυτόν. δια του όρου "κατεστραμένον" θα νοείται η εκτιμηθείσα ή επιδειχθείσα κατάστασις εκάστου κόλου εάν τούτο είχεν υποβληθεί είτε εις τας δοκιμάς τας οριζομένας στα περιθώρια 3635 και 3637(I) έως (3) ακολουθημένας υπό των δοκιμών του

περιθωρίου 3638 ή των δοκιμών των οριζομένων στα περιθώρια 3635 και 3637(4), οποιοσδήποτε συνδυασμός είναι περισσότερον περιοριστικός). 3622 (Συνεχίζεται)

Υδρογονικαί επιβραδύνσεις 3/ μεταξύ κόλων, και διαρροή *νερού* εντός ή εκτός των κόλων συμφώνως προς τα αποτελέσματα της δοκιμής θα εικάζωνται (θεωρούνται ως δεδομένα) μέχρι του σημείου που καταλήγει στη μεγαλυτέρα δραστικότητα.

(β) Η φόρτωσις των κόλων αυτών θα ενεργείται μόνον κατόπιν ενεργειών εγκριθεισών υπό των αρμοδίων αρχών συμφώνως προς το περιθώριον 3675, ώς τρόπον ώστε να αποφεύγεται η φόρτωσις, μεταφορά ή αποθήκευσις των κόλων αυτών μετ' άλλων κόλων ραδιενεργού υλικού.

2.- <u>Παραδείγματα σχεδίου κόλου διασπαστής ύλης μη απαιτούντος έγκρισιν της αρμοδίας αρχής</u>

Παράδειγμα I (απαιτούν πολύπλευρον έγκρισιν της φορτώσεως).

Κόλα της κατωτέρω προδιαγραφής για διασπαστές ύλες 3623 Κλάσεως III δεν απαιτούν έγκρισιν του σχεδίου του κόλου υπό της αρμοδίου αρχής εφ'όσον πληρούνται οι κάτωθι όροι:-

(α) Το κόλον έχει ήδη εγκριθεί ως κόλον Διασπαστής Ύλης Κλάσεως II και ο αριθμός οιασδήποτε αποστολής δεν υπερβαίνει δύο φορές τον επιτρεπόμενον αριθμόν δια την έγκρισιν (κόλου) Διασπαστής Ύλης Κλάσεως II.

(β) Η φόρτωσις των κόλων αυτών θα ενεργείται μόνον κατόπιν ενεργειών εγκριθεισών υπό των αρμοδίων αρχών συμφώνως προς το περιθώριον 3675, εις τρόπον ώστε να αποφεύγεται η φόρτωσις, μεταφορά ή αποθήκευσις των κόλων αυτών μετ'άλλων

κόλπων Διασπαστών Υλών Κλάσεως ΙΙ ή Κλάσεως ΙΙΙ. Παραφεύγματα τοιούτων ενεργειών είναι:- 3623 (Συνεχίζεται)

(Ι) ουδέν φέρον ένδειξιν κόλον ραδιενεργού ύλης μπορεί να μεταφέρεται στο αυτό όχημα με την αποστολήν, και

(ΙΙ) οιαδήποτε μεταφορά θα ενεργείται απ'ευθείας εις τον παραλήπτην άνευ οιασδήποτε ενδιαμέσου κατά την διαμετακόμισιν αποθηκεύσεως· ή

έλεγχοι θα επιβάλωνται, δια της παροχής συνοδείας, ώστε να αποφεύγεται η στοιβασία των κόλων της αποστολής μετά ή κατά μήκος οιωνδήποτε άλλων κόλων ραδιενεργών υλών μετά από ατύχημα, ή οποτεδήποτε άλλοτε.

Η συνοδεία θα ταξιδεύει με χωριστόν όχημα.

Παράδειγμα ΙΙ (απαιτούν πολύπλευρον έγκρισιν της φορτώσεως) 3624

Κόλα Διασπαστών Υλών Κλάσεως ΙΙΙ δεν απαιτούν την έγκρισιν του σχεδίου του κόλου υπό της αρμοδίου αρχής εφ'όσον τηρούνται οι κάτωθι όροι:-

(α) Συσκευασία:- η ασφάλεια κρισιμότητος των αποστολών αυτών δεν εξαρτάται εκ της ακεραιότητος της συσκευασίας. Οιαδήποτε συσκευασία η οποία συμμορφούται προς τας λοιπάς οικείας διατάξεις της παρούσης Προσθήκης μπορεί, όθεν, να χρησιμοποιείται, εφ'όσον δεν ενσωματώνει προστατευτικόν κάλυμμα εκ μολύβδου πάχους άνω των 5 CM, βολφραμίου ή ουρανίου.

(β) Περιεχόμενον - μέταλλον ουρανίου, ενώσεις ή και μίγματα:- το περιεχόμενον οιασδήποτε αποστολής δεν

θα υπερβαίνει την επιτρεπτήν μάζα ουρανίου-235 την αναφε- 3624
ρομένην εις τον Πίνακα XVI ανά αποστολήν ως συνάρτισιν (Συνεχί-
του εμπλουτισμού για όλες πληρούσας τους κατωτέρω όρους:- ζεται)

(I) Δεν θα υπάρχει ουράνιον-233.

(II) Δεν θα υπάρχουν βηρύλλιον και υδρογονικόν υλικόν εμπλουτισμένον με δευτέριον.

(III) Η υπάρχουσα ολική μάζα του γραφίτου δεν θα υπερβαίνει 150 φορές την ολικήν μάζα ουρανίου-235.

(IV) Δεν θα υπάρχουν μίγματα διασπαστών υλών με ύλες που έχουν πυκνότητα υδρογόνου υψηλοτέραν της τοιαύτης του ύδατος, π.χ., μερικά έλαια υδρογονανθράκων. Τούτο δεν αποκλείει την χρήσιν πολυαιθυλίου δια συσκευασίαν ή περιτύλιγμα.

ΠΙΝΑΞ XVI.- ΕΠΙΤΡΕΠΤΗ ΜΑΖΑ ΟΥΡΑΝΙΟΥ-235

ΑΝΑ ΑΠΟΣΤΟΛΗΝ

3624

(Συνεχίζεται)

Εμπλουτισμός Ουρανίου εις βάρος ατόμ. εκατό ουρανίου-235 μη υπερβαίνον	Επιτρεπτή μάζα ανά αποστολήν γραμμαρίων Ουρανίου-235
93	400
75	420
60	440
40	460
30	480
20	520
I5	560
II	600
I0	640
9.5	655
9	675
8.5	690
8	710
7.5	730
7	750
6.5	780
6	8I0
5.5	850
5	900
4.5	950
4	I000
3.5	II00
3	I250
2.5	I500
2	2050
I.5	3400
I.35	4000
I	8500
0.92	I5000

(γ) Περιεχόμενον - μέταλλο ουρανίου, ενώσεις ή/και μίγματα μη σχηματίζοντα πιγκλίδα (LATTICE):- Ο Πίναξ XVII δίδει την επιτρεπτήν μάζα του ουρανίου-235 ανά αποστολήν ως συνάρτισιν εμπλουτισμού, για ύλες πληρούσας τους κάτωθι όρους:- 3624 (Συνεχίζεται)

(I) Δεν θα υπάρχει Ουράνιον-233.

(II) Δεν θα υπάρχουν βηρύλλιο και υδρογονικόν υλικόν εμπλουτισμένον με δευτέριον.

(III) Η παρούσα/(υπάρχουσα) ολική μάζα του γραφίτου δεν θα υπερβαίνει τις 150 φορές την ολικήν μάζα του ουρανίου-235.

(IV) Δεν θα υπάρχουν μίγματα διασπαστών υλών με ύλες που έχουν πυκνότητα υδρογόνου υψηλοτέραν της τοιαύτης του ύδατος, π.χ., μερικά έλαια υδροφονανθράκων. Τούτο δεν αποκλείει την χρήσιν πολυαιθυλενίου δια συσκευασίαν ή περιτύλιγμα.

(V) Οι διασπαστείς ύλες θα κατανέμωνται ομοιογενώς εις ολόκληρον το περιεχόμενον. Επιπροσθέτως, αι ύλες δεν θα σχηματίζουν διάταξιν πιγκλίδος (LATTICE ARRANGEMENT) εντός του κόλου.

ΠΙΝΑΞ XVII.- ΕΠΙΤΡΕΠΤΗ ΜΑΖΑ ΟΥΡΑΝΙΟΥ-235 ΑΝΑ ΑΠΟΣΤΟΛΗΝ

Εμπλουτισμός ουρανίου εις βάρος τοις εκατόν ουρανίου-235 μη υπερβαίνον	Επιτρεπτή μάζα ανα αποστολήν χιλιογράμμων ουρανίου-235
4	1.05
3.5	1.15
3	1.4
2.5	1.8
2	3
1.5	7
1.35	10

(δ) Περιεχόμενον - μέταλλο ουρανίου ή και πλουτωνίου, ενώσεις ή και μίγματα: οι ύλες θα πληρούν τους κάτωθι όρους:-

(I) Δεν θα υπάρχει βηρύλλιον και υδρογονικόν υλικόν εμπλουτισμένον με δευτέριον.

(II) Η ολική μάζα του υπάρχοντος γραφίτου δεν θα υπερβαίνει τις 150 φορές την ολικήν μάζα του ουρανίου και πλουτωνίου.

(III) Δεν θα υπάρχουν μίγματα διασπαστών υλών με ύλες που έχουν πυκνότητα υδρογόνου υψηλοτέραν της τοιαύτης του ύδατος, π.χ., μερικά έλαια υδρογονανθράκων. Τούτο δεν αποκλείει την χρήσιν πολυαιθυλενίου δια συσκευασίαν ή περιτύλιγμα.

Η ολική μάζα διασπαστών υλών δι'αποστολήν θα είναι τέτοια ώστε:

$\frac{^{235}U \text{ (γραμμάρια)}}{400} + \frac{PU \text{ (γραμμ.)}}{225} + \frac{^{233}U \text{ (γραμμ.)}}{\quad}$ δεν θα είναι μεγαλύτερα της I.

(ε) Όροι μεταφοράς:- οι κατωτέρω διοικητικοί έλεγχοι θα εφαρμόζωνται καθ'όλην την μεταφοράν της αποστολής:-

(I) η ποσότης των υλών μιάς αποστολής δεν θα υπερβαίνει την ποσότητα την οριζομένην εις (β), (γ) ή (δ) ανωτέρω·

(II) η μεταφορά θα γίνεται απ'ευθείας εις τον παραλήπτην, άνευ οιασδήποτε ενδιαμέσου κατά την διαμετακόμισιν αποθηκεύσεως.

(στ) Η φόρτωσις θα υπόκειται εις πολύπλευρον έγκρισιν.

3625-
3629

ΚΕΦΑΛΑΙΟΝ III - ΔΙΑΔΙΚΑΣΙΑΙ ΕΛΕΓΧΟΥ ΚΑΙ ΕΠΙΘΕΩΡΗΣΕΩΣ

Α.- ΕΠΙΔΕΙΞΙΣ ΣΥΜΜΟΡΦΩΣΕΩΣ ΠΡΟΣ ΤΟΥΣ ΟΡΟΥΣ ΕΛΕΓΧΟΥ

(Ι) Η επίδειξις της συμμορφώσεως προς τους δ- 3630
ρους ελέγχου του παρόντος κεφαλαίου μπορεί να πραγματοποιηθεί δι'οιασδήποτε των μεθόδων των αναφερομένων κατωτέρω ή δια συνδυασμού τούτων.

(α) Εκτέλεσις ελέγχων με πρωτότυπα ή δείγματα της συσκευασίας η οποία συνήθως παρουσιάζεται προς μεταφοράν, οπότε το περιεχόμενον της συσκευασίας δια τον έλεγχον θα προσποιείται (SIMULATE) όσον είναι περισσότερον πρακτικώς δυνατόν το αναμενόμενον κανονικόν ραδιενεργόν περιεχόμενον.

(β) Αναφορά εις προηγουμένας ικανοποιητικάς επιδείξεις ομοίας επαρκώς φύσεως.

(γ) Εκτέλεσις ελέγχων με μοντέλα (πρότυπα) καταλλήλου κλίμακος ενσωματούντα τα χαρακτηριστικά εκείνα τα οποία είναι σημαντικά εν σχέσει με το υπό έρευνα στοιχείον, οσάκις η μηχανική πείρα έχει καταδείξει ότι τα αποτελέσματα των τοιούτων ελέγχων είναι κατάλληλα δια σκοπούς σχεδίου. Οσάκις χρησιμοποιείται μοντέλο (πρότυπο) κλίμακος, η ανάγκη της ρυθμίσεως ωρισμένων παραμέτρων ελέγχου, ως η διάμετρος διεισδύσεως (PENETRATOR DIAMETER) ή το φορτίο συμπιέσεως, θα λαμβάνεται υπόψει.

(δ) Υπολογισμός, ή δικαιολογημένον επιχείρημα, οσάκις οι διαδικασίαι υπολογισμού και οι παράμετροι, συμφωνείται γενικώς, ότι είναι αξιόπιστοι ή συντηρητικοί. 3630

(2) Αναφορικώς με τους αρχικούς όρους δια τους (Συνεχίζεται)
ελέγχους του παρόντος κεφαλαίου εκτός εκείνων των περι-

θωρίων 3637(4) έως 3639, η επίδειξις της συμμορφώσεως θα βασισθεί επί της υποθέσεως ότι το κόλον είναι εν ισορροπία (ισορροπημένον) εν θερμοκρασία περιβάλλοντος 38°C. Αναγορεύεται με τον θερμικόν έλεγχον, αι συνέπειαι της ηλιακής ακτινοβολίας μπορούν να αγνοούνται προ και διαρκούντος του ελέγχου αλλά θα λαμβάνωνται υπόψη κατά την μεταγενεστέραν εκτίμησιν των αποτελεσμάτων του ελέγχου.

Β.- ΕΛΕΓΧΟΙ ΣΥΣΚΕΥΑΣΙΑΣ

Ι.- Αριθμός υποβληθησομένων εις έλεγχον δειγμάτων

Ο αριθμός των δειγμάτων που πρόκειται παράγραφος 3631
να υποβληθούν εις τους ελέγχους πρέπει να αναφέρεται εις τον αριθμόν των συσκευασιών του τύπου τούτου αι οποίαι πρόκειται να γίνουν, εις την συχνότητα χρήσεως και την δαπάνην. Τα αποτελέσματα των ελέγχων ενδέχεται να αναγκαιούν αύξησιν του αριθμού των δειγμάτων προς αντιμετώπισιν των όρων των διαδικασιών του ελέγχου εν σχέσει με την ανωτάτην ζημίαν.

2.- Προετοιμασία δείγματος δια τον έλεγχον

(Ι) Άπαντα τα δείγματα θα εξετάζωνται προ του ε- 3632
λέγχου δια την αναγνώρισιν (εξακρίβωσιν) και καταχώρησιν βλαβών ή ζημιών συμπεριλαμβανομένων των κάτωθι:-

(α) εκτροπής εκ των προδιαγραφών ή των σχεδίων·

(β) ελαττωμάτων κατά την κατασκευήν·

(γ) διαβρώσεως ή ετέρας φθοράς· και 3632
(Συνεχίζεται)

(δ) παραμορφώσεως των χαρακτηριστικών.

(2) Το σύστημα υποδοχέων (CONTAINMENT SYSTEM) της συσκευασίας θα καθορίζεται σαφώς.

(3) Τα εξωτερικά χαρακτηριστικά του δείγματος θα αναγνωρίζωνται (εξακριβούνται) σαφώς εις τρόπον ώστε η

αναφορά να μπορεί να γίνεται απλώς και σαφώς εις οιονδήποτε τμήμα του τοιούτου δείγματος.

3.- Έλεγχος της ακεραιότητος του υποδοχέως (CONTAINMENT) και του προστατευτικού καλύμματος (SHIELDING)

Μετά από οιονδήποτε των εφαρμοστέων ελέγχων των 3633 οριζομένων εις τα περιθώρια 3635 έως 3637, θα καταδεικνύεται περαιτέρω ότι η ακεραιότης του υποδοχέως (CONTAINMENT), ή του υποδοχέως και του προστατευτικού καλύμματος, διετηρήθη εις τον βαθμόν τόν προβλεπόμενον υπό των περιθωρίων 3601(15) έως (17), 3602(2), 3603(1) και 3604(2) δια την υπό έλεγχον συσκευασίαν.

4.- Στόχος των ελέγχων ρίψεως (DROP TESTS) των οριζομένων υπό των περιθωρίων 3635(4), 3636(2), 3637(2) και 3641(1)

Ο στόχος θα είναι επίπεδος, οριζοντία επιφάνεια 3634 τοιαύτης φύσεως ώστε οιαδήποτε αύξησις της αντιστάσεώς της εις μετατόπισιν ή παραμόρφωσιν εξ προσκρούσεως του δείγματος δεν θα ηύξανε σημαντικώς την ζημίαν του δείγματος.

5.- Έλεγχοι καταδείξεως της ικανότητος (της) αντοχής εις τας κανονικάς συνθήκας μεταφοράς

(1) Οι έλεγχοι είναι:- έλεγχος δι' εκτοξεύσεως νερού, έλεγχος δι' ελευθέρας ρίψεως (FREE DROP TEST), έλεγχος 3635 συμπιέσεως, και έλεγχος διεισδύσεως. Πρωτότυπα του κόλου θα υποβάλωνται εις τον έλεγχον ελευθέρας ρίψεως, τον έλεγγον συμπιέσεως και τον έλεγχον διεισδύσεως, προηγουμένως εξ μιάς περιπτώσεως του ελέγχου δια ψεκάσεως (εκτοξεύσεως) νερού. Ένα πρωτότυπον μπορεί να χρησιμοποιείται δι' όλους τους ελέγχους, υπό τον όρον ότι θα τηρούνται οι όροι της παραγράφου (2).

(2) Το χρονικόν διάστημα μεταξύ της περατώσεως του ελέγχου δια ψεκασμού (εκτοξεύσεως) νερού και του επομένου ελέγχου θα είναι τοιούτον ώστε το νερό να διεισδύσει εις τον ανώτατον βαθμόν, χωρίς αισθητόν στέγνωμα του εξωτερικού του δείγματος. Ελλείψει οιασδήποτε περί του αντιθέτου αποδείξεως, το χρονικόν τούτο διάστημα θα θεωρείται ότι είναι περίπου δύο ώρες εάν το ψέκασμα (εκτόξευσις) του νερού εφαρμοσθεί εκ τεσσάρων κατευθύνσεως ταυτοχρόνως. Ουδέν χρονικόν διάστημα θα διαρρέει, εάν το ψέκασμα του νερού εφαρμοσθεί από τις μιάν από τις τέσσαρες κατευθύνσεις διαδοχικώς.

(3) Έλεγχος δι'εκτοξεύσεως (ψεκασμού) νερού:- Οιοσδήποτε έλεγχος δι'εκτοξεύσεως (ψεκασμού) νερού θα θεωρείται ικανοποιητικός εφ'όσον:-

(α) το ποσόν (ποσότης) του νερού ανά μονάδα εδαφικής περιοχής είναι περίπου ισοδύναμος με ρυθμόν βροχοπτώσεως 5 CM ωριαίως·

(β) το νερό προσπρούει εις το δείγμα με γωνίαν περίπου 45° εκ του οριζοντίου·

(γ) το διανέμεται κατά προσέγγισιν ομοιομόρφως, 3635 όπως επί βροχοπτώσεως, εις ολόκληρον την επιφάνειαν του (Συνεχίζεται) δείγματος με την κατεύθυνσιν του ψεκασμού·

(δ) η διάρκεια του ψεκασμού είναι τουλάχιστον μία ώρα·

(ε) η διάταξις της συσκευασίας είναι τοιαύτη ώστε αι συνέπειαι να αναμένωνται να είναι αι πλέον αυστηραί δια τα υπό έρευνα χαρακτηριστικά, και το δείγμα να υποστηρίζεται κατά τρόπον ώστε να μη είναι βουτηγμένο στο

(4) Έλεγχος δι'ελευθέρας ρίψεως:- Το δείγμα θα ρίπτεται εις τον στόχον κατά τρόπον ώστε να υφίσταται την ανωτάτην ζημίαν σε σχέση με τα υπό έλεγχον χαρακτηριστικά ασφαλείας.

(α) Το ύψος της ρίψεως μετρούμενον εκ του κατωτάτου σημείου του κόλου μέχρι της άνω επιφανείας του στόχου θα είναι ως τούτο ορίζεται εις τον Πίνακα XVIII.

ΠΙΝΑΞ XVIII.- ΑΠΟΣΤΑΣΙΣ ΕΛΕΥΘΕΡΑΣ-ΡΙΨΕΩΣ ΓΙΑ ΚΟΛΑ

Βάρος Κόλου (KG)	Απόστασις Ελευθέρας Ρίψεως (M)
κάτω των 5.000	I.2
5.000 έως < I0.000	0.9
I0.000 έως < I5.000	0.6
I5.000 και μεγαλύτερον	0.3

(β) Για κόλα Διασπαστών Υλών Κλάσεως II, η ελευθέρα ρίψις η οριζομένη ανωτέρω θα έπεται ελευθέρας ρίψεως από ύψους 0.3 M από κάθε γωνία ή, προκειμένου περί κυλινδρικού κόλου από κάθε ένα από τα τέταρτα κάθε χείλους (RIM).

(γ) Για ορθογώνια κόλα από ινοσανίδα ή ξύλο μη υπερβαίνοντα τα 50 KG εις βάρος, χωριστόν δείγμα θα υποβάλεται εις ελευθέραν ρίψιν από κάθε γωνίαν από ύψους 0.3 M. 3635

(δ) Για κυλινδρικά κόλα από ινόσανίδα μη υπερβαίνοντα τα I00 KG εις βάρος, χωριστόν δείγμα θα υποβάλεται εις ελευθέραν ρίψιν από κάθε ένα από τα τέταρτα κάθε χείλους (RIM) εξ ύψους 0.3 M.

(5) Έλεγχος συμπιέσεως:- το δείγμα θα υποβάλεται, επί χρονικήν περίοδον 24 ωρών, εις φορτίον συμπιέσεως ίσιν προς το μεγαλύτερον των κάτωθι:-

(α) του ισοδυνάμου των 5 φορών το βάρος του πραγματικού κόλου·

(β) του ισοδυνάμου των I300 KG/M^2 πολλαπλασιαζομένου

επί της κατακορύφου προβεβλημένης επιφανείας του κόλου.

Το φορτίον θα εφαρμόζεται ομοιομόρφως επί των δύο αντιθέτων πλευρών του δείγματος, η μία των οποίων θα είναι η βάσις επί της οποίας το κόλον θα ίστατο κανονικώς.

(6) Έλεγχος διεισδύσεως:- το δείγμα θα τοποθετηθεί επί ακάμπτου, επιπέδου, οριζοντίου επιφανείας η οποία δεν θα μετακινείται σημαντικώς κατά την διεξαγωγήν του ελέγχου.

(α) Ράβδος διαμέτρου 3.2 CM με ημισφαιρικόν άκρον και ζυγίζουσα 6 KG θα ρίπτεται και κατευθύνεται να πέσει, με τον επιμήκη άξονα αυτής καθέτως, εις το κέντρον του ασθενεστέρος τμήματος του δείγματος, εις τρόπον ώστε, εάν διεισδύσει αρκούντως μακράν, θα κτυπήσει το αγγείον υποδοχής (CONTAINMENT VESSEL). Η ράβδος δεν θα παραμορφούται σημαντικά εκ της εκτελέσεως του ελέγχου.

(β) Το ύψος ρίψεως της ράβδου μετρούμενον εκ του κάτω άκρου αυτής μέχρι της άνω επιφανείας του δείγματος θα είναι I M. 3635 (Συνεχίζεται)

6.- Πρόσθετοι έλεγχοι δια συσκευασίαν Τύπου Α προοριζομένην δια υγρά και αέρια

(I) Χωριστά δείγματα θα υποβάλωνται εις έκαστον των κατωτέρω ελέγχων εκτός εάν μπορεί να καταδειχθεί ότι ένας έλεγχος είναι αυστηρότερος για το περί ού πρόκειται δείγμα από τον άλλον, οπότε ένα δείγμα θα υποβάλεται εις τον αυστηρότερον έλεγχον. 3636

(2) Έλεγχος Ελευθέρας Ρίψεως:- το δείγμα θα πέφτει στον στόχον ώστε να υφίσταται την ανωτάτη ζημία εν σχέσει με τον υποδοχέα. Το ύψος της πτώσεως μετρούμενον από το κάτω μέρος του δείγματος μέχρι της άνω επιφανείας του στόχου θα είναι 9 M.

(γ) Έλεγχος Διεισδύσεως:- το δείγμα θα υποβάλεται εις τον έλεγχον τον οριζόμενον στο περιθώριο 3635(6) εκτός τού ότι το ύψος της πτώσεως θα αυξάνεται εις Ι.7 Μ εκ του Ι Μ που ορίζεται στο περιθώριο 3645(6)(β).

7.- Έλεγχοι καταδείξεως της ικανότητος αντοχής εις τας κατά την μεταφοράν συνθήκας ατυχήματος

(Ι) Το δείγμα θα υποβάλεται εις τα σωρευτικά αποτελέσματα των μηχανικών ελέγχων των οριζομένων στη παραγράφο (2) και του θερμικού ελέγχου του οριζομένου στη παράγραφο (3) κατά την σειράν αυτήν. Χωριστόν δείγμα θα υποβάλεται στο αποτέλεσμα του ελέγχου εμβυθίσεως ύδατος (WATER IMMERSION) της παραγράφου (4). 3637

(2) Μηχανικός Έλεγχος:- ο έλεγχος θα αποτελείται εκ δύο ριξεων εις στόχον. Η σειρά με την οποίαν το δείγμα υποβάλεται εις τας δύο ρίψεις θα είναι τέτοια ώστε, με το πέρας του μηχανικού ελέγχου, το δείγμα να έχει υποστεί τέτειαν ζημίαν η οποία θα οδηγήσει εις την ανωτάτην ζημίαν του θερμικού ελέγχου ο οποίος ακολουθεί. 3637 (Συνεχίζεται)

(α) Δια την ρίψιν Ι, το δείγμα θα πέσει στον στόχον κατά τρόπον ώστε να υποστεί την ανωτάτην ζημίαν, και το ύψος της πτώσεως μετρούμενον εκ του κατωτάτου σημείου του δείγματος μεχρι της άνω επιφανείας του στόχου θα είναι 9 Μ.

(β) Δια την ρίψιν ΙΙ, το δείγμα θα πέσει στον στόχον κατά τρόπον ώστε να υποστεί την ανωτάτην ζημίαν, και το ύψος της πτώσεως μετρούμενον εκ του προβλεπομένου σημείου της προύσεως του δείγματος μέχρι της άνω επιφανείας του στόχου θα είναι Ι Μ. Ο στόχος στη περίπτωση αυτή θα είναι το άνω άκρον στερεάς εκ μαλακού χάλυβος ράβδος κυκλικής τομής, διαμέτρου

15 CM ± 0.5 CM. Η επιφάνεια του στόχου θα είναι επίπεδος και ορίζοντια με τα άκρα της στρογγυλευδμενα εις ακτίνα όχι μεγαλυτέραν των 6 MM. Η ράβδος θα έχει ακάμπτως συναρμολογηθεί καθέτως επί του στόχου του περιγραφομένου εις περιθώριον 3634 και θα είναι μήκους 20 CM εκτός εάν μακρυτέρα ράβδος θα προεκάλει μεγαλυτέραν ζημίαν· στη περίπτωση αυτή, ράβδος καταλλήλου μήκους δια να προκαλέσει την ανωτάτην ζημίαν θα χρησιμοποιείται.

(3) Θερμικός Έλεγχος:- οιοσδήποτε θερμικός έλεγχος θα θεωρείται ικανοποιητικός, εφ'όσον η επί του δείγματος θερμική ροή (HEAT FLUX) είναι μικροτέρα εκείνης που θα προέκυπτε εκ της ενθέσεως επί 30 λεπτά ολοκλήρου του δείγματος εις περιβάλλον ακτινοβολίας εξ 800°C με συντελεστήν εκπομπής (EMISSIVITY COEFFICIENT) τουλάχιστον 0.9. Δια σκοπούς υπολογισμού, η απορροφητικότης της επιφανείας θα είναι είτε η τιμή εκείνη την οποίαν το κόλον ενδέχεται να αναμένεται να κατέχει εάν εξετίθετο εις το πύρ ή 0.8, οιασδήποτε τούτων όσης μεγαλυτέρας. Επιπροσθέτως, οσάκις είναι σημαντικόν, εισαγωγή θερμότητος επαφής (CONVECTIVE HEAT INPUT) θα συμπεριλαμβάνεται επί τη βάσει αέρος περιβάλλοντος εις 800°C διαρκούσης της τριανταλέπτου χρονικής περιόδου. Μετά την παύσιν της εισαγωγής εξωτερικής θερμότητος εις το δείγμα:

3637 (Συνεχίζεται)

(α) το δείγμα δεν θα ψυχθεί τεχνητώς μέχρι της παρελεύσεως ετέρων τριών ωρών ή μέχρις ότου καταδειχθεί ότι ολόκληρος η εσωτερική θερμοκρασία έχει αρχίσει να πέφτει, οιουδήποτε τούτων ήθελε συμβεί ενωρίτερον, και

(β) οιαδήποτε καύσις υλικών του δείγματος θα επιτρέπεται επί τρίωρον μετά την παύσιν της εξωτερικής θερμάνσεως του δείγματος εκτός εάν λήξει φυσιολογικά ενωρίτερον.

(4) Έλεγχος Εμβυθίσεως στο νερό το δείγμα θα εμβυθίζεται από στήλην νερού τουλάχιστον 15 Μ επί χρονικήν περίοδον όχι μικροτέραν των οκτώ ωρών. Δια τους σκοπούς του ελέγχου, εξωτερική πίεσις νερού από 1.5 KG/CM^2 (GAUGE) θα λαμβάνεται υπόψη δια την αντιμετώπισιν των όρων αυτών.

8.- Έλεγχος εσωτερικής διαρροής νερού (WATER IN-LEAKAGE) για κύτη περιέχοντα διασπαστές ύλες

(1) Κύτη πλην των κύτων Διασπαστών Υλών Κλάσεως I ή Κλάσεως II και οιαδήποτε κύτη δια τα οποία η εσωτερική ή εξωτερική διαρροή νερού (WATER IN-LEAKAGE OR OUT-LEAKAGE) καθ' ό μέτρον καταλήγει εις την μεγαλυτέρα δραστικότητα υπήρξε δεδομένη δια τους σκοπούς εκτιμήσεως τους αναφερομένους εις τα περιθώρια 3614(2) και 3619(β) θα εξαιρούνται του ελέγχου. 3638

(2) Προτού το δείγμα υποβληθεί εις τον έλεγχον της εσωτερικής (προς τα έσω) διαρροής του νερού (WATER IN-LEAKAGE TEST) τον οριζόμενον κατωτέρω, τούτο θα υποβληθεί εις τους ελέγχους των περιθωρίων 3637(2) και (3).

(3) Το δείγμα θα εμβυθίζεται υπό στήλην νερού τουλάχιστον 0.9 Μ επί χρονικήν περίοδον όχι μικροτέραν των οκτώ ωρών και δια την ανωτάτην αναμενομένην διαρροήν. Δια τον έλεγχον αυτόν θερμοκρασία περιβάλλοντος εκ 38°C δεν απαιτείται.

9.- Έλεγχοι ακεραιότητος υποδοχέως και προστατευτικού καλύμματος (CONTAINMENT AND SHIELDING)

Πάσα μέθοδος ελέγχου ή επιθεωρήσεως μπορεί να χρησιμοποιηθεί προς καθορισμόν του εάν οι όροι του παρόντος Κεφαλαίου έχουν τηρηθεί μετά την υποβολήν του δείγματος εις τους ελέγχους των περιθωρίων 3635 έως 3637, υπό τον όρον 3639

ότι η μέθοδος δύναται να επιδειχθεί δια την εκπλήρωσιν των όρων των περιθωρίων 3601 έως 3604.

Γ.- ΕΛΕΓΧΟΙ ΓΙΑ ΕΙΔΙΚΟΥ ΤΥΠΟΥ ΡΑΔΙΕΝΕΡΓΟΥΣ ΥΛΕΣ

I.- Γενικά

(1) Οι έλεγχοι είναι:- έλεγχος κρούσεως, έλεγχος επι- 3640
κρούσεως, έλεγχος κάμψεως και έλεγχος θερμότητος.

(2) Δείγματα (στερεές ραδιενεργείς ύλες ή κάψουλες) 3640
υποβαλόμενα εις έλεγχον θα ετοιμάζωνται όπως αυτές (Συνεχίζεται)
κανονικώς παρουσιάζονται για μεταφοράν. Οι ραδιενεργείς ύλες θα αντιγράφωνται όσον είναι πρακτικώς περισσότερον δυνατόν.

(3) Διαφορετικό δείγμα μπορεί να χρησιμοποιηθεί για καθένα από τους ελέγχους.

(4) Το δείγμα δεν θα σπάει ή θρυμματίζεται όταν υποβληθεί εις κρούσιν, επικρουσιν ή έλεγχον κάμψεως.

(5) Το δείγμα δεν θα λυώνει ή διαχωρίζεται όταν υποβληθεί εις τον έλεγχον θερμότητος.

(6) Μετά από κάθε έλεγχον, εκτίμησις διυλίσεως (φιλτραρίσματος) θα εκτελείται επί του δείγματος δια μεθόδου όχι ολιγώτερον ευπαθούς των μεθόδων των αναφερομένων εις το περιθώριον 3642.

2.- Μέθοδοι Ελέγχου 3641

(1) Μέθοδος Κρούσεως:- Το δείγμα θα πέσει εις τον στόχον από ύψους 9 Μ. Ο στόχος θα είναι όπως καθορίζεται εις περιθώριον 3634.

(2) Μέθοδος Επικρούσεως:- Το δείγμα θα τοποθετηθεί επάνω σε φύλλο από μόλυβδο το οποίον υποστηρίζεται από μία λεία στερεά επιφάνεια και κτυπάται από την επίπεδο όψη μιάς χαλύβδινης ράβδου (βέργας) ώστε να παραχθεί επί-

κρουσις ισοδύναμος με εκείνην που προκύπτει από ελευθέραν ρίψιν (πτώσιν) I.4 KG από I M. Η επίπεδος όψις της ράβδου θα είναι διαμέτρου 25 MM με τα άκρα στρογγυλευμένα σε ακτίνα 3 MM ± 0.3 MM. Ο μόλυβδος, αριθμού σκληρότητος 3.5 έως 4.5 της κλίμακος VICKERS και πάχους όχι μεγαλυτέρου των 25 MM, θα καλύπτει επιφάνειαν μεγαλυτέραν εκείνης που καλύπτει το δείγμα. Νέα επιφάνεια μολύβδου θα χρησιμοποιείται για κάθε επίκρουση. Η ράβδος θα κτυπά το δείγμα με τρόπον ώστε να προκαλεί την ανωτάτην ζημίαν. 3641 (Συνεχίζεται)

(3) <u>Έλεγχος κάμψεως:-</u> Ο έλεγχος έχει εφαρμογήν μόνον επί μακρών, λεπτών πηγών με κατώτατον μήκος IO CM και αναλογίαν μήκους και κατωτάτου πλάτους όχι μικροτέραν των IO. Το δείγμα θα σφιχθεί στερεά σε οριζόντια θέση εις τρόπον ώστε το ήμισυ του μήκους του να προεξέχει της όψεως του σφιγκτήρος. Η διάταξις του δείγματος θα είναι τέτοια ώστε το δείγμα να υποστεί την ανωτάτην ζημίαν όταν το ελεύθερό του άκρον κτυπηθεί από την επίπεδο όψι της χαλύβδινης ράβδου. Η ράβδος θα κτυπήσει το δείγμα εις τρόπον ώστε να παραχθεί επίκρουσις ισοδύναμος με εκείνην που προκύπτει εξ ελευθέρου κατακορύφου πτώσεως I.4 KG από 1 M. Η επίπεδος επιφάνεια της ράβδου θα είναι διαμέτρου 25 MM με τα άκρα στρογγυλευμένα σε ακτίνα 3 MM έως ± 0.3 MM.

(4) <u>Έλεγχος θερμότητος:-</u> Το δείγμα θα θερμανθεί στον αέρα σε θερμοκρασία 800°C και θα κρατηθεί στη θερμοκρασία αυτή για χρονική περίοδο IO λεπτών και ακολούθως θα επιτραπεί να ψυχθεί.

3.- Μέθοδοι Εκτιμήσεως Διυλίσεως (Φιλτραρίσματος) (LEACHING ASSESSMENT METHODS)

(Ι) Για αδιάλυτες (INDISPERSIBLE) στερεές ύλες: 3642

(α) Το δείγμα θα βυθίζεται επί επτά ημέρες στο νερό σε θερμοκρασία περιβάλλοντος. Το νερό θα έχει pH 6 έως 8, και ανωτάτην αγωγιμότητα 10 μS/CM εις 20°C. 3642

(β).- Το νερό μαζί με το δείγμα θα θερμανθούν ακολούθως εις θερμοκρασίαν 50° ± 5°C και διατηρηθούν εις την θερμοκρασίαν αυτήν επί τέσσερες ώρες. (συνεχίζεται)

(γ) Θα καθορισθεί ακολούθως η δράξις του νερού.

(δ) Το δείγμα ακολούθως θα αποθηκευθεί επί επτά ημέρες τουλάχιστον εις σταθερόν αέρα υγρασίας όχι κάτω των 90 στα εκατό εις 30°C.

(ε) Το δείγμα ακολούθως θα βυθισθεί εν νερό της αυτής προδιαγραφής ως εν (α) ανωτέρω και το νερό μαζί με το δείγμα θα θερμανθούν εις 50°C ± 5°C και διατηρηθούν εις την θερμοκρασίαν αυτήν επί τέσσερες ώρες.

(στ) Θα καθορισθεί ακολούθως η ενέργεια (δράσις) του

Αι δράσεις (ενέργειαι) αι καθοριζόμεναι εν (γ) και (στ) ανωτέρω δεν θα υπερβαίνουν τα 0.05 μCι.

(2) Για καψουλαρισμένες ύλες (ENCAPSULATED SUBSTANCES):-

(α) Το δείγμα θα βυθισθεί σε νερό σε θερμοκρασία περιβάλλοντος. Το νερό θα έχει pH 6-8 με ανωτάτην αγωγιμότητα 10μS/CM. Το νερό και το δείγμα θα θερμανθούν εις θερμοκρασίαν 50°C ± 5°C και διατηρηθούν εις την θερμοκρασίαν αυτήν επί τέσσερες ώρες.

(β) Θα καθορισθεί ακολούθως η ενέργεια (δράσις) του νερού.

(γ) Το δείγμα ακολούθως θα αποθηκευθεί επί επτά τουλάχιστον ημέρες σε σταθερό (ήρεμο, ακίνητο) αέρα σε θερμοκρασία όχι μικρότερη των 30°C.

(δ) Επαναλάβατε (α).

(ε) Να καθορισθεί ακολούθως η ενέργεια (δράσις) του [illegible] νερού. 3642 (Συνεχίζεται)

Αι ενέργειαι (δράσεις) αι καθοριζόμεναι εν (β) και (ε) ανωτέρω δεν θα υπερβαίνουν τα 0.05μCι.

Δ.- ΟΡΟΙ ΕΠΙΘΕΩΡΗΣΕΩΣ ΥΠΟ ΕΚΠΑΙΡΩΣΙΝ ΠΡΟ ΤΗΣ ΠΡΩΤΗΣ ΧΡΗΣΕΩΣ ΚΑΙ ΠΡΟ ΕΚΑΣΤΗΣ ΦΟΡΤΩΣΕΩΣ ΣΥΓΚΕΚΡΙΜΕΝΩΝ ΤΥΠΩΝ ΚΟΛΩΝ

I.- <u>Προ της πρώτης χρήσεως</u>

Προ της πρώτης χρήσεως οιοδήποτε κόλου, οι κάτωθι όροι θα πληρούνται υπό του αποστολέως:- 3643

(α) Για κάθε κόλον τύπου B(U) και τύπου B(M), θα εξασφαλίζεται ότι η αποδοτικότης του προστατευτικού του καύμματος και υποδοχέως, και, οσάκις αναγκαίοι, τα χαρακτηριστικά της μεταφοράς θερμότητος, είναι εντός των ισχυόντων ή των οριζομένων δια το εγκριθέν σχέδιον ορίων.

(β) Εάν η πίεσις σχεδίου (DESIGN PRESSURE) του συστήματος υποδοχέων (CONTAINMENT SYSTEM) υπερβαίνει τα 0.35 KG/CM^2 (GAUGE), θα εξασφαλίζεται ότι το σύστημα υποδοχέων (CONTAINMENT SYSTEM) κάθε κόλου συμφωνεί με τους όρους του εγκριθέντος σχεδίου τους διέποντας την ικανότητα του συστήματος να διατηρεί την ακεραιότητά του υπό πίεσιν.

(γ) Οσάκις, δια την συμμόρφωσιν προς τα κριτήρια πυρηνικής ασφαλείας, δηλητήρια νετρονίου ειδικώς συμπεριλαμβάνονται ως συστατικά μέρη της συσκευασίας βασικώς

δια τον σκοπόν τούτον, έλεγχοι θα εκτελούνται προς επιβεβαίωσιν της παρουσίας και διανομής των δηλητηρίων τούτων.

Σύν εκάστης φορτώσεως

Πριν από κάθε φόρτωσιν οιουδήποτε κόλου, θα τηρούνται οι κάτωθι όροι υπό του αποστολέως:- 3644

(α) Κόλα Τύπου Β(U) και Τύπου Β(Μ), θα κρατούνται μέχρις ότου υπάρξει αρκετά στενή προσέγγισις των συνθηκών ισορροπίας προς κατάδειξιν της συμμορφώσεως προς τους δια την φόρτωσιν όρους θερμοκρασίας και πιέσεως εντός εάν εξαίρεσις από τους όρους τούτους έτυχεν μονοπλεύρου (ετεροβαρούς) εγκρίσεως.

(β) Θα εξασφαλίζεται ότι ετηρήθησαν όλοι οι όροι οι καθοριζόμενοι εις τα πιστοποιητικά εγκρίσεως.

(γ) Θα εξασφαλίζεται δι' εξετάσεως ή δι' αλληλουχίας ελέγχων ότι όλα τα κλεισίματα (πώματα), βαλβίδες και λοιπά ανοίγματα (οπαί) του συστήματος υποδοχέων (CONTAINMENT SYSTEM) δια των οποίων το ραδιενεργόν περιεχόμενον ενδέχεται να διαφύγει, είναι κανονικώς κλεισμένα και, οσάκις απαιτείται, σφραγισμένα με τρόπον εγκεκριμένον αι επιδείξεις των περιθωρίων 3603(I) και 3604(2).

(δ) Θα εξασφαλίζεται ότι αι διατάξεις του περιθωρίου 3600(5), αναφορικώς με τας συνδέσεις ανυψώσεως έχουν τηρηθεί.

3645-
3649

ΠΙΝΑΞ IV.- ΕΛΕΓΧΟΙ ΓΙΑ ΜΕΤΑΦΟΡΑ ΚΑΙ ΑΠΟΘΗΚΕΥΣΗ ΥΠΟ ΔΙΑΜΕΤΑΚΟΜΙΣΙΝ (IN TRANSIT)

Α.- ΜΙΚΤΗ ΣΥΣΚΕΥΑΣΙΑ

Κόλον περιέχον ραδιενεργείς ύλες δεν πρέπει να περιέχει οιαδήποτε άλλα είδη εκτός από τέτοια είδη και έγγραφα τα οποία είναι απαραίτητα για τη χρήση των ραδιενεργών υλών. Τέτοια είδη μπορούν να συμπεριληφθούν, υπό τον όρον ότι δεν θα υπάρξει αλληλεπίδρασις μεταξύ των και της συσκευασίας ή του περιεχομένου η οποία θα εμείωνε την ασφάλεια του κόλου. 3650

Β.- ΜΗ-ΩΡΙΣΜΕΝΗ ΡΑΔΙΕΝΕΡΓΟΣ ΜΟΛΥΝΣΙΣ

Η μη-ωρισμένη ραδιενεργός μόλυνσις επί οιασδήποτε εξωτερικής επιφανείας του κόλου θα διατηρείται όσο είναι πρακτικώς δυνατόν χαμηλή και ουδέποτε διαρκούσης της κανονικής μεταφοράς θα υπερβαίνει τα επίπεδα τα οριζόμενα εις τον Πίνακα XIX. Το επίπεδον της μη-ωρισμένης ραδιενεργού μολύνσεως μπορεί να καθορισθεί δια καθαρίσματος (σκουπίσματος) εκτάσεως 300 CM^2 της προκειμένης επιφανείας δια της χειρός με διηθητικόν χάρτην, ή στουπί από βαμβάκι-μαλλί ή με οποιοδήποτε άλλο υλικό ομοίας φύσεως. 3651

Κόλα χρησιμοποιηθέντα δια την μεταφοράν ραδιενεργών υλών όπως υποστάν ακτινοβολίαν καύσιμον, θα εξετάζονται για να καθορισθεί εάν η ενέργεια (ενεργότητα) μπορεί να διυλισθεί στην επιφάνεια, π.χ. δια της βροχής. Η συχνότης τοιαύτης εκτιμήσεως θα σχετίζεται με το ενδεχόμενον η ραδιενεργός μόλυνσις να έχει απορροφηθεί από την επικάλυψιν της επιφανείας, ειδικώτερον της βαφής (χρώματος). Οσάκις

ενέργεια ενδέχεται να διϋλισθεί στην επιφάνεια του κόλου, η συνεχιζομένη χρήσις του τοιούτου κόλου θα υπόκειται εις την εκτίμησιν ασφαλείας ακτινοβολίας γενομένην υπό του αρμοδίου προσώπου. 3651 (Συνεχίζεται)

ΠΙΝΑΞ ΧΙΧ.- ΑΝΩΤΑΤΑ ΕΠΙΤΡΕΠΤΑ ΕΠΙΠΕΔΑ ΜΗ-ΩΡΙΣΜΕΝΗΣ ΡΑΔΙΕΝΕΡΓΟΥ ΜΟΛΥΝΣΕΩΣ

Ύλη προκαλούσα την μόλυνσιν	Ανώτατον Επιτρεπτόν Επίπεδον (βλέπε Σημείωσιν α/ (μCι/CM^2)
Φυσικόν και υποστάν εξασθένησιν ουράνιον και φυσικόν θόριον και μόνον	10^{-3}
Βήτα και γάμμα πομποί οι χαμηλής τοξικότητος άλφα πομποί οριζόμενοι εις την Σημείωσιν β/ κατωτέρω	10^{-4}
Όλοι οι λοιποί άλφα πομποί	10^{-5}

Σημειώσεις:- α/ Τα ανωτέρω επίπεδα είναι επιτρεπτά όταν υπολογίζωνται επί οιασδήποτε εκτάσεως 300 CM^2 οιουδήποτε τμήματος της επιφανείας.

β/ Χαμηλής τοξικότητος άλφα πομποί:- Ουράνιον-235 ή ουράνιον-238· θόριον 232· θόριον-228 και θόριον-230 όταν διαλύεται εις ειδικήν ενεργότητα της αυτής σειράς με εκείνην του φυσικού ουρανίου και φυσικού θορίου· ραδιονουκλεΐδια με ημισείαν ζωήν κάτων των 10 ημερών.

Τμ. ΚΑΤΗΓΟΡΙΑΙ 3652

Κόλα και υποδοχείς (CONTAINERS) (δοχεία) (μεγάλα και μικρά) θα είναι της μιάς των κάτωθι τριών κατηγοριών:-

I.- Κατηγορία I-ΛΕΥΚΗ

(I) Κόλα:- Όταν το επίπεδον ακτινοβολίας το προερχόμενον εκ του κόλου οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν υπερβαίνει τα 0.5 MREM/H (ωριαίως) εις οιονδήποτε τόπον επί της εξωτερικής επιφανείας του κόλου, και το κόλον δεν ανήκει εις Κλάσιν II ή III Διασπαστών Υλών. 3653

(2) Υποδοχείς (δοχεία) (CONTAINERS):- Όταν περιέχουν κόλα ραδιενεργών υλών ουδέν των οποίων είναι κατηγορίας μεγαλυτέρας της Κατηγορίας I-ΛΕΥΚΗΣ.

2.- Κατηγορία II-ΚΙΤΡΙΝΗ

(I) Κόλα:- Όταν το όριον του επιπέδου ακτινοβολίας του περιθωρίου 3653(I) υπερβαίνεται, ή το κόλον ανήκει εις την Κλάσιν II Διασπαστών Υλών, υπό τον όρον ότι:- 3654

(α) το επίπεδον ακτινοβολίας το προερχόμενον εκ του κόλου οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν υπερβαίνει τα 50 MREM/H (ωριαίως) εις οιονδήποτε τόπον επί της εξωτερικής επιφανείας του κόλου· και

(β) ο δείκτης μεταφοράς οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν υπερβαίνει το I.O.

(2) Υποδοχείς (δοχεία) (CONTAINERS):- Όταν ο δείκτης μεταφοράς του υποδοχέως (δοχείου, CONTAINER) οποτεδήποτε διαρκούσης της μεταφοράς δεν υπερβαίνει το I.O, και όταν δεν περιέχει κόλα Κλάσεως III Διασπαστών Υλών.

Β.- Κατηγορία ΙΙΙ-ΚΙΤΡΙΝΗ

(Ι) Κόλα:- Όταν καθένα των δύο ορίων του περιθω- 3655
ρίου 3654(Ι) υπερβαίνεται, ή όταν το κόλον ανήκει εις την Κλάσιν ΙΙ ή Κλάσιν ΙΙΙ Διασπαστών Υλών, ή όταν το κόλον μεταφέρεται υπό ειδικήν διάταξιν, υπό τον όρον ότι:-

(α) το επίπεδον ακτινοβολίας το προερχόμενον εκ του κόλου οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν υπερβαίνει τα 200 MREM/H (ωριαίως) εις οιονδήποτε τόπον επί της εξωτερικής επιφανείας του κόλου, εκτός του ότι, δια φορτώσεις πλήρους φορτίου υπό τας συνθήκας τας οριζομένας εις περιθώριον 3659(7), το ανώτατον επιτρεπτόν επίπεδον θα είναι ΙΟΟΟ MREM/H (ωριαίως)· και

(β) ο δείκτης μεταφοράς οποτεδήποτε διαρκούσης της κανονικής μεταφοράς δεν υπερβαίνει τα ΙΟ εκτός εάν το κόλον μεταφέρεται ως πλήρες φορτίον.

(2) Υποδοχείς (δοχεία, CONTAINERS):- όταν ο δείκτης μεταφοράς του υποδοχέως (δοχείου, CONTAINER), οποτεδήποτε διαρκούσης της κανονικής μεταφοράς, υπερβαίνει τα Ι.Ο, ή όταν ο υποδοχεύς (δοχείον, CONTAINER) μεταφέρει κόλα ανήκοντα εις Κλάσιν ΙΙΙ Διασπαστών Υλών, ή όταν μεταφέρεται υπό ειδικήν διάταξιν.

Δ.- ΕΤΙΚΕΤΤΕΣ ΚΑΙ ΕΝΔΕΙΞΕΙΣ (βλέπε Προσθήκην Α.9)

(Ι) Κάθε κόλον και υποδοχεύς (δοχείον, CONTAINER) 3656
(μεγάλο και μικρό) θα φέρει τουλάχιστον δύο ετικέττες οι οποίες θα είναι σύμφωνες με τα μοντέλα 6Α, 6Β ή 6Γ της Προσθήκης Α.9 αναλόγως με την κατηγορίαν (βλέπε περιθώρια 3652 έως 3655) του κόλου ή υποδοχέως (δοχείου, CONTAINER) τούτου.

(2) Οι ετικέττες θα τοποθετούνται εις δύο αντίθετες πλευρές εξωτερικού του κόλου, ή εις το εξωτερικών και των τεσσάρων πλευρών του υποδοχέως (CONTAINER). 3656 (Συνεχίζεται)

(3) Οι ετικέττες θα είναι συμπληρωμένες ως κάτωθι κατά σαφή και ανεξίτηλον τρόπον:-

(α) δίπλα στη λέξη "περιεχόμενον" θα σημειούται το ραδιονουκλεΰδιο ή η ύλη η παρουσία της οποίας αποτελεί τον κύριον κίνδυνον εν περιπτώσει βλάβης του κόλου (π.χ.: στρόντιον -90, υποβληθέν εις ακτινοβολίαν ουράνιον, ραδιενεργόν LSA)·

(β) δίπλα στη λέξη "ενέργεια (δραστικότης)" θα γράφεται η δραστικότης σε CURIES·

Σημείωσις: Η δραστικότης αυτή μπορεί επίσης να εκφρασθεί εις μικρο, μιλλι ή κιλοκιουρί υπό τον όρον ότι το πρόθεμα μικρο, μιλλι και κιλο γράφονται ολογράφως·

(γ) επιπροσθέτως των αριθμών μοντέλου 6Β και 6Γ θα γράφεται ο δείκτης μεταφοράς με όσο το δυνατόν μεγαλυτέρους αριθμούς εις το δια τον σκοπόν αυτόν πλαίσιον.

(4) Κάθε κόλον μικτού βάρους υπερβαίνοντος τα 50 KG θα έχει το μικτό βάρος αυτού ευκρινώς και ανεξιτήλως σημειωμένον εις το εξωτερικόν του κόλου.

(5) Κάθε κόλον το οποίον συμφωνεί με σχέδιον συσκευασίας Τύπου Α θα είναι ευκρινώς και ανεξιτήλως σημειωμένον εις το εξωτερικόν του κόλου με "Τύπος Α".

(6) Κάθε κόλον το οποίον συμφωνεί με σχέδιον εγκεκριμένον δυνάμει των περιθωρίων 3672 έως 3674 θα σημειούται ευκρινώς και ανεξιτήλως εις το εξωτερικόν του κόλου

με τό αναγνωριστικόν σύμβολον το καθορισθέν δια το σχέδιον τούτου υπό της αρμοδίου αρχής και, στη περ 3656 (Συνέχίζεται)
σχεδίου κόλου Τύπου Β(U) ή Τύπου Β(M), με "Τ'υπ
ή "Τύπος Β(M)".

(7) Κάθε κόλον το οποίον συμφωνεί με σχέδιον κόλου Τύπου Β(U) ή Τύπου Β(M) θα φέρει εις το εξωτερικόν του δοχείου το οποίον αντέχει εις τις επιδράσεις του πυρός και του νερού ευκρινώς σημειωμένον με σφραγίδος ανάγλυφο ή με άλλο μέσον ανθεκτικόν εις τας επιδράσεις του πυρός και του νερού το σύμβολον του τριφυλλιού το εικονιζόμενον εις τις ετικέττες των μοντέλων 6Α έως 6Γ.

Ε.- ΑΠΟΣΠΑΣΙΣ (ΔΙΑΧΩΡΙΣΜΟΣ) ΡΑΔΙΕΝΕΡΓΩΝ ΥΛΩΝ

Κόλα της Κατηγορίας ΙΙ-ΚΙΤΡΙΝΗΣ ή ΙΙΙ-ΚΙΤΡΙΝΗΣ 3657
θα αποσπώνται (διαχωρίζωνται) κατά την μεταφοράν ή την αποθήκευσιν από κόλα τα οποία φέρουν ετικέττα με την λέξιν "FOTO" κατά τας αποστάσεις ασφαλείας τας διδομένας εις τον πίνακα του περιθωρίου 240 001 της Προσθήκης Β.4.

ΣΤ.- ΑΠΟΘΗΚΕΥΣΙΣ ΥΠΟ ΔΙΑΜΕΤΑΚΟΜΙΣΙΝ (IN TRANSIT)

(1) Κόλα ραδιενεργών υλών δεν θα αποθηκεύωνται 3658
πλησίον επικινδύνων εμπορευμάτων μετά των οποίων μικτή φόρτωσις απαγορεύεται (βλέπε περιθώριον 2700(3)).

(2) Ο αριθμός των κόλων και δοχείων (CONTAINERS) Κατηγορίας ΙΙ-ΚΙΤΡΙΝΗΣ και Κατηγορίας ΙΙΙ-ΚΙΤΡΙΝΗΣ των αποθηκευομένων εις οιανδήποτε μίαν αποθήκην (αποθηκευτικόν χώρον), ως χώρος/υπό διαμετακόμισιν (TRANSIT AREA), ακραίον πτέριον, ή υπόστεγον, θα είναι τόσον περιωρισμένος ώστε το ολικόν άθροισμα των δεικτών μεταφοράς οιουδή-

ποτε επί μέρους ομάδος τοιούτων κόλων ή δοχείων (CONTAIN-ERS) δεν υπερβαίνει τα 50. Ομάδες τοιούτων κόλων και δοχείων (CONTAINERS) θα αποθηκεύωνται κατά τρόπον ώστε να τηρείται κενός χώρος τουλάχιστον 6 μέτρων από τους άλλους ομίλους (ομάδες) τοιούτων κόλων ή δοχείων (CONTAINERS).

(3) Οσάκις έλεγχος συσσωρευθέντων κόλων πραγματοποιείται αναφερόμενος εις ερυθράς ταινίας σημειούμενες επί των ετικετών δεν θα υπάρχουν περισσότερα των 50 Κατηγορίας ΙΙ-ΚΙΤΡΙΝΗΣ ή 5 Κατηγορίας ΙΙΙ-ΚΙΤΡΙΝΗΣ κόλα εις οιανδήποτε μίαν ομάδα κόλων. Οσάκις υπάρχουν κόλα αμφοτέρων των κατηγοριών, ένα κόλον Κατηγορίας ΙΙΙ-ΚΙΤΡΙΝΗΣ θα λαμβάνεται ως ισοδύναμον με δέκα Κατηγορίας ΙΙ-ΚΙΤΡΙΝΗΣ κόλα.

(4) Εκτός της περιπτώσεως κόλων Διασπαστών Υλών Κλάσεως ΙΙ ή Κλάσεως ΙΙΙ, οι περιορισμοί του περιθωρίου 3658(2) δεν ισχύουν δια κόλα σημειούμενα "RADIOACTIVE (ΡΑΔΙΕΝΕΡΓΟΝ) LSA" και περιέχοντα ύλην χαμηλής ειδικής δραστικότητος ή κόλα σημειούμενα "RADIOACTIVE (ΡΑΔΙΕΝΕΡΓΟΝ) LLS" και περιέχοντα στερεάν ραδιενεργόν ύλην χαμηλού επιπέδου όταν διατηρούνται εις συμπαγή στοιβασίαν ή εντός υποδοχέων (CONTAINERS).

(5) Ανάμιξις διαφόρων ειδών κόλων, συμπεριλαμβανομένων κόλων Διασπαστών Υλών Κλάσεως Ι με κόλα Διασπαστών Υλών Κλάσεως ΙΙ, επιτρέπεται.

Ζ.- ΜΕΤΑΦΟΡΑ

Ι.- Κόλα

(Ι) Τα κόλα θα φορτώνωνται κατά τέτοιο τρόπο στα οχήματα ώστε να μη μπορούν να μετακινούνται επικινδύνως,

ανεπιθύμητα γυρίζουν ή πέφτουν. 3659

(2) Υπό τον όρον ότι ο μέσος όρος της επιφανειακής θερμικής ροής δεν υπερβαίνει τα I5W/M^2, και ότι το πέριξ φορτίον δεν είναι σε σάκκους, το πλοίον μπορεί να μεταφερθεί μεταξύ συσκευασμένου γενικού φορτίου άνευ οιουδήποτε ειδικών περί στοιβασίας διατάξεων εκτός ως ήθελεν ειδικώς ζητηθεί υπό της αρμοδίου αρχής εις κατάλληλον πιστοποιητικόν. Εάν η θερμική ροή υπερβαίνει τα I5W/M^2 το πλοίον πρέπει να μεταφερθεί ως πλήρες φορτίον.

(3) Πλοία Κατηγοριών I-ΛΕΥΚΗ, II ή III-ΚΙΤΡΙΝΗ δεν πρέπει να μεταφέρωνται εντός διαμερισμάτων καταλαμβανομένων υπό επιβατών, εκτός εκείνων τα οποία φυλάσσονται δια μεταφορείς/συνοδούς ειδικώς εξουσιοδοτημένους να συνοδεύσουν τα τοιαύτα πλοία.

(4) Η ανάμιξις διαφόρων ειδών πλοίων, συμπεριλαμβανομένων των πλοίων Διασπαστών Υλών Κλάσεως I με πλοία Διασπαστών Υλών Κλάσεως II, επιτρέπεται.

(5) Η συσσώρευσις πλοίων και υποδοχέων (δοχείων, CONTAINPERS) θα ελέγχεται ως κάτωθι:-

(α) Δι'αμφότερα τα πλοία και υποδοχείς (δοχεία, CONTAINERS), ο αριθμός των πλοίων και CONTAINERS θα είναι έτσι περιωρισμένος ώστε το συνολικόν άθροισμα των δεικτών μεταφοράς εις οιονδήποτε δχημα δεν θα υπερβαίνει τα 50. Όσάκις ο έλεγχος αυτός των πλοίων πραγματοποιείται δι'αναφοράς εις τας ερυθράς ταινίας τας σημειουμένας επί των πλοίων βλέπε περιθώριον 3658(3).

(β) Στη περίπτωση πλήρων φορτίων τα όρια της παρα-

γράφου (5)(α) θα έχουν εφαρμογήν, υπό τον όρον ότι το επί- 3659
πεδον ακτινοβολίας υπό κανονικάς συνθήκας μεταφοράς δεν (Συνεχί-
υπερβαίνει τα 200 MREM/H (ωριαίως) εις οιονδήποτε σημείον ζεται)
επί, και IO MREM/H (ωριαίως) εις 2M εκ της εξωτερικής επι-
φανείας/ναυλωθέντος υποδοχέως ή οχήματος. Δι'αποστολές Διασπαστών Υλών
Κλάσεως II ή III, ή μιγμάτων αυτών, το πλήρες φορτίον δεν
θα περιλαμβάνει περισσότερα του επιτρεπομένου αριθμού κόλα
(βλέπε σημείωσιν εις περιθώριον 2700).

(6) Οχήματα και μεγάλοι υποδοχείς (CONTAINERS)
μεταφέροντα κόλα ή δοχεία φέροντα ετικέττες Μοντέλων 6Α,
6Β ή 6Γ, ή μεταφέροντα αποστολές πλήρους φορτίου οιωνδή-
ποτε ραδιενεργών υλών θα εκθέτουν την επιγραφήν του περι-
θωρίου 240 OIO της Προσθήκης Β.4 επί του εξωτερικού εκάστης
των δύο πλαγίων πλευρών και του οπισθίου τοιχώματος στη
περίπτωση οχήματος.

(7) Στη περίπτωση πλήρων φορτίων το επίπεδον ακτι-
νοβολίας δεν θα υπερβαίνει:-

(α) τα IOOO MREM/H (ωριαίως) εις οιονδήποτε σημείον
της εξωτερικής επιφανείας οιουδήποτε κόλου, υπό τον όρον
ότι:-

(ι) το όχημα είναι εφωδιασμένον με κλείσιμον/το (καλύπτρα)
οποίον διαρκούσης της μεταφοράς, εμποδίζει
την πρόσβασιν εις μη εξουσιοδοτημένα πρόσωπα
εις το εσωτερικόν του κλεισίματος(της καλύπτρας)·

(ιι) έχουν γίνει προβλέψεις δια την ασφάλειαν των
κόλων, ώστε η θέσις των εντός του οχήματος
να παραμένει ωρισμένη διαρκούσης της κανονικής
μεταφοράς·

3659
(Συνεχίζεται)

(iii) δεν υπάρχουν εργασίαι φορτώσεως ή εκφορτώσεως μεταξύ της ενάρξεως και λήξεως της μεταφοράς.

Υπό άλλας συνθήκας, το επίπεδον ακτινοβολίας εις οιονδήποτε σημείον επί της εξωτερικής επιφανείας του κόλου δεν θα υπερβαίνει τα 200 MREM/H (ωριαίως).

(β) τα 200 MREM/H (ωριαίως) εις οιονδήποτε σημείον επί της εξωτερικής επιφανείας του οχήματος ή του μεγάλου CONTAINER, συμπεριλαμβανομένων των άνω και κάτω επιφανειών, και, προκειμένου περί ανοικτού οχήματος εις οιονδήποτε σημείον επί των καθέτων επιπέδων των προεκτεινομένων (προεξεχόντων) εκ των εξωτερικών άκρων του οχήματος, επί της άνω επιφανείας του φορτίου, και επί της κάτω εξωτερικής επιφανείας του οχήματος και

(γ) τα 10 MREM/H (ωριαίως) εις οιονδήποτε σημείον 2M εκ των καθέτων επιπέδων των αντιπροσωπευομένων υπό των εξωτερικών πλευρικών επιφανειών του οχήματος ή μεγάλου CONTAINER, και, εάν το φορτίον μεταφέρεται εντός ανοικτού οχήματος εις οιονδήποτε σημείον 2M εκ των καθέτων επιπέδων των προεξεχόντων εκ των εξωτερικών άκρων του οχήματος.

(8) (α) Το επίπεδον ακτινοβολίας εις οιανδήποτε κανονικώς κατειλημμένην θέσιν οχήματος δεν θα υπερβαίνει τα 2 MREM/H (ωριαίως) διαρκούσης της μεταφοράς. Υπό τοιαύτας συνθήκας ο μεταφορεύς θα εξασφαλίζει ότι ο οδηγός ή οιονδήποτε συνοδεύον προσωπικόν, δεν θα περιλαμβάνει περισσοτέραν ακτινοβολίαν των 0.5 REM. εις οιανδήποτε 12-μηνον περίοδον. Διατηρούντες τας κατωτάτας αποστάσεις τας ανα-

γραφομένας εις τον πίνακα του περιθωρίου 240 000 της Προσθήκης Β.4, ακόμη και ελλείψει προστατευτικού καλύμματος, θα θεωρούνται ως διατηρούμεναι εντός του ορίου των 2 MREM/H (ωριαίως). 3659 (Συνεχίζεται)

(β) Εναλλακτικώς της (α) ανωτέρω, ο μεταφορεύς μπορεί να θέσει σε λειτουργία πρόγραμμα εργασίας εγκεκριμένον υπό της αρμοδίας αρχής δια του οποίου στοιχεία δέον να τηρούνται υπ'αυτού δια τους χρόνους τους δαπανηθέντας υπό προσώπων ταξειδευόντων εις τα οχήματά του και τα επίπεδα ακτινοβολίας εις τα οποία τα πρόσωπα αυτά υποβάλλονται, εις τρόπον ώστε ουδέν πρόσωπον να λαμβάνει μεγαλυτέραν δόσιν των 375 MREM εις οιονδήποτε ημερολογιακόν τρίμηνον.

2.- Βυτιοφόρα (TANK VEHICLES)

Χαμηλής-ειδικής-δραστικότητος ύλες, LSA (Ι), του περιθωρίου 2703, παραρτήματος/πίνακος 5, πλήν του εξαφθοριούχου ουρανίου και υλών υποκειμένων εις στιγμιαίαν ανάφλεξιν, μπορούν να μεταφέρωνται με βυτιοφόρα συμφώνως προς τους όρους της Προσθήκης Β.Ια. 3660

3.- TANK-CONTAINERS

Χαμηλής ειδικής-δραστικότητος ύλες, LSA (Ι), του περιθωρίου 2703, παραρτήματος/πίνακος 5, συμπεριλαμβανομένου του φυσικού ή εξασθενημένου εξαφθοριούχου ουρανίου, μπορούν να μεταφέρωνται εντος TANK-CONTAINERS (Δεξαμενο-Υποδοχέων) συμφώνως προς τους όρους της Προσθήκης Β.Ιβ. 3661-3662-3669

ΚΕΦΑΛΑΙΟΝ V.- ΔΙΟΙΚΗΤΙΚΑΙ ΔΙΑΤΑΞΕΙΣ

Έγκρισις υπό των αρμοδίων αρχών δεν απαιτείται 3670
για σχέδια κόλων για ύλες αποστελλόμενες δυνάμει των Παραρτημάτων/Πινάκων I έως 4 και, υπό τον όρον ότι το περιεχόμενον δεν είναι διασπαστές ύλες απαιτούσαι έγκρισιν συμφώνως προς το περιθώριον 3674, δια σχέδια κόλων για ύλες αποστελλόμενες δυνάμει των Παραρτημάτων/Πινάκων 5 έως 8.

Α.- ΕΓΚΡΙΣΙΣ ΕΙΔΙΚΟΥ ΤΥΠΟΥ ΡΑΔΙΕΝΕΡΓΩΝ ΥΛΩΝ

(I) Οιονδήποτε σχέδιον δι'ειδικού τύπου ραδιενεργείς 3671
ύλες, με την εξαίρεσιν των υλών των οριζομένων εις τα Παραρτήματα/Πίνακας 3 και 4, θά απαιτεί μονόπλευρον (ετεροβαρή) έγκρισιν. Η αίτησις δι'έγκρισιν θα περιλαμβάνει:-

(α) λεπτομερή περιγραφήν των υλών ή, προκειμένου περί κάψουλας, του περιεχομένου· ειδική μνεία θα γίνεται αμφοτέρων των φυσικών και χημικών καταστάσεων·

(β) λεπτομερή δήλωσιν του σχεδίου οιασδήποτε χρησιμοποιηθησομένης κάψουλας, συμπεριλαμβανομένων πλήρων μηχανικών σχεδίων και πινάκων υλικών και μεθόδων κατασκευής που πρόκειται να χρησιμοποιηθούν·

(γ) δήλωσιν των ελέγχων οι οποίοι έχουν γίνει ως και των αποτελεσμάτων αυτών, ή αποδείξεων βασιζομένων επί μεθόδων υπολογισμού δια να καταδειχθεί ότι οι ύλες είναι ικανές να αντιμετωπίσουν τους ελέγχους, ή ετέρων αποδείξεων κατά τας οποίας αι ειδικού τύπου ραδιενεργείς ύλες πληρούν τους όρους και τας διατάξεις της παρούσης Προσθήκης.

(3) Η αρμοδία αρχή θα καθιερώσει πιστοποιητικόν αναφέρον ότι το εγκριθέν σχέδιον πληροί τον ορισμόν των ειδικού τύπου ραδιενεργών υλών τον οριζόμενον εις το περιθώριον 2700(2) και θα δίδει εις το σχέδιον τούτο σύμβολον αναγνωρίσεως. Το πιστοποιητικόν θα καθορίζει τας λεπτομερείας των ραδιενεργών υλών. 3671 (Συνεχίζεται)

Β.- ΕΓΚΡΙΣΙΣ ΣΧΕΔΙΩΝ ΚΟΛΩΝ

I.- <u>Έγκρισις σχεδίων κόλων Τύπου Β(U) (συμπεριλαμβανομένων των σχεδίων δια κόλα Διασπαστών Υλών Κλάσεως I, Κλάσεως II και Κλάσεως III τα οποία υπόκεινται επίσης εις το περιθώριον 3674)</u>

(I) Οιονδήποτε σχέδιον κόλου Τύπου Β(U) προερχόμενον εκ χώρας μέρους της ADR θα εγκρίνεται υπό της αρμοδίας αρχής της χώρας ταύτης· εάν η χώρα ένθα το κόλον εσχεδιάσθη δεν είναι (συμπληθέν) μέλος της ADR, η μεταφορά είναι δυνατή υπό τον όρον ότι:- 3672

(α) πιστοποιητικόν έχει χορηγηθεί υπό της χώρας αυτής, ορίζον ότι το κόλον πληροί τις τεχνικές διατάξεις της ADR, και ότι το πιστοποιητικό τούτο προσυπογράφεται υπό της αρμοδίας αρχής της πρώτης χώρας ADR εις την οποίαν φθάνει η αποστολή·

(β) εάν ουδέν πιστοποιητικόν έχει χορηγηθεί, το σχέδιον κόλου εγκρίνεται υπό της αρμοδίας αρχής της πρώτης χώρας ADR εις την οποίαν έφθασε η αποστολή·

(2) Η αίτησις για έγκρισιν θα περιλαμβάνει:-

(α) λεπτομερή περιγραφήν του προτεινομένου περιε-

χομένου με ειδικήν αναφοράν εις τας φυσικάς και χημικάς καταστάσεις αυτού και την φύσιν της εκπεμπομένης ακτιβολίας· 3672 (Συνεχίζεται)

(β) λεπτομερή δήλωσιν του σχεδίου, συμπεριλαμβανομένων πλήρων μηχανικών σχεδίων και πινάκων υλικών και μεθόδων κατασκευής που πρόκειται να χρησιμοποιηθούν·

(γ) δήλωσιν των ελέγχων οι οποίοι έχουν γίνει ως και των αποτελεσμάτων αυτών, ή αποδείξεων βασιζομένων επί μεθόδων υπολογισμού ή άλλων αποδείξεων ότι το σχέδιον του κόλου είναι κατάλληλον για να αντιμετωπίσει τις διατάξεις των περιθωρίων 3602 και 3605·

(δ) τας προτεινομένας όδηγίας λειτουργίας και συντηρήσεως για την χρήσιν του κόλου, ειδικώτερον, προκειμένου περί κόλων που ενδέχεται να βυθισθούν εις μολυσμένα λιμνοστάσια, τας ενσωματωμένας διατάξεις προς εξασφάλισιν ότι η επιφάνεια του κόλου δεν εμολύνθη άνω των επιτρεπομένων επιπέδων·

(ε) εάν το κόλον σχεδιασθεί να έχει ανωτάτην κανονικήν λειτουργικήν πίεσιν πλέον των I.0 KG/CM^2(GAUGE), η αίτησις δια την έγκρισιν θα αναφέρει, ειδικώτερον, εν σχέσει με τα υλικά της κατασκευής του συστήματος υποδοχέων (CONTAINMENT SYSTEM), τας προδιαγραφάς, τα ληφθησόμενα δείγματα και τους ενεργηθησομένους ελέγχους·

(στ) οσάκις το προτεινόμενον περιεχόμενον είναι καύσιμον υποβληθέν εις ακτινοβολίαν (IRRADIATED FUEL), ο αιτών θα αναφέρει και δικαιολογεί οιανδήποτε υπόθεσιν (οιονδήποτε δεδομένον) στην ανάλυσιν της ασφαλείας που σχετίζεται με τα χαρακτηριστικά του καυσίμου·

(ζ) οιασδήποτε ειδικάς διατάξεις στοιβασίας απαραι- 3672
(Συνεχίζεται)
τήτους δια να εξασφαλισθεί ο ασφαλής διασκεδασμός της θερμότητος εκ του κόλου· θα λαμβάνεται υπόψει ο τύπος του οχήματος ή του CONTAINER (βλέπε περιθώριον 3681(I)(α))·

(η) δυναμένην να αναπαραχθεί εικονογράφησιν όχι μεγαλυτέραν των 21 CM X 30 CM, εικονίζουσαν την κατασκευήν του κόλου.

(3) Η αρμοδία αρχή θα καθιερώσει πιστοποιητικόν αναφέρον ότι το εγκριθέν σχέδιον πληροί τις διατάξεις των κόλων Τύπου B(U) (βλέπε περιθώρια 3677 και 3678).

2.- Έγκρισις σχεδίου κόλων Τύπου B(M) (συμπεριλαμβανομένων των σχεδίων δια κόλα Διασπαστών Υλών Κλάσεως I, Κλάσεως II και Κλάσεως III τα οποία επίσης υπόκεινται εις το περιθώριον 3674)

(I) Έκαστον σχέδιον κόλου τύπου B(M) θα αναγκαίος πολύ- 3673
πλευρον έγκρισιν.

(2) Η αίτησις δι'έγκρισιν σχεδίου κόλου Τύπου B(M) θα περιλαμβάνει, επιπροσθέτως των πληροφοριών των απαιτουμένων υπό του περιθωρίου 3672(2) δια κόλα Τύπου B(U):-

(α) κατάστασιν των προσθέτων ειδικών εκείνων διατάξεων δια κόλα Τύπου B(U) των οριζομένων εις το περιθώριον 3603 με τας οποίας το κόλον δεν συμφωνεί·

(β) οιουσδήποτε προτεινομένους συμπληρωματικούς λειτουργικούς ελέγχους δια να ρυθμισθούν αι αναγραφόμεναι εν (α) ανωτέρω ελλείψεις· και

(γ) δήλωσιν σχετικήν με οιανδήποτε διαδικασίαν φορτώσεως, μεταφοράς, εκφορτώσεως, ή χειρισμού·

(δ) τις ανώτατες και κατώτατες συνθήκες του περι- 3673
βάλλοντος (θερμοκρασία, ηλιακή ακτινοβολία) οι οποίες (Συνεχί-
αναμένονται να αντιμετωπισθούν διαρκούσης της μεταφοράς ζεται)
και οι οποίες έχουν ληφθεί υπόψη εις το σχέδιον.

(3) Η αρμοδία αρχή θα καθιερώσει πιστοποιητικόν αναφέρον ότι το εγκριθέν σχέδιον κόλου πληροί τις διατάξεις τις διεπουσες τα κόλα Τύπου Β(Μ) (βλέπε περιθώρια 3677 έως 3679).

3.- Έγκρισις σχεδίου κόλων Διασπαστών Υλών Κλάσεως Ι, Κλάσεως ΙΙ και Κλάσεως ΙΙΙ

(Ι) Σχέδια κόλων συμμορφούμενα προς τα παραδείγματα 3674
των περιθωρίων 3620, 3623, ή 3624 δεν θα απαιτούν περαιτέρω εγκρίσεις της αρμοδίας αρχής.

(2) Σχέδια κόλων συμμορφούμενα προς τα παραδείγματα των περιθωρίων 3616 και 3622 θα απαιτούν μονόπλευρον (ετεροβαρή) έγκρισιν.

(3) Όλα τα λοιπά σχέδια κόλων θα απαιτούν πολύπλευρον έγκρισιν.

(4) Η αίτησις δια την έγκρισιν θα περιλαμβάνει όλες τις πληροφορίες που είναι απαραίτητες δια να εξακριβώσει η αρμοδία αρχή ότι το σχέδιον πληροί τις διατάξεις των περιθωρίων 3610 έως 3624.

(5) Η αρμοδία αρχή θα καθιερώσει πιστοποιητικόν (βλέπε περιθώρια 3677 έως 3679) αναφέρον ότι το εγκριθέν σχέδιον κόλου πληροί τις διατάξεις των περιθωρίων 3610 έως 3624.

Γ.- ΕΓΚΡΙΣΙΣ ΦΟΡΤΩΣΕΩΝ

(Ι) Πολύπλευροι εγκρίσεις φορτώσεων θα απαιτούνται δια 3675

[illegible] κδλα/+

(α) Κδλα Τ΄υπου Β(Μ) ειδικώς σχεδιαζόμενα να επιτρέπουν συνεχή εξαερισμόν.

(β) Κδλα Τύπου Β(Μ) περιέχοντα ραδιενεργείς ύλες με δραστικότητα μεγαλυτέραν των 3 Χ 10^3 A_1 ή 3 Χ 10^3 A_2, ως ενδείκνυται, ή 3 Χ 10^4 Ci, οιασδήποτε τούτων ούσης μικροτέρας·

5/ (Σελίς Μεταφράσεως 145):- Δηλαδή, λειτουργικοί έλεγχοι διαρκούσης της μεταφοράς οι οποίοι δεν προβλέπονται ως ρουτίνα υπό της παρούσης Προσθήκης αλλά θεωρούνται απαραίτητοι δια να εξασφαλίζεται η ασφάλεια του κδλου διαρκούσης της μεταφοράς, όπως ανθρωπίνη επέμβαση δια μετρήσεις θερμοκρασίας ή πιέσεως ή δια περιοδικόν εξαερισμόν. Οι έλεγχοι αυτοί θα λαμβάνουν επίσης υπόψη την δυνατότητα απροσδοκήτου καθυστερήσεως.

(γ) Κδλα Διασπαστών Υλών Κλάσεως ΙΙ συμμορφούμενα προς το περιθώριον 3620.

(δ) Κδλα Διασπαστών Υλών Κλάσεως ΙΙΙ.

Εν τούτοις, η αρμοδία αρχή δύναται να εξουσιοδοτήσει μεταφοράν εις ή δια της χώρας αυτής, άνευ εγκρίσεως της φορτώσεως, με ειδική προβλέψη περιεχομένη εις την έγκρισιν της του σχεδίου.

(2) Η αίτησις διά την έγκρισιν της φορτώσεως θα περιλαμβάνει:-

(α) την χρονικήν περίοδον, την σχετικήν με την

φόρτωσιν, δια την οποίαν επιδιώκεται η έγκρισις· 3675
(β) το πραγματικόν περιεχόμενον, τον τύπον (Συνεχίζεται)
του οχήματος και την πιθανήν ή προτεινομένην διαδρομήν· και

(γ) πως αι ειδικαί προφυλάξεις και οι ειδικοί διοικητικοί και λειτουργικοί έλεγχοι οι αναφερόμενοι εις τα πιστοποιητικά σχεδίων κόλων τα εκδοθέντα δυνάμει των περιθωρίων 3673 και 3674, πρόκειται να τεθούν εν ισχύϊ.

(3) Μόλις εγκριθεί η φόρτωσις, η αρμοδία αρχή θα εκδώσει πιστοποιητικόν (βλέπε περιθώρια 3677 έως 3679).

(4) Τα πιστοποιητικά κόλων και φορτώσεων μπορούν να συνδυάζωνται σε ένα πιστοποιητικό.

Δ.- ΕΓΚΡΙΣΙΣ ΜΕΤΑΦΟΡΑΣ ΔΙ'ΕΙΔΙΚΗΣ ΕΝΕΡΓΕΙΑΣ (ΤΑΚΤΟΠΟΙΗΣΕΩΣ/ΔΙΕΥΘΕΤΗΣΕΩΣ)

(Ι) Αποστολή ραδιενεργών υλών η οποία δεν πληροί όλες τις ισχύουσες διατάξεις της παρούσης Προσθήκης θα μετα- 3676
φέρεται μόνον δι'ειδικής ενεργείας (τακτοποιήσεως/διευθετήσεως), η οποία πάντοτε απαιτεί πολύπλευρον έγκρισιν. Αι ειδικαί ενέργειαι θα είναι κατάλληλοι δια να εξασφαλίζεται ότι το γενικόν επίπεδον ασφαλείας της μεταφοράς είναι τουλάχιστον ισοδύναμον με εκείνο που θα παρείχετο εάν είχον τηρηθεί όλαι αι ισχύουσαι διατάξεις της παρούσης Προσθήκης.

(2) Η αίτησις δια την έγκρισιν θα περιλαμβάνει τας πληροφορίας τας απαιτουμένας δυνάμει των περιθωρίων 3672

έως 3675 και επίσης:- 3676

(α) δήλωσιν των απόψεων δια τας οποίας, και των λόγων διατί, η φόρτωσις δεν δύναται να γίνει με πλήρη συμφωνία με τας ισχυούσας διατάξεις της παρούσης Προσθήκης· και (Συνεχίζεται)

(β) δήλωσιν οιωνδήποτε ειδικών προφυλάξεων ή ειδικών διοικητικών ή λειτουργικών ελέγχων οι οποίοι δέον να ληφθούν διαρκούσης της μεταφοράς δια την ρύθμισιν της αδυναμίας αντιμετωπίσεως των ισχυουσών διατάξεων της παρούσης Προσθήκης.

(3) Μόλις εγκριθεί η, ειδική ενέργεια (τακτοποίησεως/διευθέτησεως), η αρμοδία αρχή θα εκδώσει πιστοποιητικόν (βλέπε περιθώρια 3677 έως 3679).

Ε.- ΠΙΣΤΟΠΟΙΗΤΙΚΑ ΕΓΚΡΙΣΕΩΣ ΑΡΜΟΔΙΑΣ ΑΡΧΗΣ

I.- Σύμβολα αναγνωρίσεως (αναγνωριστικά σύμβολα) της Αρμοδίας Αρχής

(I) Κάθε πιστοποιητικόν εγκρίσεως εκδοθέν υπό της 3677 αρμοδίας αρχής θα αναγνωρίζεται δι'αναγνωριστικής ενδείξεως. Η ένδειξις θα είναι του κάτωθι γενικευμένου τύπου:-

Σύμβολον εθνικότητος της χώρας 6/ /Κωδικός Αριθμός/Τύπος

(α) Ο αριθμός θα εκχωρείται υπό της αρμοδίας αρχής, και θα είναι μοναδικός και ειδικός αναφορικώς με το συγκεκριμένον σχέδιον ή φόρτωσιν. Η ένδειξις αναγνωρίσεως της εγκρίσεως της φορτώσεως θα καθορίζεται σαφώς με το αναγνωριστικόν σύμβολον εγκρίσεως του σχεδίου του κόλου.

(β) Οι κατωτέρω κωδικοποιημένοι τύποι θα χρησιμοποιούνται με την με την αναγραφομένην σειράν προς καθο-

ριαμόν των τύπων των εκδοθέντων πιστοποιητικών εγκρίσεως:- 3677 (Συνεχίζεται)

Σχέδιον κόλου Τύπου Α (καθώς και δια κόλον κλάσεως διασπαστής ύλης)

B(U) Σχέδιον κόλου Τύπου B(U)

B(M) Σχέδιον κόλου Τύπου B(M)

F Σχέδιον κόλου κλάσεως διασπαστής ύλης

S Έγκρισις ύλης ειδικού τύπου

T Φόρτωσις

X Ειδική Ενέργεια (Ταχτοποιήσεως/Διευθετήσεως).

(2) Οι ανωτέρω κωδικοποιημένοι τύπου θα ισχύουν ως κάτωθι:-

(α) Κάθε πιστοποιητικόν και κάθε κόλον θα φέρει την κατάλληλον ένδειξιν αναγνωρίσεως την αποτελουμένην εκ των εν παραγράφω (I) προβλεπομένων συμβόλων εκτός του ότι δια τα κόλα θα εμφανίζεται μόνον ο ισχύων κωδικοποιημένος τύπος σχεδίου του κόλου μετα την δευτέραν κάθετον, ήτοι, τα "S", "T" και "X" δεν θα εμφανίζωνται εις την επί του κόλου ένδειξιν αναγνωρίσεως. Όταν έχουν συνδυασθεί η έγκρισις του σχεδίου του κόλου και η έγκρισις της φορτώσεως, οι ισχύοντες κωδικοποιημένοι τύποι δεν χρειάζεται να επαναλαμβάνωνται. Π.χ.:-

A/I32/B(M)F:- Κόλον Κλάσεως Διασπαστής Ύλης Τύπου B(M) εγκεκριμένον υπό της Αυστρίας δια σχέδιον κόλου αριθμός I32 (θα σημειούται τόσον εις αυτό τούτο το κόλον όσον και εις το πιστοποιητικόν εγκρίσεως του σχεδίου του κόλου).

A/I32/B(M)FT:- Η αναγνωριστική ένδειξη πιστοποιητικού εγκρίσεως της φορτώσεως η εκδοθείσα δια το σχέδιον του κόλου (θα σημειούται μόνον εις το πιστοποιητικόν). 3677 (Συνεχίζεται)

A/I37/X:- Η αναγνωριστική ένδειξη πιστοποιητικού εγκρίσεως της φορτώσεως εκδοθείσα δι'Αυστριακόν σχέδιον I37 δυνάμει ειδικής ενεργείας (τακτοποιήσεως) της φορτώσεως (θα σημειούται εις το πιστοποιητικόν μόνον).

6/ (Σελίς Μεταφράσεως I49):- Τα αναφερόμενα σήματα (ενδείξεις) είναι τα εθνικά διακριτικά σήματα δι'αυτοκίνητα διεθνούς κυκλοφορίας.

(β) Όταν πολύπλευρος έγκρισις παρέχεται δι'επικυρώσεως, μόνον αι αναγνωριστικαί ενδείξεις αι εκδιδόμεναι υπό της χώρας της προελεύσεως του σχεδίου ή της φορτώσεως θα χρησιμοποιούνται. Οσάκις πολύπλευρος έγκρισις παρέχεται δι' εκδόσεως πιστοποιητικών υπό διαδοχικών χωρών, μόνον πιστοποιητικόν θα φέρει την κατάλληλον ένδειξιν και το κόλον του οποίου το σχέδιον ενεκρίθη θα φέρει όλα τα κατάλληλα αναγνωριστικά σύμβολα (ενδείξεις). Π.χ., τα

(A/I32/B(M)F)

(CH/28/B(M)F)

θα ήσαν αι αναγνωριστικαί ενδείξεις (σύμβολα) κόλου το οποίον αρχικώς ενεκρίθη υπό της Αυστρίας και μετέπειτα ενε-

φαίθη, δια χωριστού πιστοποιητικού, υπό της Ελβετίας. 3677
Συμπληρωματικαι αναγνωριστικαί ενδείξεις θα γραφούν (Συνεχίζεται)
καθ'όμοιον τρόπον επί του κόλου.

(γ) Η αναθεώρησις των αριθμών των πιστοποιητικών θα σημειούται εντός παρενθέσεως μετά την επί του πιστοποιητικού αναγνωριστικήν ένδειξιν. Π.χ., A/I32/B(U)F. (Αναθ.2) θα καθορίζει αναθεώρησιν 2 του πιστοποιητικού του εγκριθέντος υπό της Αυστρίας σχεδίου του κόλου, ή A/I32/B(U)F. (Αναθ. 0) θα καθορίζειτην αρχικήν έκδοσιν του πιστοποιητικού του εγκριθέντος υπό της Αυστρίας σχεδίου του κόλου. Δια την αρχικήν έκδοσιν η στη παρένθεση διατύπωσις είναι προαιρετική και άλλαι λέξεις όπως "(αρχική έκδοσις)" μπορούν επίσης να χρησιμοποιηθούν αντί της "(Αναθ.0)". Αναθεωρηθέντες αριθμοί πιστοποιητικών δύνανται μόνον να εκδίδωνται υπό της χώρας της εκδιδούσης τον αρχικόν αριθμόν πιστοποιητικού. Η αναθεώρησις υπό χώρας άλλης από την εκδώσασα θα απαιτεί νέον πιστοποιητικόν και αριθμόν αναγνωρίσεως.

(δ) Πρόσθετα σύμβολα (που ενδέχεται να απαιτούνται υπό εθνικών διατάξεων) μπορούν να προστεθούν εντός παρενθέσεως εις το τέλος της ενδείξεως αναγνωρίσεως. Π.χ., A/I32/B(U)F (SP503).

(ε) Δεν είναι απαραίτητον να τροποποιείται η επί του κόλου ένδειξις αναγνωρίσεως κάθε φορά που γίνεται αναθεώρησις του πιστοποιητικού του κόλου. Μία τέτοια τροποποίησις θα γίνεται μόνον στις περιπτώσεις εκείνες που η η αναθεώρηση του πιστοποιητικού του σχεδίου του κόλου

σύστάγεται αλλαγήν των στοιχείων των κωδικοποιημένων τύ- 3677
πων των σχεδίων κόλων, μετά την δευτέραν κάθετον (γραμμήν). (Συνεχίζεται)

2.- Πληροφορίαι απαιτούμεναι στα πιστοποιητικά

Κάθε πιστοποιητικό εγκρίσεως εκδιδόμενον υπό της 3678
αρμοδίας αρχής θα περιλαμβάνει τας οικείας εκ των κάτωθι πληροφορίας:-

(α) Την ένδειξιν αναγνωρίσεως της αρμοδίας αρχής.

(β) Βραχείαν περιγραφήν της συσκευασίας, συμπεριλαμβανομένων υλών/κατασκευής,/μικτού βάρους, των γενικών εξωτερικών διαστάσεων, και της εμφανίσεως. Αυτή θα περιλαμβάνει δυναμένην να αναπαράχθεί εικονογράφησιν όχι μεγαλυτέραν των 21 CM επί 30 CM, εικονίζουσαν την κατασκευήν του κόλου.

(γ) Βραχείαν προδιαγραφήν του επιτρεπομένου περιεχομένου, συμπεριλαμβανομένων οιωνδήποτε περιορισμών περιεχομένου οι οποίοι ενδέχεται να είναι εμφανείς εκ της φύσεως της συσκευασίας. Θα πρέπει να συμπεριλάβει τους φυσικούς και χημικούς τύπους (FORMS), τις δραστικότητες σε CURIE (συμπεριλαμβανομένων εκείνων των διαφόρων ισοτόπων, εάν ενδείκνυται), τα ποσά εις γραμμάρια δια διασπαστές ύλες, και εάν είναι ειδικού τύπου.

(δ) Επιπροσθέτως, για κόλα κλάσεως διασπαστών υλών:-

(I) Διασπαστή Ύλη Κλάσεως I:- λεπτομερής περιγραφή του επιτρεπομένου περιεχομένου και οιωνδήποτε ειδικών χαρακτηριστικών, επί τη βάσει των οποίων η διαρροή του υγρού σε σχέσει με συγκεκριμένους κενούς χώρους ελήφθη ως δεδομένη κατά την εκτίμησιν κρισιμότητος (βλέπε περιθώριον 3613(β)).

(ΙΙ) Διασπαστή Ύλη Κλάσεως ΙΙ:- λεπτομερής περι- 3678
γραφή του επιτρεπομένου περιεχομένου, των αντιστοίχων (Συνεχί-
επιτρεπομένων αριθμών (ή δεικτου μεταφοράς) και οιωνδή- ζεται)
ποτε ειδικών χαρακτηριστικών, επί τη βάσει των οποίων η διαρροή του νερού εν σχέσει με συγκεκριμένους κενούς χώρους ελήφθη ως δεδομένη κατά την εκτίμησιν κρισιμότητος (βλέπε περιθώριον 3618(β)).

(ΙΙΙ) Διασπαστή Ύλη Κλάσεως ΙΙΙ:- λεπτομερής περιγραφή μιάς των αποστολών συμπεριλαμβανομένων των επιτρεπομένων περιεχομένων και των αντιστοίχων επιτρεπομένων αριθμών (ή δεικτών μεταφοράς) ομού με οιασδήποτε ληφθησομένας ειδικάς προφυλάξεις διαρκούσης της μεταφοράς.

(ε) Δήλωσιν αναφορικώς με τας συνθήκας του περιβάλλοντος δια τους σκοπούς του σχεδίου (βλέπε περιθώριον 3602(4)).

(στ) Δια κόλα Τύπου Β(Μ), δήλωσιν ειδικεύουσαν τας διατάξεις του περιθωρίου 3603 με τας οποίας το κόλον δεν συμφωνεί και οιασδήποτε ενισχυτικάς πληροφορίας αι οποίαι ενδέχεται να είναι χρήσιμοι δια τας λοιπάς αρμοδίας αρχάς.

(ζ) Παραπομπήν (αναφοράν) εις τας κάτωθι πληροφορίας τας παρεχομένας υπό του αιτούντος:-

(ι) οδηγίαι επί της χρήσεως καθ συντηρήσεως της συσκευασίας·

(ιι) αι ενέργειαι αι ληφθησόμεναι υπό του αποστολέως προ της φορτώσεως, π.χ., οιαιδήποτε ειδικαί διαδικασίαι απολυμάνσεως.

(η) Λεπτομερής αναγραφή οιωνδήποτε συμπληρωματικών

3678 (Συνεχίζεται)

Υπουργικών διατάξεων (βλέπε σημείωσιν 5) δια την προετοιμασίαν, φόρτωσιν, μεταφοράν, αποθήκευσιν, εκφόρτωσιν και χειρισμόν του κλόλου, συμπεριλαμβανομένων οιωνδήποτε ειδικών διατάξεων στοιβασίας δια τον ασφαλή διασκεδασμόν της θερμότητος εκ του κόλου, ή δήλωσιν ότι ουδείς τοιούτος έλεγχος απαιτείται.

((θ) Δήλωσιν εξουσιοδοτούσαν την φόρτωσιν οσάκις έγκρισις φορτώσεως απαιτείται δυνάμει του περιθωρίου 3675.

(ι) Οιοιδήποτε περιορισμοί επί των τύπων των CONTAINERS (υποδοχέων) οχημάτων (VEHICLE CONTAINERS), και οιαιδήποτε απαραίτητοι δια την διαδρομήν οδηγίαι.

(κ) Τακτοποιήσεις επειγούσης ανάγκης ειδικαί δια το εγκριθέν σχέδιον.

(λ) Η κάτωθι δήλωσις: "Το παρόν πιστοποιητικόν δεν απαλλάσσει τον αποστολέα από της συμμορφώσεώς του προς οιανδήποτε διάταξιν της κυβερνήσεως οιασδήποτε χώρας δια της οποίας ή εις την οποίαν το κόλον θα μεταφερθεί".

(μ) Ημερομηνίαν εκδόσεως, και, εάν ενδείκνυται, ημερομηνίαν λήξεως.

(ν) Υπογραφή και ταυτότης του βεβαιούντος αξιωματούχου.

(ν) Προσθήκαι περιέχουσαι πιστοποιητικά δια εναλλακτικόν περιεχόμενον κόλου, λοιπάς επικυρώσεις της αρμοδίας αρχής, ή πρόσθετα τεχνικά στοιχεία ή πληροφορίας.

Επικύρωσις πιστοποιητικών

Πολύπλευροι εγκρίσεις μπορούν δι'επικυρώσεως 3679
του αρχικού πιστοποιητικού του εκδοθέντος υπό της αρμοδίας αρχής της χώρας προελεύσεως του σχεδίου ή της φορτώσεως.

ΣΤ.- ΕΥΘΥΝΑΙ ΑΠΟΣΤΟΛΕΩΣ

Ι.- Λεπτομέρειαι αποστολής 3680

Ο αποστολεύς θα συμπεριλάβει εις το έγγραφον μεταφοράς για κάθε αποστολήν ραδιενεργών υλών, ως και την περιγραφήν την γενομένην εις τον καταλληλον πίνακα (SCHEDULE), τις κάτωθι λεπτομέρειες:-

(α) Την δήλωσιν "Η φύσις των εμπορευμάτων και η συσκευασία είναι σύμφωνοι προς τις διατάξεις της ADR".

(β) Την ένδειξιν αναγνωρίσεως δι'έκαστον πιστοποιητικόν της αρμοδίας αρχής (ειδικός τύπος, σχέδιον κόλου, και φόρτωσις) ισχύον δια την αποστολήν.

(γ) Την ονομασίαν των ραδιενεργών υλών, ή νουκλεϊδίου.

(δ) Περιγραφήν του φυσικού και χημικού τύπου της ύλης, ή εάν είναι ειδικού τύπου.

(ε) Την δραστικότητα των ραδιενεργών υλών σε καταλλήλους μονάδας CURIE.

(στ) Την κατηγορίαν του κόλου, τ.έ. Ι-ΛΕΥΚΗ, ΙΙ-ΚΙΤΡΙΝΗ, ΙΙΙ-ΚΙΤΡΙΝΗ.

(ζ) Τον δείκτην μεταφοράς (Κατηγορίαι ΙΙ- και ΙΙΙ-ΚΙΤΡΙΝΗ μόνον).

(η) Δι'αποστολήν διασπαστών υλών:

(Ι) εάν εξαιρούνταισυμφώνως προς το περιθώριον

3610, αι λέξεις "ΕΞΑΙΡΟΥΜΕΝΗ ΔΙΑΣΠΑΣΤΗ ΥΛΗ"· ή 3680
(ΙΙ) εάν δεν εξαιρούνται, η κλάσις της διασπαστής (Συνεχίζεται)
ύλης του κόλου (κόλων).

2.- Πληροφορίαι και γνωστοποίησις προς τους μεταφορείς 3681

(Ι) Ο αποστολεύς θα παρέχει εις το έγγραφον μεταφοράς δήλωσιν αναφορικώς με τας, τυχόν, ενεργείας, εις τας οποίας πρέπει να προβεί ο μεταφορεύς. Η δήλωσις θα είναι στις γλώσσες τις θεωρούμενες απαραίτητες δια τον μεταφορέα ή τας περί ων πρόκειται αρχάς, και θα περιλαμβάνει τουλάχιστον τα κάτωθι σημεία:-

(α) συμπληρωματικάς λειτουργικάς διατάξεις δια την φόρτωσιν, μεταφοράν, αποθήκευσιν, εκφόρτωσιν, χειρισμόν, και στοιβασίαν δια τον ασφαλή διασκεδασμόν της θερμότητος, ή δήλωσιν ότι ουδεμία συμπληρωματική λειτουργική διάταξις απαιτείται (βλέπε περιθώριον 3678(η))·

(β) οιασδήποτε απαραιτήτους οδηγίας δρομολογίων (βλέπε περιθώριον 3678(κ)).

(γ) ενεργείας επειγούσης ανάγκης ειδικάς δια το εγκριθέν σχέδιον (βλέπε περιθώριον 3678(λ)).

(2) Σε όλες τις περιπτώσεις στις οποίες η έγκρισις της φορτώσεως ή προηγουμένη γνωστοποίησις προς την αρμοδία μετα-
αρχή απαιτείται, όλοι οι/φορείς θα πληροφορούνται περί των διατάξεων εκ των προτέρων, δια να μπορούν εγκαίρως να λαμβάνουν μέτρα απαιτούμενα δια την μεταφοράν.

3.- Γνωστοποίησις προς τας αρμοδίας αρχάς

(Ι) Προ της πρώτης φορτώσεως κόλου Τύπου Β(U) πε- 3682
ριέχοντος ραδιενεργείς ύλες με δραστικότητα μεγαλυτέραν

των 3 X IO^3A_I ή 3 X IO^3A_2, ως ενδείκνυται, ή 3 X IO^4Ci, οιασδήποτε τούτων ούσης μικροτέρας, ο αποστολεύς θα εξασφαλίζει ότι αντίγραφα εκάστου ισχύοντος πιστοποιητικού της αρμοδίας αρχής διέποντος το σχέδιον του κόλου έχουν υποβληθεί εις την αρμοδίαν αρχήν κάθε χώρας εις την επικράτειαν της οποίας η αποστολή πρόκειται να μεταφερθεί. Ο αποστολεύς δεν υποχρεούται να αναμένει αναγνώρισιν της αρμοδίας αρχής, ουδέ η αρμοδία αρχή υποχρεούται να προβεί εις την τοιαύτην αναγνώρισιν παραλαβής του πιστοποιητικού. 3682 (Συνεχίζεται)

(2) Για κάθε φόρτωσιν αναγραφομένην εις (α) έως (δ) κατωτέρω, ο αποστολεύς θα προβαίνει εις γνωστοποίησιν προς τας αρμοδίας αρχάς εκάστης χώρας εις την επικράτειαν της οποίας η αποστολή πρόκειται να μεταφερθεί. Η γνωστοποίησις αυτή θα ευρίσκεται εις χείρας εκάστης αρμοδίας αρχής προ της ενάρξεως της φορτώσεως, και κατά προτίμησιν προ 15 τουλάχιστον ημερών.

(α) Κόλα Τύπου B(U) περιέχοντα ραδιενεργείς ύλες με δραστικότητα μεγαλυτέραν των 3 X IO^3A_I ή 3 X IO^3A_2, ως ενδείκνυται, ή 3 X IO^4Ci, οιασδήποτε τούτων ούσης μικροτέρας.

(β) Κόλα Τύπου B(M).

(γ) Κόλα Διασπαστής Κλης Κλάσεως III δυνάμει του περιθωρίου 3674(3).

(δ) Μεταφορά δι'ειδικής τακτοποιήσεως.

(3) Η περί της αποστολής γνωστοποίησις θα περιλαμβάνει:-

(α) επαρκείς πληροφορίες δια να είναι δυνατή η αναγνώρισις του κόλου, συμπεριλαμβανομένων όλων των εν ισχύϊ αριθμών πιστοποιητικών και αναγνωριστικών ενδείξεων· και 3682 (Συνεχίζεται)

(β) πληροφορίες αναφορικώς με την ημερομηνίαν φορτώσεως, την αναμενομένην ημερομηνίαν αφίξεως και προτεινόμενον δρομολόγιον.

(4) Ο αποστολεύς δεν υποχρεούται να αποστέλει χωριστήν φνωστοποίησιν εάν η απαιτουμένη πληροφορία έχει συμπεριληφθεί εις την αίτησιν δι'έγκρισιν της φορτώσεως (βλέπε περιθώριον 3675(2)).

4.- Κατοχή πιστοποιητικών

Ο αποστολεύς θα έχει εις την κατοχήν του αντίγραφον κάθε πιστοποιητικού απαιτουμένου δυνάμει της παρούσης Προσθήκης και αντίγραφον των οδηγιών αναφορικώς με το ενδεδειγμένον κλείσιμον του κόλου και άλλην προετοιμασίαν της φορτώσεως προ της ενεργείας οιασδήποτε φορτώσεως δυνάμει των όρων των πιστοποιητικών.

Ζ.- ΠΟΙΟΤΙΚΟΣ ΕΛΕΓΧΟΣ ΚΑΤΑΣΚΕΥΗΣ ΚΑΙ ΣΥΝΤΗΡΗΣΕΩΣ (ΔΙΑΤΗΡΗΣΕΩΣ)ΤΗΣ ΣΥΣΚΕΥΑΣΙΑΣ

Ο κατασκευαστής, αποστολεύς, ή χρήστης εγκεκριμένου σχεδίου κόλου θα είναι έτοιμος να καταδείξει (επιδείξει) εις οιανδήποτε αρμοδίαν αρχήν ότι:-

(α) αι μέθοδοι κατασκευής και τα υλικά που χρησιμοποιήθησαν για την κατασκευήν της συσκευασίας είναι σύμφωνα προς τας περί εγκεκριμένου σχεδίου διατάξεις· η αρμοδία αρχή μπορεί να διεξάγει επιθεώρησιν της συσκευασίας διαρκούσης

(β) όλαι αι συσκευασίαι αι γενόμεναι συμφώνως προς εγκεκριμένον σχέδιον θα διατηρούνται εις καλήν κατάστασιν εις τρόπον ώστε να εξακολουθούν να συμμορφούνται προς άπαντα τα οικεία ρυθμιστικά κριτήρια, ακόμη και μετά από επανειλημμένην χρήσιν. 3684 (Συνεχίζεται)

3685-3689

ΚΕΦΑΛΑΙΟΝ VI - ΟΡΙΑ ΔΡΑΣΤΙΚΟΤΗΤΟΣ

ΠΡΟΣΔΙΟΡΙΣΜΟΣ ΤΩΝ A_1 ΚΑΙ A_2

I.- Απλά ραδιονουκλείδια (SINGLE RADIONUCLIDES)

(I) Για απλά ραδιονουκλεΐδια γνωστής ταυτότητας, αι τιμαί των A_1 και A_2, δίδονται εις τον Πίνακα XX. Αι τιμές των A_1 και A_2 ισχύουν επίσης για ραδιονουκλεΐδια περιεχόμενα εις πηγάς νετρονίου (α, N) ή (γ, N). 3690

ΠΙΝΑΞ XX.- ΤΙΜΑΙ ΡΑΔΙΟΝΟΥΚΛΕΪΔΙΩΝ A_1 και A_2

Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1(Ci)	A_2Ci	Ειδική Δραστικότης (Ci/G)
^{227}AC	Ακτίνιον (89)	IOOO	0.003	7.2 X IO
^{228}AC	Άργυρος (47)	IO	4	2.2 X IO^6
^{IO5}AG	Άργυρος (47)	40	40	3.I X IO^4
$^{IIO}AG^M$		7	7	4.7 X IO^3
^{III}AG		IOO	IOO	I.6 X IO^5
^{24I}AM	Αμερίκιον (95)	8	0.008	3.2
^{243}AM		8	0.008	I.9 X IO^{-I}
^{37}AR (συμπιεσμένον ή ού)	Αργόν (I8)	IOOO	IOOO	I.0 X IO^5

Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1(Ci)	A_2(Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ ω ν έ χ ε ι α)			
$4I_{AR}$ (μη-συμπιεσμένον)		20	20	4.3×10^7
$4I_{AR}$ (συμπιεσμένον)		I	I	4.3×10^7
73_{AS}	Αρσενικόν (33)	I000	400	2.4×10^4
74_{AS}		20	20	$I.0 \times 10^5$
76_{AS}		I0	I0	$I.6 \times 10^6$
77_{AS}		300	300	$I.I \times 10^6$
$2II_{AT}$	Αστάτιον (85)	200	7	$2.I \times 10^6$
$I93_{AU}$	Χρυσός (79)	200	200	9.3×10^5
$I96_{AU}$		30	30	$I.2 \times 10^5$
$I98_{AU}$		40	40	2.5×10^5
$I99_{AU}$		200	200	$2.I \times 10^5$
$I3I_{BA}$	Βάριον (56)	40	40	8.7×10^4
$I33_{BA}$		40	I0	4.0×10^2
$I40_{BA}$	Βάριον	20	20	7.3×10^4
7_{BE}	Βηρύλλιον (4)	300	300	3.5×10^5
206_{Bi}	Βισμούθιον (83)	5	5	9.9×10^4
207_{Bi}		I0	I0	$2.I6 \times 10^2$
$2I0_{Bi}$(RaE)		I00	4	$I.2 \times 10^5$
$2I2_{Bi}$		6	6	$I.5 \times 10^7$
249_{Bk}	Μπερκέλιον (97)	I000	I	$I.8 \times 10^3$
82_{BR}	Βρώμιον (35)	6	6	$I.I \times 10^6$
$I4_{C}$	Άνθραξ (6)	I000	I00	4.6
45_{Ca}	Ασβέστιον (20)	I000	40	$I.9 \times 10^4$

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Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1(Ci)	A_2(Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
^{47}Ca	Ασβέστιον (20)	20	20	5.9×10^{5}
^{109}CD	Κάδμιον (48)	1000	70	2.6×10^{3}
$^{115}CD^{M}$		30	30	2.6×10^{4}
^{115}CD		80	80	5.1×10^{5}
^{139}Ce	Δημήτριον (58)	100	100	6.5×10^{3}
^{141}Ce		300	200	2.8×10^{4}
^{143}Ce		60	60	6.6×10^{5}
^{144}Ce		10	7	3.2×10^{3}
^{249}CF	Καλιφόρνιον (98)	2	0.002	3.1
^{250}CF		7	0.007	1.3×10^{2}
^{252}CF		2	0.009	6.5×10^{2}
^{36}CL	Χλώριον (17)	300	30	3.2×10^{-2}
^{38}CL		10	10	1.3×10^{8}
^{242}CM	Κιούριον (96)	200	0.2	3.3×10^{3}
^{243}CM		9	0.009	4.2×10
^{244}CM		10	0.01	8.2×10
^{245}CM		6	0.006	1.0×10^{-1}
^{246}CM		6	0.006	3.6×10^{-1}
^{56}Co	Κοβάλτιον (27)	5	5	3.0×10^{4}
^{57}Co		90	90	8.5×10^{3}
$^{58}Co^{M}$		1000	1000	5.9×10^{6}
^{58}Co		20	20	3.1×10^{4}
^{60}Co		7	7	1.1×10^{3}

Σύμβολον ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1(Ci)	A_2(Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
$5I_{CR}$	Χρώμιον (24)	600	600	9.2×10^{4}
$I3I_{CS}$	Καίσιον (55)	I000	I000	$I.0 \times 10^{5}$
$I34_{CS}^{M}$		I000	I000	7.4×10^{6}
$I34_{CS}$		I0	I0	$I.2 \times 10^{3}$
$I35_{CS}$		I000	I00	8.8×10^{-4}
$I36_{CS}$		7	7	7.4×10^{4}
$I37_{CS}$		30	20	9.8×10
64_{CU}	Χαλκός (29)	80	80	3.8×10^{6}
$I65_{DY}$	Δυσπρόσιον (66)	I00	I00	8.2×10^{6}
$I66_{DY}$		I000	200	2.3×10^{5}
$I69_{ER}$	Έρβιον (68)	I000	300	8.2×10^{4}
$I7I_{ER}$		50	50	2.4×10^{6}
$I52_{EU}^{M}$	Ευρώπιον (63)	30	30	2.2×10^{6}
$I52_{EU}$		20	20	$I.9 \times 10^{2}$
$I54_{EU}$		I0	5	$I.5 \times 10^{2}$
$I55_{EU}$		400	90	$I.4 \times 10^{3}$
I8F	Φθόριον (9)	20	20	9.3×10^{7}
52_{Fe}	Σίδηρος (26)	6	6	7.3×10^{6}
55_{Fe}		I000	I000	2.2×10^{3}
59_{Fe}		I0	I0	4.9×10^{4}
72_{Ga}	Γάλλιον (3I)	7	7	$3.I \times 10^{6}$
$I53_{GD}$	Γαδολίνιον (64)	200	I00	3.6×10^{3}
$I59_{GD}$		300	3000	$I.I \times 10^{6}$

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Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1(Ci)	A_2(Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
$^{71}I_{Ge}$	Γερμάνιον (32)	I000	I000	I.6 X $I0^5$
^{3}H	Υδρογόνον (I), βλέπε Τ-Τρίτιον			
$^{181}I_{HF}$	Άφνιον (72)	30	30	I.6 X $I0^4$
$^{197}I_{HG}^{M}$	Υδράργυρος (80)	200	200	6.6 X $I0^5$
$^{197}I_{HG}$		200	200	2.5 X $I0^5$
$^{203}I_{HG}$		80	80	I.4 X $I0^4$
$^{166}I_{Ho}$	Όλμιον (67)	30	30	6.9 X $I0^5$
$^{125}I_{I}$	Ιώδιον (53)	I000	70	I.7 X $I0^4$
$^{126}I_{I}$		40	I0	7.8 X $I0^4$
$^{129}I_{I}$		I000	2	I.62 X $I0^{-4}$
$^{131}I_{I}$		40	I0	I.2 X $I0^5$
$^{132}I_{I}$		7	7	I.I X $I0^7$
$^{133}I_{I}$		30	30	I.I X $I0^6$
$^{134}I_{I}$		8	8	2.7 X $I0^7$
$^{135}I_{I}$		I0	I0	3.5 X $I0^6$
$^{113}I_{IN}^{M}$	Ίνδιον (49)	60	60	I.6 X $I0^7$
$^{114}I_{IN}^{M}$		30	20	2.3 X $I0^4$
$^{115}I_{IN}^{M}$		I00	I00	6.I X $I0^6$
$^{190}I_{IR}$	Ιρίδιον (77)	I0	I0	6.2 X $I0^4$
$^{192}I_{IR}$		20	20	9.I X $I0^3$
$^{194}I_{IR}$		I0	I0	8.5 X $I0^5$
^{42}K	Κάλιον (I9)	I0	I0	6.0 X $I0^6$
$^{85}Kr^{M}$ (μη-πεπιεσμένον)	Κρυπτόν (36)	I00	I00	8.4 X $I0^6$

Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1 (Ci)	A_2 (Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
$85_{KR}M$	(πεπιεσμένον)	3	3	8.4×10^6
$85_{KR}M$	(μη-πεπιεσμένον)	1000	1000	4.0×10^2
85_{KR}	(πεπιεσμένον)	5	5	4.0×10^2
87_{KR}	(μη-πεπιεσμένον)	20	20	2.8×10^7
87_{KR}	(πεπιεσμένον)	0.6	0.6	2.8×10^7
140_{La}	Λανθάνιον (57)	30	30	5.6×10^5
LLS	Χαμηλού-επιπέδου στερεού ραδιενεργού υλικού (ύλης) Βλέπε Περιθώριον 2450(2)			
LSA	Χαμηλής ειδικής δραστικότητος ύλη Βλέπε Περιθώριον 2450(2)			
177_{LU}	Λουτέτσιον (71)	300	300	1.1×10^5
MFP	Προϊόντα Μικτής διασπαστής ύλης	10	0.4	
28_{MG}	Μαγνήσιον (12)	6	6	5.2×10^6
52_{MN}	Μαγνήσιον (25)	5	5	4.4×10^5
54_{MN}		20	20	8.3×10^3
56_{MN}		5	5	2.2×10^7
99_{Mo}	Μολυβδαίνιον (42)	100	100	4.7×10^5
$22N_{\alpha}$	Νάτριον (11)	8	8	6.3×10^3
$24_{N\alpha}$		5	5	8.7×10^6
$93_{N\beta}M$	Νόβιον (41)	1000	200	1.1×10^3
$95_{N\beta}$		20	20	3.9×10^4
$97_{N\beta}$		20	20	2.6×10^7

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Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1 (Ci)	A_2 (Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
^{147}Nd	Νεοδύμιον (60)	100	100	8.0×10^{4}
^{149}Nd		30	30	1.1×10^{7}
^{59}Ni	Νικέλιον (28)	1000	900	8.1×10^{-2}
^{63}Ni		1000	100	4.6×10
^{65}Ni		10	10	1.9×10^{7}
^{237}Np	Ποσειδώνιον (93)	5	0.005	6.9×10^{-4}
^{239}Np		200	200	2.3×10^{5}
^{185}Os	Όσμιον (76)	20	20	7.3×10^{3}
^{191}Os		600	400	4.6×10^{4}
^{191m}Os		200	200	1.2×10^{6}
^{193}Os		100	100	5.3×10^{5}
^{32}P	Φωσφόρος (15)	30	30	2.9×10^{5}
^{230}Pa	Πρωτακτίνιον (91)	20	0.8	3.2×10^{4}
^{231}Pa		2	0.002	4.5×10^{-2}
^{233}Pa		100	100	2.1×10^{4}
^{210}Pb	Μόλυβδος (82)	100	0.2	8.8×10
^{212}Pb		6		1.4×10^{6}
^{103}Pd	Παλλάδιον (46)	1000	700	7.5×10^{4}
^{109}Pd		100	100	2.1×10^{6}
^{147}Pm	Προμήθειον (61)	1000	80	9.4×10^{2}
^{149}Pm		100	100	4.2×10^{5}
^{210}Po	Πολώνιον (84)	200	0.2	4.5×10^{3}

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Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1(Ci)	A_2(Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
$I42_{PR}$	Πρασεοδύμιον (59)	I0	I0	I.2 X $I0^6$
$I43_{PR}$		300	200	6.6 X $I0^4$
$I9I_{PT}$	Λευκόχρυσος (78)	I00	I00	2.3 X $I0^5$
$I93_{PT}$		200	200	
$I97_{PT^M}$		300	300	I.2 X $I0^7$
$I97_{PT}$		300	300	8.8 X $I0^5$
238_{PU}	Πλουτώνιον (94)	3	0.003	I.7 X I0
239_{PU}		2	0.002	6.2 X $I0^{-2}$
240_{PU}		2	0.002	2.3 X $I0^{-I}$
$24I_{PU}$		I000	0.I	I.I X $I0^2$
242_{PU}		3	0.003	3.9 X $I0^{-3}$
223_{Ra}	Ράδιοβ (88)	50	0.2	5.0 X $I0^4$
224_{Ra}		6	0.5	I.6 X $I0^5$
226_{Ra}		I0	0.05	I.0
228_{Ra}		I0	0.05	2.3 X $I0^2$
$86_{Rβ}$	Ρουβίδιον (37)	30	30	8.I X $I0^4$
$87_{Rβ}$		Απεριόριστον		6.6 X $I0^{-8}$
Rβ (φυσικόν)		Απεριόριστον		I.8 X $I0^{-8}$
$I86_{Rε}$	Ρήνιον (75)	I00	I00	I.9 X $I0^5$
$I87_{Rε}$		Απεριόριστον		3.8 X $I0^{-8}$
$I88_{Rε}$		I0	I0	I.0 X $I0^6$
Rε (φυσικόν)		Απεριόριστον		2.4 X $I0^{-8}$
$I03_{RH^M}$	Ρόδιον (45)	I000	I000	3.2 X $I0^7$

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Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1 (Ci)	A_2 (Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
$^{105}_{RH}$		200	200	8.2×10^{5}
$^{222}_{RN}$	Ραδόνιον (86)	10	2	1.5×10^{5}
$^{97}_{RU}$	Ρουθήνιον (44)	80	80	5.5×10^{5}
$^{103}_{RU}$		30	30	3.2×10^{4}
$^{105}_{RU}$		20	20	6.6×10^{6}
$^{106}_{RU}$		10	7	3.4×10^{3}
$^{35}_{S}$	Θείον (16)	1000	300	4.3×10^{4}
$^{122}_{S\beta}$	Αντιμόνιον (51)	30	30	3.9×10^{5}
$^{124}_{S\beta}$		5	5	1.8×10^{4}
$^{125}_{S\beta}$		40	30	1.4×10^{3}
$^{46}_{SC}$	Σκάνδιον (21)	8	8	3.4×10^{4}
$^{47}_{SC}$		200	200	8.2×10^{5}
$^{48}_{SC}$		5	5	1.5×10^{6}
$^{75}_{Se}$	Σελήνιον (34)	40	40	1.4×10^{4}
$^{31}_{Si}$	Πυρίτιον (14)	100	100	3.9×10^{7}
$^{147}_{SM}$	Σαμάριον (62)	Απεριόριστον		2.0×10^{-8}
$^{151}_{SM}$		1000	90	2.6×10
$^{153}_{SM}$		300	300	4.4×10^{5}
$^{113}_{SN}$	Κασσίτερος (50)	60	60	1.0×10^{4}
$^{125}_{SN}$		10	10	1.1×10^{5}
$^{85}_{SR^M}$	Στρόντιον (38)	80	80	3.2×10^{7}
$^{85}_{SR}$		30	30	2.4×10^{4}
$^{87}_{SR^M}$		50	50	1.2×10^{7}

Σύμβολο Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1(Ci)	A_2(Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
^{89}SR	Στρόντιον (38)	I00	40	2.9×10^4
^{90}SR		I0	0.4	1.5×10^2
^{9I}SR		I0	I0	3.6×10^6
^{92}SR		I0	I0	1.3×10^7
T (μη-πεπιεσμένον)	Τρίτιον (I)	I000	I000	9.7×10^3
T (πεπιεσμένον)		I000	I000	
T (ενεργοποιημένον φωτεινόν χρώμα)		I000	I000	
T (απορροφούμενον επί στερεού μεταφορέως)		I000	I000	
T (τρίτιον-ύδωρ /TRITIAYED WATER/)		I000	I000	
T (άλλαι μορφαί)		20	20	
$I82_{T\alpha}$	Ταντάλιον (73)	20	20	6.2×10^3
$I60_{T\beta}$	Τέρβιον (65)	20	20	1.1×10^4
$^{96}TC^M$	Τεχνήτιον (43)	I000	I000	3.8×10^7
^{96}TC		6	6	3.2×10^5
$^{97}TC^M$		I000	200	1.5×10^4
^{97}TC		I000	400	1.4×10^{-3}
$^{99}TC^M$		I00	I00	5.2×10^6
^{99}TC		I000	80	1.7×10^{-2}
$I25_{T\varepsilon}{}^M$	Τελλούριον (52)	I000	I00	1.8×10^4
$I27_{T\varepsilon}{}^M$		300	40	4.0×10^4
$I27_{T\varepsilon}$		300	300	2.6×10^6
$I29_{T\varepsilon}{}^M$		30	30	2.5×10^4

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Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_I (Ci)	A_2 (Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
$I29_{Te}$	Τελλούριον (52)	I00	I00	2.0 X $I0^7$
$I3I_{Te}^M$		I0	I0	
$I32_{Te}$		7	7	3.I X $I0^5$
227_{TH}	Θόριον (90)	200	0.2	3.2 X $I0^4$
228_{TH}		6	0.008	8.3 X $I0^2$
230_{TH}		3	0.003	I.9 X $I0^{-2}$
$23I_{TH}$		I000	I000	5.3 X $I0^5$
232_{TH}		Απεριόριστον		I.I X $I0^{-7}$
234_{TH}		I0	I0	2.3 X $I0^4$
TH (φυσικόν)		Απεριόριστον		(βλέπε Πίνακα XXI)
TH (υποστάν ακτινοβολίαν)		α/	α/	
200_{TL}	Θάλλιον (8I)	20	20	5.8 X $I0^5$
$20I_{TL}$		200	200	2.2 X $I0^5$
202_{TL}		40	40	5.4 X $I0^4$
204_{TL}		300	30	4.3 X $I0^2$

α/ Αι τιμαί των A_I και A_2 θα υπολογίζωνται συμφώνως προς το περιθώριον 369I(3) λαμβανομένης υπόψει της δραστικότητος των προϊόντων διασπαστών υλών και ουρανίου-233 επιπροσθέτως εκείνης του θορίου.

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Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1 (Ci)	A_2 (Ci)	Ειδική Δραστικότης (Ci/G)
	(Συνέχεια)			
170_{TM}	Θούλιον (69)	300	40	6.0×10^{3}
171_{TM}		1000	100	1.1×10^{3}
230_{U}	Ουράνιον (92)	100	0.1	2.7×10^{4}
232_{U}		30	0.03	2.1×10
233_{U}		100	0.1	9.5×10^{-3}
234_{U}		100	0.1	6.2×10^{-3}
235_{U}		100	0.2	2.1×10^{-6}
236_{U}		200	0.2	6.3×10^{-5}
238_{U}		Απεριόριστον		3.3×10^{-7}
U (φυσικόν)		Απεριόριστον		(βλέπε Πίνακα XXI)
U (εμπλουτισμένον)	(/ 20°/ο	Απεριόριστον		(" ")
	(20°/ο ή μεγαλύτερον	100	0.1	
U (εξασθενημένον)		Απεριόριστον		(Βλέπε Πίνακα XXI)
U (μη-ακτινωτόν)		β/	β/	
48_{V}	Βανάδιον (23)	6	6	1.7×10^{5}
181_{W}	Βολφράμιον (74)	200	100	5.0×10^{3}
185_{W}		1000	100	9.7×10^{-3}
187_{W}		40	40	7.0×10^{5}
$131_{Xe}M$ (πεπιεσμένον)	Ξένον (54)	10	10	1.0×10^{5}
$131_{Xe}M$ (μη-πεπιεσμένον)		100	100	1.0×10^{5}
133_{Xe} (μη-πεπιεσμένον)		1000	1000	1.9×10^{5}
133_{Xe} (πεπιεσμένον)		5	5	1.9×10^{5}

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Σύμβολον Ραδιονουκλεΐδίου	Στοιχείον και αριθμός ατόμου	A_1(Ci)	A_2(Ci)	Ειδική Δραστικότης (Ci/G)
	(Σ υ ν έ χ ε ι α)			
$I35_{Xe}$ (μη-πεπιεσμένον)		70	70	2.5×10^6
$I35_{Xe}$ (πεπιεσμένον)		2	2	2.5×10^6
90_Y	Ύττριον (39)	10	10	5.3×10^5
$9I_YM$		30	30	4.1×10^7
$9I_Y$		30	30	2.5×10^4
92_Y		10	10	9.5×10^6
93_Y		10	10	3.2×10^6
$I75_{Yb}$	Υττέρβιον (70)	400	400	1.8×10^5
65_{ZN}	Ψευδάργυρος (30)	30	30	8.0×10^3
$69_{ZN}M$		40	40	3.3×10^6
69_{ZN}		300	300	5.3×10^7
93_{ZR}	Ζιρκόνιον (40)	1000	200	3.5×10^{-3}
95_{ZR}		20	20	2.1×10^4
97_{ZR}		20	20	2.0×10^6

β/ (Σελίς Μεταφράσεως 171):- Αι τιμαί των A_1 και A_2 θα υπολογίζωνται συμφώνως προς το περιθώριον 369I(3) λαμβανομένης υπόψει της δραστικότητος των διασπαστών προϊόντων και των ισοτόπων πλουτωνίου επιπροσθέτως εκείνης του ουρανίου.

ΠΙΝΑΞ XXI.- ΣΧΕΣΕΙΣ ΔΡΑΣΤΙΚΟΤΗΤΟΣ-ΜΑΖΗΣ ΟΥΡΑΝΙΟΥ ΚΑΙ ΦΥΣΙΚΟΥ ΘΟΡΙΟΥ[α/] 3690 (Συνεχίζεται)

(Εις τον Πίνακα αυτόν παραπέμπει ο Πίναξ XX).

Ραδιενεργός ύλη	Ci/G	G/Ci
Ουράνιον (WT^{o}/o ^{235}U πάρόντος)		
0.45	5.0×10^{-7}	2.0×10^{6}
0.72 (φυσικόν)	7.06×10^{-7}	1.42×10^{6}
1.0	7.6×10^{-7}	1.3×10^{6}
1.5	1.0×10^{-6}	1.0×10^{6}
5.0	2.7×10^{-6}	3.7×10^{5}
10.0	4.8×10^{-6}	2.1×10^{5}
20.0	1.0×10^{-5}	1.0×10^{5}
35.0	2.0×10^{-5}	5.0×10^{4}
50.0	2.5×10^{-5}	4.0×10^{4}
90.0	5.8×10^{-5}	1.7×10^{4}
93.0	7.0×10^{-5}	1.4×10^{4}
95.0	9.1×10^{-5}	1.1×10^{4}
Φυσικόν θόριον	2.2×10^{-7}	4.6×10^{6}

α/ Οι αριθμοί δια το ουράνιον περιλαμβάνουν την δραστικότητα του ουρανίου-234 η οποία συμπυκνούται διαρκούσης της κατεργασίας εμπλουτισμού. Η δραστικότης του θορίου συμπεριλαμβάνει την ισορροπημένην συμπύκνωσιν (EQUILIBRIUM CONCENTRATION) του θορίου-228.

(2) Για οποιοδήποτε απλό ραδιονουκλεΐδιο του οποίου η ταυτότης είναι γνωστή, αλλά το οποίον δεν αναγράφεται εις τον

3690 (Συνεχίζεται)

Πίνακα XX, αι τιμαί των A_I και A_2 θα καθορίζονται συμφώνως προς την κατωτέρω διαδικασίαν:-

(α) Εάν το ραδιονουκλεΐδιο εκπέμπει μόνον ένα τύπον ακτινοβολίας, η τιμή A_I θα καθορίζεται συμφώνως προς τους κατωτέρω κανόνας των (I), (II), (III) και (IV). Για ραδιονουκλεΐδια εκπέμποντα διάφορα είδη ακτινοβολίας, η τιμή A_I θα είναι η πλέον περιοριστική τιμή των καθορισθεισών για μίαν χωριστήν ακτινοβολίαν. Εν τούτοις, εις αμφοτέρας τας περιπτώσεις η A_I θα περιορίζεται εις 1000 Ci το ανώτατον. Εάν το μητρικόν νουκλεΐδιο (PARENT NUCLIDE) εξασθενίσει εις μίαν βραχυτέρας ζωής θυγατέραν, ημισείας ζωής όχι μεγαλυτέρας των 10 ημερών, η A_I θα υπολογισθεί τόσον δια την μητέραν όσον και την θυγατέραν, και η περισσότερον περιοριστική των δύο τιμών πρέπει να καταλογισθεί εις το μητρικόν νουκλεΐδιον.

(I) Για πομπούς γάμμα, η A_I καθορίζεται δια του κάτωθι τύπου:

$$A_I = \frac{9}{\Gamma} \text{ CURIES}$$

όπου Γ είναι η σταθερά ακτίνος γ, η αντιστοιχούσα εις την δόσιν της R/H εις 1 M ανά Ci· ο αριθμός 9 προκύπτει εκ της εκλογής του 1 REM/H εις απόστασιν 3 M ως η ισοδύναμος τιμή της δόσεως.

(II) Για πομπούς ακτίνος X, η A_I καθορίζεται δια του ατομικού αριθμού (αριθμού ατόμου) του νουκλεΐδίου:-

για Z/ 55 · A_I = 1000 Ci

για Z 55 · A_I = 200 Ci

(III) Για πομπούς βήτα (β), η A_I καθορίζεται δια της ανωτάτης ενεργείας β ($E_{\text{ανώτ.}}$) συμφώνως προς τον Πίνακα XXII.

(ΙΙΙ) Για πομπούς αλφα (α), η A_I καθορίζεται δια του τύπου:- $A_I = 1000\ A_3$ 3690 (Συνεχίζεται)

όπου A_3 είναι η τιμή η αναγραφομένη εις τον Πίνακα XXIII.

(β) Η A_2 θα είναι η περισσότερον περιοριστική των κάτωθι τιμών:-

(1) η αντίστοιχος A_I και (2) η τιμή A_3 λαμβανομένη εκ του Πίνακος XXIII.

ΠΙΝΑΞ XXII.- ΣΧΕΣΙΣ ΜΕΤΑΞΥ A_I ΚΑΙ $E_{ανώτ.}$ ΓΙΑ ΠΟΜΠΟΥΣ ΒΗΤΑ (β)

$E_{ανώτ.}$ (MeV)	A_I (Ci)
/ 0.5	1000
0.5 - / 1.0	300
1.0 - / 1.5	100
1.5 - / 2.0	30
2.0	10

ΠΙΝΑΞ XXIII.- ΣΧΕΣΙΣ ΜΕΤΑΞΥ A_3 ΚΑΙ ΤΟΥ ΑΤΟΜΙΚΟΥ ΑΡΙΘΜΟΥ (ΑΡΙΘΜΟΥ ΑΤΟΜΟΥ) ΤΟΥ ΡΑΔΙΟΝΟΥΚΛΕΥΔΙΟΥ

Ατομικός Αριθμός (Αριθμός Ατόμου)	A_3		
	Ημίσεια-ζωή κάτω των 1000 ημερών	Ημίσεια-ζωή 1000 ημερών μέχρι 10^6 ετών	Ημίσεια-ζωή μεγαλυτέρα των 10^6 ετών
1 έως 81	3 Ci	50 MCi	3 Ci
82 και άνω	2 MCi	2 MCi	3 Ci

(3) Για οποιοδήποτε απλό ραδιονουκλεΐδιο του οποίου η ταυτότης είναι άγνωστη, η τιμή της A_I θα λαμβάνεται ότι είναι 2 Ci και η τιμή της A_2 θα λαμβάνεται ότι είναι 0.002 Ci. Εν τούτοις, εάν ο ατομικός αριθμός (αριθμός ατόμου) του ραδιονουκλεΐδίου είναι γνωστόν ότι είναι κάτω των 82, η τιμή της A_I θα λαμβάνεται ότι είναι IO Ci και η τιμή της A_2 θα λαμβάνεται ότι είναι 0.4 Ci. 3690 (Συνεχίζεται)

2.- Μίγματα ραδιονουκλεΐδίων, συμπεριλαμβανομένης αλύσου ραδιενεργούς αποσυνθέσεως (διασπάσεως)

(I) Για μικτά διασπαστά προϊόντα τα κάτωθι όρια δραστικότητος μπορούν να ληφθούν ως δεδομένα, εάν δεν γίνει λεπτομερής ανάλυσις του μίγματος:- 3691

A_I = IO Ci

A_2 = 0.4 Ci

(2) Απλή άλυσος ραδιενεργούς αποσυνθέσεως (διασπάσεως) εις την οποίαν υπάρχουν τα ραδιονουκλεΐδια εις τας φυσικάς των αναλογίας και εις την οποίαν ουδέν θυγατρικόν νουκλεΐδιον έχει ημίσεια-ζωήν είτε μεγαλυτέραν των IO ημερών είτε μεγαλυτέραν εκείνης του μητρικού νουκλεΐδίου, θα θεωρείται ως απλό ραδιονουκλεΐδιο. Η δραστικότης η οποία θα ληφθεί υπόψει και η τιμή των A_I ή A_2 που θα ισχύσει θα είναι αι αντίστοιχοι εκείνων του μητρικού νουκλεΐδίου της αλύσου αυτής. Εν τούτοις, στη περίπτωση αλύσων ραδιενεργούς αποσυνθέσεως (αποσπάσεως) εις τας οποίας οιονδήποτε θυγατρικόν νουκλεΐδιον έχει ημισεία-ζωήν είτε μεγαλυτέρα των Io ημερών είτε μεγαλυτέραν εκείνης του μητρικού νουκλεΐδίου, το μητρικόν και το τοιούτον θυγατρικόν νουκλεΐδιον θα θεωρούνται ως μίγματα διαφόρων νουκλεΐδίων.

(3) Στη περίπτωση μίγματος διαφορετικών ραδιονουκλειδίων, εις το οποίον η ταυτότης και δραστικότης εκάστου ραδιονουκλεΐδίου είναι γνωσταί, η επιτρεπτή δραστικότης εκάστου ραδιονουκλεΐδίου R_I, R_2 .... R_N θα είναι τέτοια ώστε η $F_I + F_2 + ... F_N$ να μην είναι μεγαλυτέρα της ενότητος, όπου 3691 (Συνεχίζεται)

$$F_I = \frac{\text{Ολική δραστικότης του } R_I}{\text{Αι } (R_I)}$$

$$F_2 = \frac{\text{Ολική δραστικότης του } R_2}{\text{Αι } (R_2)}$$

$$F_N = \frac{\text{Ολική δραστικότης του } R_N}{\text{Αι } (R_N)}$$

Αι (R_I), Αι (R_2), ... Αι (R_N) είναι η τιμή των A_I ή A_2 ως ενδείκνυται δια το νουκλεΐδιο R_I, R_2 .. R_N.

(4) Όταν η ταυτότης εκάστου ραδιονουκλεΐδίου είναι γνωστή αλλά αι χωριστές δραστικότητες ωρισμένων εκ των ραδιονουκλεΐδίων είναι άγνωστοι, ο τύπος της παραγράφου (3) θα ισχύσει δια των καθορισμόν των τιμών των A_I ή A_2 ως ενδείκνυται. Όλα τα ραδιονουκλεΐδια των οποίων αι χωρισταί δραστικότητες είναι άγνωστοι (ο ολική των δραστηριότης, εν τούτοις, θα είναι γνωστή) θα ταξινομηθούν εις μίαν ομάδα και η πλέον περιοριστική τιμή της $A_ι$ και A_2 η ισχύουσα δι'οιονδήποτε εν τούτων θα χρησιμοποιηθεί ως η τιμή της A_I ή A_2 εις τον παρονομαστήν του κλάσματος.

(5) Οσάκις η ταυτότης εκάστου ραδιονουκλεΐδίου είναι γνωστή αλλά η χωριστή δραστικότης ουδενός των ραδιο-

νουκλεϊδίων είναι γνωστή, η πλέον περιοριστική τιμή των A_I ή A_2 η ισχύουσα δι'οιονδήποτε εν των ραδιονουκλεϊδίων θα υιοθετηθεί ως η ισχύουσα τιμή. 3691 (Συνεχίζεται)

(6) Όταν η ταυτότης ουδενός ή μόνον μερικών εκ των νουκλεϊδίων είναι γνωστή, η τιμή της A_I θα λαμβάνεται ότι είναι 2 Ci και η τιμή της A_2 θα λαμβάνεται ότι είναι 0.002 Ci. Εν τούτοις, εάν οι πομποί άλφα (α) είναι γνωστόν ότι απουσιάζουν, η τιμή της A_2 θα ληφθεί ότι είναι 0.4 Ci.

3692-3694

ΚΕΦΑΛΑΙΟΝ VII.- ΑΠΟΛΥΜΑΝΣΙΣ, ΔΙΑΡΡΕΟΝΤΑ ΚΟΛΑ ΚΑΙ ΑΤΥΧΗΜΑΤΑ

(1) Εάν κόλον περιέχει ραδιενεργείς ύλες σπάσει ή ορατώς διαρρέει ή είχεν ατύχημα διαρκούσης της μεταφοράς, το όχημα ή η θιγείσα περιοχή θα απομονώνεται ώστε να αποφευχθεί κάθε επαφή προσώπων με ραδιενεργείς ύλες και, οσάκις είναι δυνατόν, θα σημειούται δεόντως ή φράσσεται. Εις ουδένα θα επιτραπεί να παραμείνει εντός της μονωθείσης περιοχής μέχρι της αφίξεως των αρμοδίων προσώπων τα οποία θα εποπτεύσουν το έργον χειρισμού και διασώσεως. Ο αποστολεύς και αι περί ων πρόκειται αρχαί θα ενημερωθούν πάραυτα. Κατά παρέκβασιν των ανωτέρω διατάξεων, η παρουσία ραδιενεργών υλών δεν θα θεωρείται ως εμπόδιον εις τας επιχειρήσεις διασώσεως ανθρώπων ή κατασβέσεως πυρκαϊών. 3695

(2) Εάν ραδιενεργείς ύλαι διέρρευσαν, εχύθησαν ή διεσκορπίσθησαν καθ'οιονδήποτε απολύτως τρόπον εις τόπον,

περιοχήν ή επί εμπορευμάτων ή εξοπλισμού εν αποθηκεύσει, 3695
θα κληθούν το ταχύτερο δυνατόν τα αρμόδια πρόσωπα να (Συνεχίζεται)
κατευθύνουν τας επιχειρήσεις απολυμάνσεως. Ο ούτω μολυνθείς τόπος, περιοχή ή εξοπλισμός τότε και μόνον θα επαναλειτουργήσουν όταν δηλωθεί υπό των αρμοδίων προσώπων ότι είναι απηλλαγμένα κινδύνου.

(3) Εκτός ως προβλέπεται στη παράγραφο (4), οιαδήποτε οχήματα, εξοπλισμός ή τμήμα αυτών, που εμολύνθησαν διαρκούσης της μεταφοράς ραδιενεργών υλών θα απολυμαίνωνται ευθύς ως είναι δυνατόν (το ταχύτερο δυνατό) υπό αρμοδίου προσώπου και δεν θα επαναχρησιμοποιηθούν εκτός εάν η αναθόριστος (NON-FIXED) ραδιενεργής μόλυνσις είναι κάτω των επιπέδων των οριζομένων εις τον Πίνακα XIX και τα οχήματα, ο εξοπλισμός ή τμήμα αυτών εδηλώθησαν ασφαλή εξ σχέσει με τα επίπεδα υπολειμματικής ακτινοβολίας υπό αρμοδίου προσώπου.

(4) Οχήματα ή διαμερίσματα χρησιμοποιούμενα για την χύμα μεταφοράν ή δεξαμενο-μεταφοράν υλών χαμηλής ειδικής δραστικότητος, ή δια την μεταφοράν κόλων υλών χαμηλής ειδικής δραστικότητος μεταφερομένων ως πλήρες φορτίον ή δια την μεταφοράν χαμηλού επιπέδου στερεών ραδιενεργών υλών ως πλήρες φορτίον δεν θα χρησιμοποιούνται δι'άλλα εμπορεύματα μέχις ότου απολυμανθούν ως ορίζεται στη παράγραφο (3).

3696-
3699

ΠΡΟΣΘΗΚΗ Α.7

Υπό επιφύλαξιν (RESERVED) 3700-3799

ΠΡΟΣΘΗΚΗ Α.8

Υπό επιφύλαξιν (RESERVED) 3800-3899

ΠΡΟΣΘΗΚΗ Α.9

I.- Διατάξεις διέπουσαι τις ετικέττες κινδύνου

(I) Οι Ετικέττες Αρ. I, 2Α, 2Β, 2Γ, 2Δ, 3, 4, 4Α, 5, 6Α, 6Β και 6Γ θα είναι σχήματος τετραγώνου, πλευράς I0 CM, τοποθετούμεναι σε γωνίαν. Έχουν μαύρην γραμμήν εκ 5 MM εις το άκρον. Οι ετικέττες που θα τοποθετούνται εις ωρισμένας δεξαμενάς (βυριο-φόρα και TANK-TRAILERS) θα έχουν πλευράν όχι μικροτέραν των 30 CM. 3900

(2) Οι Ετικέττες Αρ. 7, 8 και 9 θα είναι ορθογώνιοι, βασικού σχήματος Α5(I48 X 2I0 MM). Για κόλα, οι διαστάσεις αυτές μπορούν να μειωθούν εις σχήμα όχι μικρότερον του Α7(74 X I05 MM).

(3) Επιγραφή, εις αριθμούς ή γράμματα, αφορώσα την φύσιν του κινδύνου μπορεί να τοποθετηθεί εις το κάτω μέρος των ετικεττών.

(I) Ετικέττες κινδύνου, οσάκις απαιτούνται δυνάμει του παρόντος Παραρτήματος, πρέπει να κολλώνται εις τα κόλα και ωρισμένας δεξαμενάς (βυτία) ή να τοποθετούνται με άλλον κατάλληλον τρόπον. Μόνον οσάκις η κατάστασις του εξωτερικού του κόλου δεν το επιτρέπει θα πρέπει οι ετικέττες να 3901

κοχώνται επί πινακίδων ή ταμπελών ασφαλώς συνδεδεμένων με το κόλον. Επί εξωτερικών συσκευασιών και συνδεδεμένων δεξαμενών (βυτίων), ανεξίτηλοι ενδείξεις κινδύνου ακριβώς αντίστοιχοι των προβλεπομένων μοντέλων μπορούν να χρησιμοποιούνται αντί των ετικετών. 3901 (Συνεχίζεται)

(2) Οσάκις κόλον απαιτείται να φέρει δύο ετικέττες του αυτού μοντέλου, οι ετικέττες θα τοποθετούνται κατά τον κατωτέρω οριζόμενον τρόπον:

δύο τετράγωνα: σχήμα 4ης 2991

(3) Είναι καθήκον του αποστολέως να τοποθετεί τις ετικέττες στα κόλα, και, οσάκις ενδείκνυται, εις συνδεδεμένας δεξαμενάς (βυτία) και υποδοχείς (CONTAINERS).

2.- Επεξήγησις Συμβόλων σχήματα 4ης 2993

Οι ετικέττες κινδύνου που προβλέπονται για 3902
ύλες και είδη των Κλάσεων I έως 8 (βλέπε συνημμένον πίνακα Προσθήκης Α.9) έχουν τις παρακάτω έννοιες:-

Αρ. I (μαύρη βόμβα σε φόντο πορτοκαλί): υποκειμένη εις έκρηξιν προβλεπομένη υπό των περιθωρίων 2II7(I) και (2), 2I45 και 2563.

Αρ. 2A (μαύρη φλόγα σε κόκκινο φόντο) : κίνδυνος πυρκαϊάς (ευφλεκτα υγρά). προβλεπομένη υπό των περιθωρίων 2224(3), 23I6(3), 2478(2), 2307(I) και 2632(I).

Αρ. 2Β	(μαύρη φλόγα σε φόντο ισάκις απεχουσών ερυθρών και λευκών εναλλάξ λωρίδων) : προβλεπομένη υπό περιθωρίου 24Ι4(Ι)·	κίνδυνος πυρκαϊάς (ευφλέκτων στερεών)·
Αρ. 2Γ	(μαύρη φλόγα σε λευκό φόντο, κάτω τρίγωνον ετικέττας ερυθράν) : προβλεπομένη υπό περιθωρίου 2443(Ι)·	ύλη υποκειμένη εις στιγμιαίαν ανάφλεξιν·
Αρ. 2Δ	(μαύρη φλόγα σε κυανό (μπλέ) φόντο: προβλεπομένη υπό του περιθωρίου 2478(Ι)·	κίνδυνος εκπομπής ευφλέκτων αερίων εις επαφήν με το νερό·
Αρ. 3	(φλόγα πέριξ κύκλου, μαύρο σε κίτρινο φόντο): προβλεπομένη υπό των περιθωρίων 25ΙΙ(Ι) και 2563(Ι)·	οξειδωτική ύλη ή οργανικόν υπεροξείδιον·
Αρ. 4	(νεκροκεφαλή επί διασταυρωμένων οστών, μαύρο σε λευκό φόντο): προβλεπομένη υπό των περιθωρίων 2307(Ι), 23Ι6(3), 2632(Ι) και 2643(3)·	τοξική ύλη: θα τηρείται μακράν σε οχήματα και σε σημεία φορτώσεως, εκφορτώσεως ή μεταφορτώσεως, από τρόφιμα και λοιπά είδη καταναλώσεως·

Αρ. 4Α (Σταυρός Αγ. Ανδρέου επί στάχυος, μαύρο σε λευκό φόντο): επιβλαβής ύλη: θα τηρείται μακράν από τρόφιμα εντός οχημάτων, και εις σημεία φορτώσεως, εκφορτώσεως ή μεταφορτώσεως·

προβλεπομένη υπό των περιθωρίων 2632(I) και 2643(3)·

Αρ. 5 (υγρό πίπτον από δοκιμαστικόν σωλήνα επάνω σε πλάκα και από άλλο δοκιμαστικόν σωλήνα στο χέρι· μαύρο σε λευκό φόντο, κάτω τρίγωνον ετικέττας μαύρο με λευκή μπορντούρα): διαβρωτική ύλη·

προβλεπομένη υπό των περιθωρίων 2511(I), 2824(I) και 2835(3)·

Αρ. 6Α (στυλιζαρισμένο τριφύλλι, επιγραφή ΡΑΔΙΕΝΕΡΓΟΝ, κάθετος λωρίς στο κάτω ήμισυ, με το ακόλουθο κείμενο:
Περιεχόμενο .....
Δραστικότης .....
Σύμβολο και επιγραφαί μαύραι σε λευκό φόντο, κάθετος λωρίς ερυθρά): ραδιενεργής ύλη σε κόλα της Κατηγορίας I - ΛΕΥΚΗ· εν περιπτώσει ζημιάς των κόλων, κίνδυνος δια την υγείαν εξ εισαγωγής, εισπνοής, ή επαφής με χυμένον περιεχόμενον·

προβλεπομένη υπό των περιθωρίων 3656(I), (2) και (3) και των πινάκων 5 έως I2·

3902
(Συνεχίζεται)

Αρ. 6Β (όπως η προηγουμένη, αλλά με δύο κάθετες λωρίδες στο κάτω ήμισυ και το κάτωθι κείμενο:
Περιεχόμενον .....
Δραστικότης .....
"TRANSPORT INDEX" (Δείκτης Μεταφοράς)
Σύμβολον και επιγραφαί μαύραι· άνω ήμισυ, κίτρινο φόντο, κάτω ήμισυ, λευκό φόντο· κάθετοι λωρίδες, ερυθραί):

ραδιενεργής ύλη σε κόλα της Κατηγορίας II -ΚΙΤΡΙΝΗ· τα κόλα θα τηρούνται μακράν από κόλον περιέχον μη εμφανισθείσες ραδιογραφικές ή φωτογραφικές πλάκες ή φίλμ· σε περίπτωση ζημιάς των κόλων, κίνδυνος για την υγεία εξ εισαγωγής ή εισπνοής, ή επαφής με, χυμένο περιεχόμενο, και κίνδυνος εξωτερικής ακτινοβολίας από μίαν απόστασιν·

προβλεπομένη υπό των πινάκων 5 έως 12, ως ενδείκνυται, και των περιθωρίων 3656(1), (2) και (3)·

Αρ. 6Γ (όπως η προηγουμένη, αλλά με τρείς κάθετες λωρίδες στο κάτω ήμισυ:

ραδιενεργής ύλη σε κόλα της Κατηγορίας III -ΚΙΤΡΙΝΗ· τα κόλα θα τηρούνται μακράν από κόλα περιέχοντα μη εμφανισθείσες ραδιογραφικές ή φωτογραφικές πλάκες ή φίλμ·

σε περίπτωση ξημιάς των κόλων, κίνδυνος δια την υγεία εισαγωγής ή εισπνοής, ή επαφής με, χυμένο περιεχόμενο, και κίνδυνος εξωτερικής ακτινοβολίας από μία απόσταση. 3902 (Συνεχίζεται)

Αρ. 7 (ανοικτή μαύρη ομπρέλλα σε λευκό φόντο): διατηρείστε ξηρό προβλεπομένη υπό του περιθωρίου 2478(I).

Αρ. 8 (δύο μαύρα τόξα σε λευκό φόντο): προς τα άνω: προβλεπομένη υπό των περιθωρίων 2II7 (2), 2224(2), 2307 (3), 24I4(2), 2443 (2) και (3), 2478(3), 25II(2), 2563(2), 2632 (2), 2664, 2709(3), 2824(2) και (3). η ετικέττα θα τοποθετηθεί, με τα τόξα προς τα άνω, σε δύο αντίθετες πλευρές του κόλου.

Αρ. 9 (ερυθρό ηρασοπότηρο σε λευκό φόντο): χειρισθείτε με προσοχή, ή:- μη το χύσετε. προβλεπομένη υπό των περιθωρίων 2II7(2), 2I82, 224(I), (2) και (3), 2307 (3), 24I4(2), 2443(3), 2478 (3), 25II(2), 2562(2), 2632(2), 2664, 2709(3) και 2824(2).

3903-3999

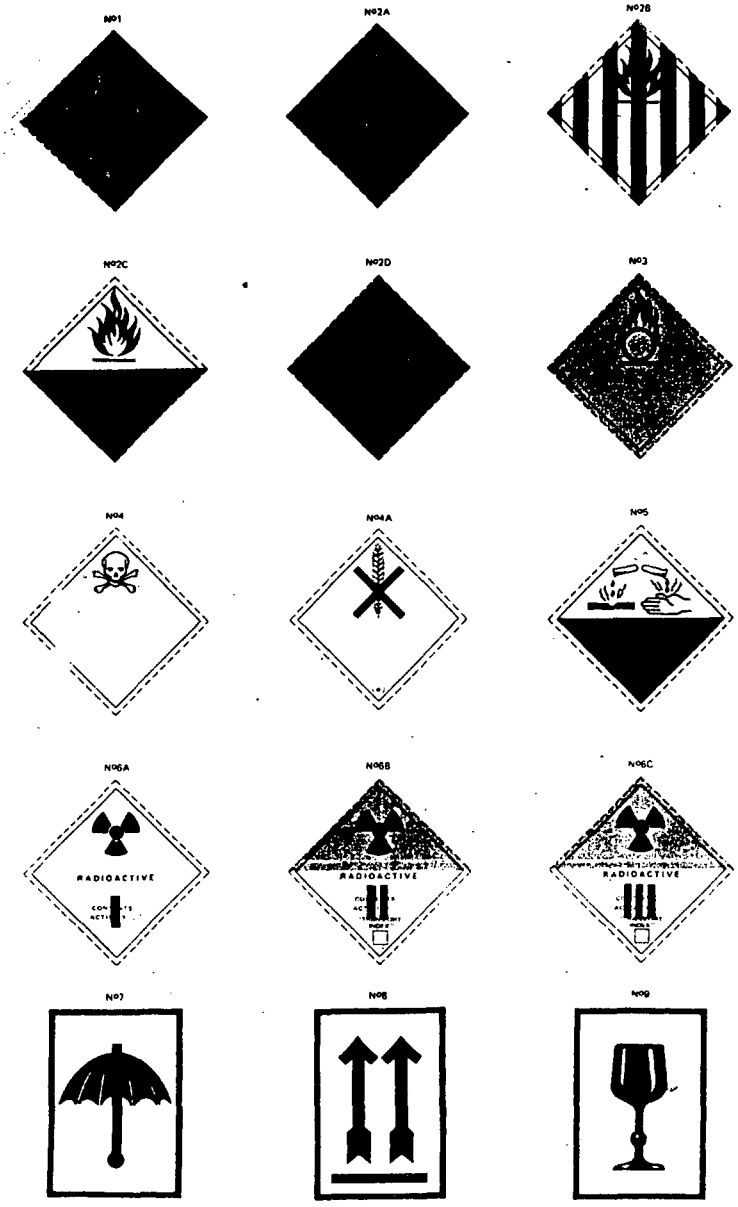
ΠΡΟΣΘΗΚΗ Α.9

ΕΤΙΚΕΤΤΕΣ ΚΙΝΔΥΝΟΥ (ΠΙΝΑΞ)

(Βλέπε περιθώριο 3902)

Αναπαραγωγή επί μειωμένης κλίμακος

APPENDICE A9
DANGER LABELS
(See marginal 39021)
Reproduction on reduced scale



E/ECE/322

E/ECE/TRANS/503

ΟΙΚΟΝΟΜΙΚΗ ΕΠΙΤΡΟΠΗ ΓΙΑ ΤΗΝ ΕΥΡΩΠΗ

ΕΠΙΤΡΟΠΗ ΜΕΤΑΦΟΡΩΝ ΕΣΩΤΕΡΙΚΟΥ

Ευρωπαϊκή Συμφωνία Για τη Διεθνή Οδική Μεταφορά Επικινδύνων Εμπορευμάτων (ADR) και Πρωτόκολλο Υπογραφής

Υπογράφηκε στη Γενεύη την 30 Σεπτεμβρίου 1957

ΤΟΜΟΣ III

(Παράρτημα Β)

ΗΝΩΜΕΝΑ ΕΘΝΗ

1978

Π Ρ Ο Λ Ο Γ Ο Σ

Το παρακάτω κείμενο περιλαμβάνει, επιπροσθέτως της Συμφωνίας και του Πρωτοκόλλου Υπογραφής, τα παραρτήματα με τη μορφή με την οποία τέθηκαν σε ισχύ την 29ην Ιουλίου 1968 καθώς και τις τροποποιήσεις τους μέχρι της 1ης Οκτωβρίου 1978.

ΠΑΡΑΡΤΗΜΑ Β

ΔΙΑΤΑΞΕΙΣ ΓΙΑ ΤΟΝ ΕΞΟΠΛΙΣΜΟ ΤΩΝ ΜΕΤΑΦΟΡΩΝ ΚΑΙ ΤΙΣ ΕΠΙΧΕΙΡΗΣΕΙΣ ΜΕΤΑΦΟΡΩΝ

GE.78-28081

ΠΕΡΙΕΧΟΜΕΝΟΝ

	Περιθώρια	
ΣΧΕΔΙΟ ΤΟΥ ΠΑΡΑΡΤΗΜΑΤΟΣ	IO 000	
ΙΣΧΥΣ ΑΛΛΩΝ ΔΙΑΤΑΞΕΩΝ, ΕΘΝΙΚΩΝ Η ΔΙΕΘΝΩΝ	IO 00I	
ΙΣΧΥΣ ΤΩΝ ΔΙΑΤΑΞΕΩΝ ΤΟΥ ΚΕΦΑΛΑΙΟΥ I ΤΟΥ ΠΑΡΟΝΤΟΣ ΠΑΡΑΡΤΗΜΑΤΟΣ	IO 002	
ΚΕΦΑΛΑΙΟ I: ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΤΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΥΛΩΝ ΟΛΩΝ ΤΩΝ ΚΛΑΣΕΩΝ (ΚΑΤΗΓΟΡΙΩΝ)		
Άρθρο I Γενικά	IO I00	π.ε.
Αντικείμενον του παρόντος Παραρτήματος	IO I00	
Ορισμοί	IO I02	
Τύποι Οχημάτων	IO I04	
Πλήρες φορτίο	IO I08	
Μεταφορά εμπορευμάτων εις χύμα	IO III	
Μεταφορά μέσα σε CONTAINERS	IO II8	
Μεταφορά μέσα σε δεξαμενές	IO I2I	
Δεξαμενές	IO I27	
Πληρώματα αυτοκινήτων (οχημάτων)· Εποπτεία	IO I7I	
Μεταφορά Επιβατών	IO I72	
Έγγραφα Μεταφορών	IO I8I	
Έγκριση οχημάτων	IO I82	
Γραπτές οδηγίες	IO I85	
Άρθρο 2 Ειδικοί όροι πληρούμενοι από οχήματα και τον εξοπλισμό τους	IO 200	π.ε.
Πυροσβεστικές συσκευές	IO 240	
Ηλεκτρικός εξοπλισμός	IO 25I	
Διάφορος εξοπλισμός	IO 260	

		Περιθώρια
Άρθρο 3	Διατάξεις Γενικών Υπηρεσιών	ΙΟ 300 κ.ε.
	Πυροσβεστικές συσκευές	ΙΟ 340
	Φορητή συσκευή φωτισμού	ΙΟ 353
	Απαγόρευση καπνίσματος	ΙΟ 374
Άρθρο 4	Ειδικές διατάξεις για φόρτωση, εκφόρτωση και χειρισμό	ΙΟ 400 κ.ε.
	Περιορισμός των μεταφερομένων ποσοτήτων	ΙΟ 401
	Απαγόρευση μικτής φορτώσεως ενός οχήματος	ΙΟ 403
	Απαγόρευση μικτής φορτώσεως ενός CONTAINER	ΙΟ 405
	Καθάρισμα προ της φορτώσεως	ΙΟ 413
	Χειρισμός και στοιβασία	ΙΟ 414
	Καθάρισμα μετά την εκφόρτωση	ΙΟ 415
	Φόρτωση και εκφόρτωση υλών σε CONTAINERS	ΙΟ 419
	Λειτουργία του κινητήρα (μηχανής) κατά τη φόρτωση και εκφόρτωση	ΙΟ 431
Άρθρο 5	Ειδικές διατάξεις για τη λειτουργία των οχημάτων	ΙΟ 500 κ.ε.
	Σήματα Οχημάτων	ΙΟ 500
	Στάθμευση (πάρκιγκ) εν γένει	ΙΟ 503
	Στάθμευση (πάρκιγκ) τη νύκτα ή όταν η ορατότητα είναι μικρή	ΙΟ 505
	Στάθμευση (πάρκιγκ) οχήματος παρουσιάζοντος ειδικόν κίνδυνον	ΙΟ 507
	Άλλες διατάξεις	ΙΟ 599

		Περιθώρια
Άρθρο 6	Μεταβατικές διατάξεις, ανακλήσεις, και διατάξεις ειδικές για ωρισμένες χώρες	ΙΟ 600 κ.ε.
	Ταχεία διαδικασία για εξουσιοδότηση ανακλήσεων προς τον σκοπόν διεξαγωγής δοκιμών.	ΙΟ 602
ΚΕΦΑΛΑΙΟ ΙΙ	ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΤΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΥΛΩΝ ΚΛΑΣΕΩΝ Ι - VII	
Κλάσεις Ια, Ιβ και Ιγ	Εκρηκτικές ύλες και αντικείμενα· Αντικείμενα γεμισμένα με εκρηκτικές ύλες· αναφλεκτήρες, πυροτεχνήματα και παρεμφερή εμπορεύματα	ΙΙ 000 κ.ε.
Κλάσις Ιδ	Αέρια· πεπιεσμένα, υγροποιημένα ή ή διαλυμένα υπό πίεση	Ι4 000 "
Κλάσις Ιε	Ύλες που αναδύουν εύφλεκτα αέρια σε επαφή με το ύδωρ	Ι5 000 "
Κλάσις ΙΙ	Ύλες υποκείμενες σε αυτανάφλεξη	2Ι 000 "
Κλάσις ΙΙΙα	Εύφλεκτα υγρά	3Ι 000 "
Κλάσις ΙΙΙβ	Εύφλεκτα στερεά	32 000 "
Κλάσις ΙΙΙγ	Οξειδωτικές ύλες	33 000 "
Κλάσις ΙΥα	Τοξικές ύλες	4Ι 000 "
Κλάσις ΙΥβ	Ραδιενεργές ύλες	42 000 "
Κλάσις Υ	Διαβρωτικές ύλες	5Ι 000 "
Κλάσις ΥΙ	Απεχθείς ύλες και ύλες δυνάμενες να προκαλέσουν μόλυνση	6Ι 000 "
Κλάσις ΥΙΙ	Οργανικόν υπεροξείδιον	7Ι 000 "
ΠΡΟΣΘΗΚΕΣ		
Κοινές διατάξεις Προσθηκών Β.Ι		200 000 - 2ΙΙ 099

		Περιθώρια
Προσθήκη Β.Ιαˑ	Διατάξεις διέπουσες σταθερά βυτία (βυτιοφόρα-οχήματα), λυόμενα βυτία και συστοιχίες δοχείων	2ΙΙ ΙΟΟ - 2Ι2 099
Προσθήκη Β.Ιβ	Διατάξεις διέπουσες τα βυτιο-CONTAINERS	2Ι2 ΙΟΟ - 2Ι3 099
Προσθήκη Β.Ιγ	Διατάξεις διέπουσες σταθερά βυτία και λυόμενα βυτία σε ενισχυμένα πλαστικά	2Ι3 ΙΟΟ - 2Ι3 099
Προσθήκη Β.Ιδ	Όροι διέποντες τα υλικά και τη κατασκευή σταθερών βυτίων, λυομένων βυτίων, και περιβλημάτων των βυτιο-CONTAINERS, προοριζομένων για τη μεταφορά βαθειά-κατεψυγμένων (DEEPLY-REFRIGERATED) υγροποιημένων αερίων της Κλάσεως 2	2Ι4 000 - 2Ι9 999
Προσθήκη Β.2	Ηλεκτρικός εξοπλισμός	220 000 - 229 999
Προσθήκη Β.3	Πιστοποιητικόν εγκρίσεως οχημάτων μεταφερόντων ορισμένα επικίνδυνα εμπορεύματα	230 000 - 239 999
Προσθήκη Β.4	Πίνακες αφορώντες τη μεταφορά επικινδύνων υλών της Κλάσεως 7˚ Ετικέττα θα τοποθετείται στα οχήματα τα μεταφέροντα τις ύλες αυτές	240 000 - 249 999
Προσθήκη Β.5	Κατάσταση υλών αναφερομένων στο περιθώριο Ι0 500 (2)	250 000 - 250 999

ΠΑΡΑΡΤΗΜΑ Β

ΔΙΑΤΑΞΕΙΣ ΔΙΕΠΟΥΣΕΣ ΤΟΝ ΕΞΟΠΛΙΣΜΟΝ ΤΩΝ ΜΕΤΑΦΟΡΩΝ ΚΑΙ ΤΩΝ ΕΠΙΧΕΙΡΗΣΕΩΝ ΜΕΤΑΦΟΡΑΣ

4 000-
9 999
IO 000

Σχέδιον του Παραρτήματος

(I) Το παρόν Παράρτημα περιλαμβάνει:-

(α) γενικές διατάξεις ισχύουσες για τη μεταφορά επικινδύνων υλών όλων των Κλάσεων (Κεφάλαιο I)·

(β) ειδικές διατάξεις ισχύουσες για τη μεταφορά επικινδύνων υλών των Κλάσεων I - 8 (Κεφάλαιο II)·

(γ) Παραρτήματα (Προσθήκες) ως κάτωθι:-

- Προσθήκη Β.Ια αφορώσα σταθερά βυτία (βυτιοφοράοχήματα) λυόμενα βυτία και συστοιχίες δοχείων·
- Προσθήκη Β.Ιβ αφορώσα βυτιο-CONTAINERS·
- Προσθήκη Β.Ιγ αφορώσα σταθερά βυτία και λυόμενα βυτία σε ενισχυμένα πλαστικά·
- Προσθήκη Β.Ιδ διέπουσα τους όρους τους αφορώντες τα υλικά και τη κατασκευή σταθερών βυτίων, λυομένων βυτίων, και περιβλημάτων βυτιο-CONTAINERS, προοριζομένων για τη μεταφορά βαθειά-κατεψυγμένων (DEEPLY-REFRIGERATED) υγροποιημένων αερίων της Κλάσεως 2·
- Προσθήκη Β.4 περιέχουσα πίνακες αφορώντες τη μεταφορά υλών της Κλάσεως 7 και τοποθέτηση ετικέττας σε οχήματα μεταφέροντα τις ύλες αυτές·
- Προσθήκη Β.5 περιέχουσα την Κατάστασιν υλών αναφερομένων στο περιθώριο IO 500 (2).

Περιθώρια

(2) Οι γενικές διατάξεις του Κεφαλαίου Ι και οι ειδικές διατάξεις του Κεφαλαίου ΙΙ διαιρούνται σε άρθρα υπό τους εξής τίτλους:- ΙΟ 000 (Συνεχίζεται)

Άρθρον Ι.- Γενικά (το παρόν άρθρον περιέχει, μεταξύ άλλων, τις διατάξεις που διέπουν τις εξουσιοδοτήσεις (άδειες) για τη μεταφορά εμπορευμάτων εις χύμα, μέσα σε CONTAINERS ή βυτία (δεξαμενές))·

Άρθρον 2.- Ειδικοί όροι πληρούμενοι υπό οχημάτων και του εξοπλισμού αυτών·

Άρθρον 3.- Διατάξεις Γενικών Υπηρεσιών.-

Άρθρον 4.- Ειδικαί διατάξεις διέπουσαι την φόρτωσιν, εκφόρτωσιν και χειρισμόν (το άρθρο τούτο περιλαμβάνει τις διατάξεις που διέπουν τους μεθόδους προωθήσεως, τους περιορισμούς επί της προωθήσεως και τις απαγορεύσεις επί μικτής φορτώσεως)·

Άρθρον 5.- Ειδικές διατάξεις διέπουσες την λειτουργίαν οχημάτων·

Άρθρον 6.- Μεταβατικές διατάξεις, ανακλήσεις, και διατάξεις ειδικαί για ωρισμένες χώρες.

Ισχύς άλλων διατάξεων, εθνικών ή διεθνών ΙΟ ΟΟΙ

(Ι) Εάν το όχημα το ενεργούν επιχείρησιν μεταφοράς υποκειμένην εις τις διατάξεις της ADR μεταφέρεται για τμήμα του ταξειδίου κατά τρόπον διάφορον της οδικής ρυμουλκήσεως, τότε οποιεσδήποτε εθνικές ή διεθνείς διατάξεις που διέπουν την μεταφοράν επικινδύνων εμπορευμάτων στο τμήμα τούτο δια του τρόπου μεταφοράς του χρησιμοποι-

ουμένου για τη μεταφορά του οδικού οχήματος θα ισχύουν και μόνον για το τμήμα τούτο, του ταξειδίου. IO OOI (Συνεχίζεται)

(2) Εις περιπτώσεις κατά τις οποίες επιχείρησις μεταφοράς υποκειμένη στις διατάξεις της ADR ενδέχεται να υπόκειται δια το σύνολο ή μέρος του οδικού ταξειδίου εις διατάξεις διεθνούς συμφωνίας διέπουσας την μεταφοράν επικινδύνων εμπορευμάτων δια τρόπου μεταφοράς διαφορετικού της της οδικής μεταφοράς δυνάμει ρητρών επεκτεινουσών την ισχύν της συμφωνίας αυτής εις ωρισμένες υπηρεσίες αυτοκινήτων, τότε, για το εν λόγω ταξείδι θα ισχύουν αι διατάξεις της διεθνούς αυτής συμφωνίας, παραλλήλως με εκείνες της ADR που δεν είναι ασυμβίβαστες· οι λοιπές ρήτρες της ADR δεν θα ισχύσουν δια το εν λόγω ταξείδι.

Ισχύς των διατάξεων του Κεφαλαίου I του παρόντος Παραρτήματος IO 002

Οσάκις αι διατάξεις του Κεφαλαίου II ή των Προσθηκών του παρόντος Παραρτήματος συγκρούονται με τις διατάξεις του Κεφαλαίου I, τότε οι διατάξεις του Κεφαλαίου I δεν θα ισχύουν.

Παρ'όλον τούτο

(α) αι διατάξεις του περιθωρίου IO IOO θα έχουν προτεραιότητα έναντι των διατάξεων του Κεφαλαίου II·

(β) αι διατάξεις του περιθωρίου IO 403 θα έχουν προτεραιότητα έναντι των απαγορεύσεων επί μικτής φορτώσεως των προβλεπομένων εις το Άρθρον 4 του Κεφαλαίου II.

IO 003-
IO 099

Κεφάλαιο Ι

ΓΕΝΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΤΗ ΜΕΤΑΦΟΡΑ ΕΠΙΚΙΝΔΥΝΩΝ ΥΛΩΝ ΟΛΩΝ ΤΩΝ ΚΛΑΣΕΩΝ

(βλέπε, εν τούτοις, περιθώριο Ι0 002)

Άρθρο Ι

Γενικά

Αντικείμενο του παρόντος Παραρτήματος

(Ι) Το Παράρτημα Α εξαιρεί από τις διατάξεις του παρόν- Ι0Ι00
τος Παραρτήματος μεταφορά εκτελεσθείσα δυνάμει των δρών (συσκευασίας, βάρους, κλπ.) που διαλαμβάνονται στα περιθώρια 220Ιά, 230Ιά, 240Ιά, 243Ιά, 247Ιά, 250Ιά και 280Ιά.

(2) (α) Περιωρισμένες ποσότητες επικινδύνων υλών μπορούν να μεταφέρονται σε κόλα χωρίς την εφαρμογή των διατάξεων του παρόντος Παραρτήματος που διέπουν:-

- τους τύπους οχημάτων (περιθώρια "... Ι04" των Κεφαλαίων Ι και ΙΙ, και περιθώρια ΙΙ Ι05 και ΙΙ Ι06 του Κεφαλαίου ΙΙ του αφορώντος τις Κλάσεις Ιά, Ιβ και Ιγ)·
- τα πληρώματα οχημάτων και την εποπτεία (περιθώρια "... Ι7Ι" των Κεφαλαίων Ι και ΙΙ)·
- τη μεταφορά επιβατών (περιθώριο Ι0 Ι72)·
- γραπτές οδηγίες (περιθώρια Ι0 Ι8Ι(Ι)(β), Ι0 Ι85 και 6Ι Ι85)·
- το ειδικό πιστοποιητικό εγκρίσεως οχημάτων (περιθώρια Ι0 Ι82 και ΙΙ Ι82)·
- τους ειδικούς όρους που πρέπει να εκπληρούν τα

οχήματα και ο εξοπλισμός τους (και των 2 Άρθρων των Κεφαλαίων Ι και ΙΙ), υπό την επιφύλαξιν, εν τούτοις, των διατάξεων του περιθωρίου 2Ι 2Ι2·

(Συνεχίζεται)

- τους τόπους φορτώσεως και εκφορτώσεως (περιθώρια ΙΙ 407, 2Ι 407 και 6Ι 407)· και
- τη λειτουργία των οχημάτων (και τα 5 Άρθρα των Κεφαλαίων Ι και ΙΙ), υπό την επιφύλαξιν, εν τούτοις, της συμμορφώσεως προς τις διατάξεις του περιθωρίου 6Ι 5Ι5.

(β) Οι υπό στοιχείον (α) ανωτέρω εξαιρέσεις θα ισχύουν για τη φόρτωση επί μιάς μονάδος μεταφοράς:

Ι.- μιάς ή περισσοτέρων των κατωτέρω επικινδύνων υλών, αδιακρίτως βάρους υπό τον όρον ότι δεν θα υπάρχουν άλλες επικίνδυνες ύλες της ADR στη μονάδα μεταφοράς:

Κλάσις Ια - κενές συσκευασίες της Ι5°
Κλάσις Ιγ - πυρεία ασφαλείας της Ι°(α)·
Κλάσις 3 - κενά δοχεία της 6°·
Κλάσις 4.Ι - ύλες της 9° και Ι0°·
Κλάσις 4.2 - κενές συσκευασίες της Ι4° και Ι5°·
Κλάσις 4.3 - κενά δοχεία της 5°·
Κλάσις 5.Ι - κενές συσκευασίες της ΙΙ°·
Κλάσις 5.2 - κενές συσκευασίες της 99°·
Κλάσις 6.Ι - κενές συσκευασίες της 9Ι° και 92°·
Κλάσις 6.2 - είδη της Ι2°· και
Κλάσις 8 - πρωτοθειούχο νάτριο της 36° και κενά δοχεία της 5Ι°·

2.- μιάς μόνον των κατωτέρω αναφερομένων επικινδύνων υλών, υπό τον όρον ότι το μικτόν βάρος όλων των κόλων των περιεχόντων την επικίνδυνον ύλην δεν υπερβαίνει το εικονιζόμενο βάρος και ότι δεν υπάρχουν άλλες επικίνδυνες ύλες της ADR στη μονάδα μεταφοράς:- IO IOO (Συνεχίζεται)

Κλάσις Ιβ - είδη της 2°(β) ή 4°: IOO KG.

Κλάσις Ιγ - θρυαλλίδες βραδείας-καύσεως της 3°: IOO KG.

Κλάσις 2 - χλωριούχο κυάνιο της 3°(C T): 5 KG.
φωσγένιο (χλωριούχο ανθρακύλιο) της 3° (A T): 25 KG.
- φθόριο της I° (A T): 50 KG.

Κλάσις 3 - αιθηλικός αιθήρ, διθειώδης άνθραξ της I°(α) ή μίγματα της I°(β) όπως κολλόδια και ημι-κολλόδια περιέχοντα αιθηλικόν αιθέρα: 3 KG.
- οξεική αλδεΐνη, ακετόνη ή μίγματα ακετόνης της 5°: 75 KG.

Κλάσις 4.I - θείο της 2°(α), ναφθαλίνη της II°(β): 250 KG.

Κλάσις 4.3 - ανθρακασβέστιο της 2°(α), πυριτούχο ασβέστιο της 2°(δ) ή πυριτούχο μαγγανιούχο ασβέστιο της 2°(δ): IOOO KG.

Κλάσις 5.2 - όλες των 45°, 46°(α), 47°(α) και (β) συσκευασμένες σύμφωνα με τις διατάξεις του περιθωρίου 2559: 2 KG μη

συμπεριλαμβανομένου του βάρους του, τυχόν, συστήματος ψύξεως. IO IOO (Συνεχίζεται)

Κλάσης 5.2 (Συνεχίζεται) - ύλες των I° έως 22°, 30° και 3I° συσκευασμένες σύμφωνα με τις διατάξεις του περιθωρίου 256I: 5 KG· και

- ύλες των I° έως 22°, 30°, 3I° και 40° συσκευασμένες σύμφωνα με τις διατάξεις των περιθωρίων 2553 έως 2556 και 2558: IO KG.

Κλάσης 6.I - ύλες των 4I°, 6I° και 62°, 7I° έως 75°, 83° και 84°: IOO KG.

Κλάσης 8 - ύλες των 6°(α), 7°, 9°, II°, I2°, I4°, I5°, 22°, 23°, 34° και 35°: IO KG.

3.- μιάς ή περισσοτέρων των κατωτέρω αναφερομένων επικινδύνων υλών της ιδίας Κλάσεως, υπό τον όρον ότι το ολικόν μικτόν βάρος όλων των κόλων των περιεχόντων επιπλέον επικίνδυνον ύλην δεν υπερβαίνει το καθορισθέν βάρος:

Κλάσης Ια - οιαδήποτε επικίνδυνος ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (I) αναφερομένων: 5 KG.

Κλάσης Ιβ - οιοδήποτε είδος της Κλάσεως πλην των ανωτέρω υπό στοιχείον (2) αναφερομένων: IO KG.

Κλάσης Ιγ - οιαδήποτε επικίνδυνος ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (I) και (2) αναφερομένων: I5 KG.

Κλάσις 2 - οιαδήποτε επικίνδυνος ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (I) και (2) αναφερομένων: 300 KG. IO IOO (Συνεχίζεται)

Κλάσις 3 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (I) και (2) αναφερομένων: 250 KG.

Κλάσις 4.I- οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον(I)και(2) αναφερομένων: 50 KG.

Κλάσις4.2 - ύλες της Κλάσεως πλην των υλών των I°, 2°, 3° και 4° και των κενών συσκευασιών των ανωτέρω υπό στοιχείον (I) αναφερομένων: 250 KG.

Κλάσις 4.3 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (I) και (2) αναφερομένων:IO KG.

Κλάσις 6.I - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (I) και (2) αναφερομένων: 5 KG.

Κλάσις 6.2 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (I) αναφερομένων: 300 KG, και

Κλάσις 8 - οιαδήποτε ύλη της Κλάσεως πλην των ανωτέρω υπό στοιχείον (I) και (2) αναφερομένων: 250 KG.

(3) Εις εφαρμογήν της ανωτέρω παραγράφου (2), τα βάρη των υγρών ή αερίων των μεταφερομένων εις τας συνήθεις δεξα-

μενάς οχημάτων (βυτιοφόρα) διά την κίνησιν των οχημάτων ΙΟ ΙΟΟ
ή την λειτουργίαν του ειδικού εξοπλισμού αυτών (π.χ. (Συνεχί-
ψυκτικού εξοπλισμού) και προς εξασφάλισιν της ασφαλείας ζεται)
αυτών δεν θα λαμβάνονται υπόψη.

(4) Αι μόναι διατάξεις του Κεφαλαίου Ι του παρόντος Παραρτήματος που ισχύουν δια την μεταφοράν των επικινδύνων υλών της Κλάσεως 6.2 θα είναι αι διατάξεις του Κεφαλαίου ΙΙ που αναφέρονται εις την Κλάσιν αυτήν και αι διατάξεις των περιθωρίων του παρόντος Κεφαλαίου Ι αι οποίαι ρητώς ισχύουν δυνάμει των προαναφερομένων διατάξεων του Κεφαλαίου ΙΙ.

(5) Αναλήσεις των διατάξεων του παρόντος Παραρτήματος μπορούν να γίνωνται στην περίπτωση επείγουσας μεταφοράς προς διάσωσιν ανθρώπινης ζωής.

ΙΟ ΙΟΙ

Ορισμοί ΙΟ ΙΟ2

(Ι) Δια την εφαρμογήν του παρόντος Παραρτήματος:-

- δια του όρου "αρμοδία αρχή" νοείται η αρχή η ορισθείσα ως τοιαύτη εις εκάστην χώραν και δι' εκάστην ειδικήν περίπτωσιν, υπό της Κυβερνήσεως·
- δια του όρου "εύθραυστον κόλον" νοείται κόλον περιέχον εύθραυστον δοχείον (π.χ. δοχείον κατασκευασθέν εξ υάλου, πορσελάνης, λίθου ή παρεμφερών υλών) το οποίον δεν έχει εγκλεισθεί εις συσκευασίαν με πλήρεις πλευρές (πλαϊνά) που να το προστατεύουν κατά της προσκρούσεως (δονήσεως).

(βλέπε επίσης Παράρτημα Α, περιθώριο 2001(5)).

- δια του όρου "αέριον" νοείται αέριον ή ατμός·
- δια του όρου "επικίνδυνες ύλες", όταν χρησιμοποιούνται

μόνες, νοούνται οι ύλες και τα είδη που ορίζονται ως ύλες και είδη της ADR· IO IO2 (Συνεχίζεται)

- δια του όρου "RID" νοούνται οι Διεθνείς Κανονισμοί οι διέποντες την Μεταφορά Επικινδύνων Εμπορευμάτων Σιδηροδρομικώς (Παράρτημα Ι της Διεθνούς Συνθήκης της διεπούσης την Μεταφορά Εμπορευμάτων Σιδηροδρομικώς (CIM))·
- δια του όρου "μεταφορά εις χύμα" νοείται η μεταφορά στερεάς ύλης χωρίς συσκευασίαν·
- δια του όρου "CONTAINER" νοείται αντικείμενον εξοπλισμού μεταφοράς (φορτηγό με ανυψωτήρα, λυόμενη δεξαμενή-βυτίο, ή άλλο παρόμοιο κατασκεύασμα)
  - μονίμου χαρακτήρος και κατά συνέπεια αρκετά ισχυρό (γερό) για να είναι κατάλληλο για επανειλημμένη χρήση·
  - ειδικά προορισμένον να διευκολύνει τη μεταφορά εμπορευμάτων, δι'ενός ή περισσοτέρων μέσων μεταφοράς, άνευ θραύσεως του φορτίου·
  - εφοδιασμένον με μηχανισμούς επιτρέποντας τον ευχερή χειρισμόν του, ειδικώτερα εάν γίνει μεταφόρτωσις από ένα μέσο μεταφοράς σε άλλο·
  - έτσι σχεδιασμένον ώστε να είναι εύκολο το γέμισμα και άδειασμα, και έχον εσωτερικόν όγκον όχι μικρότερον του ενός κυβικού μέτρου·
- ο όρος "CONTAINER" δεν καλύπτει συμβατικές συσκευασίες, ή οχήματα, ή TANK CONTAINERS (δεξαμενό-CONTAINERS)·
- δια του όρου "μεγάλο CONTAINER" νοείται CONTAINER έχον εσωτερικόν όγκον όχι μικρότερον του I κυβικού μέτρου και όχι άνω των 3 κυβικών μέτρων·

δια του όρου "μικρό CONTAINER" νοείται CONTAINER έχον IO IO2 εσωτερικόν όγκον όχι μικρότερον του I κυβικού μέτρου (Συνεχίζεται) και όχι μεγαλύτερον των 3 κυβικών μέτρων·

- δια του όρου "δεξαμενο-CONTAINER" νοείται αντικείμενον εξοπλισμού μεταφοράς συμμορφούμενον προς τον ορισμόν του όρου "CONTAINER" τον διδόμενον ανωτέρω και κατασκευασμένον να περιέχει υγρές, αερειώδεις, σχήματος κόκκου ή κόνεως ύλες αλλά έχον χωρητικότητα όχι μεγαλυτέρα των 0.45 κυβικών μέτρων·
- δια του όρου "συστοιχία δοχείων" νοείται συγκρότημα αποτελούμενον από πολλά δοχεία "καλούμενα "στοιχεία") των οποίων η ατομική ή η μέση χωρητικότητα είναι άνω των I50 λιτρών και τα οποία αλληλοσυνδέονται δια σωληνώσεως και είναι μονίμως συναρμολογημένα επί πλαισίου (δια πλαίσια κυλίνδρων αερίου, βλέπε Παράρτημα Α, περιθώριο 22I2(I)(δ))·
- δια του όρου "κυμένη δεξαμενή" νοείται δεξαμενή, πλην της σταθεράς δεξαμενής, πλην της δεξαμενο-CONTAINER ή της συστοιχίας δοχείων, η οποία έχει χωρητικότητα άνω των I.000 λιτρών, δεν προορίζεται δια την μεταφοράν εμπορευμάτων άνευ θραύσεως του φορτίου, και κανονικά δεν μπορεί να χειρισθεί (χρησιμοποιηθεί) ειμή όταν είναι άδεια·
- δια του όρου "Σταθερά δεξαμενή" νοείται δεξαμενή (βυτίο) το οποίον είναι εκ κατασκευής συνδεδεμένο με το όχημα (οπότε γίνεται βυτιοφόρο) ή είναι αναπόσπαστο τμήμα του πλαισίου του τοιούτου οχήματος·
- δια του όρου "δεξαμενή", όταν χρησιμοποιείται μόνη, νοείται δεξαμενο-CONTAINER ή δεξαμενή χωρητικότητος υπερβαί-

νουσας το $Iμ^3$ η οποία μπορεί να είναι σταθερά δεξαμε- ΙΟ ΙΟ2
νή, λυομένη δεξαμενή ή συστοιχεία δοχείων. (Βλέπε, (Συνεχί-
εν τούτοις, περιορισμόν της εννοίας της λέξεως ζεται)
"δεξαμενή" εις τας διατάξεις τας κοινάς των Προσθηκών
Β.Ι, περιθωρίου 200 000 (2))·

- δια του όρου "μονάς μεταφοράς" νοείται αυτοκίνητον χωρίς συνδεδεμένο ρυμουλκούμενο όχημα (τρέϊλερ), ή συνδυασμός αποτελούμενος εξ αυτοκινήτου και συνδεδεμένου ρυμουλκουμένου οχήματος (τρέϊλερ)·
- δια του όρου "κλειστό όχημα" νοείται όχημα έχον αμάξωμα ικανό να κλεισθεί·
- δια του όρου "ανοικτό όχημα" νοείται όχημα η πλατφόρμα του οποίου δεν έχει υπερκατασκεύασμα (χαβαλέ) ή είναι απλώς εφοδιασμένο με πλαϊνά και οπισθία σανίδα·
- δια του όρου "σκεπασμένο όχημα" νοείται ανοικτό όχημα εφοδιασμένο με σκέπασμα δια να προστατεύεται το φορτίο·
- δια του όρου "βυτιοφόρο" νοείται όχημα κατασκευασμένο δια να μεταφέρει υγρά, αέρια, ή ύλες σχήματος κόκκου ή κόνεως και αποτελούμενο από μία ή περισσότερες σταθερές δεξαμενές·
- δια του όρου "συστοιχία-όχημα" νοείται βυτιοφόρο αποτελούμενο από σταθερές δεξαμενές (καλούμενες "στοιχεία") αλληλοσυνδεδμενες δια σωληνώσεως.

(2) Δια την εφαρμογήν του παρόντος Παραρτήματος, αι δεξαμεναί (βλέπε ορισμόν υπό στοιχείον (Ι) ανωτέρω) δεν τοποθετούνται στην ίδια βάση με τα δοχεία (υποδοχείς), του όρου "δοχείον, υποδοχεύς" χρησιμοποιουμένου εν περιοριστική

έννοια. Αι διατάξεις που αφορούν τα δοχεία (υποδοχείς) ισχύουν δια σταθερές δεξαμενές, συστοιχίες δοχείων, λυόμενες δεξαμενές και δεξαμενο-CONTAINERS μόνον εάν τούτο ρητώς συνομολογείται. ΙΟ ΙΟ2 (Συνεχίζεται)

(3) Δια του όρου "πλήρες φορτίο" νοείται οιοδήποτε φορτίο προερχόμενο από έναν αποστολέα, δια το οποίον η χρήσις οχήματος ή μεγάλου CONTAINER φυλάσσεται αποκλειστικώς και όλαι αι εργασίαι φορτώσεως και εκφορτώσεως αι οποίαι εκτελούνται συμφώνως προς τας οδηγίας του αποστολέως ή παραλήπτου (βλέπε περιθώριο ΙΟ Ι08).

(4) Εκτός εάν ρητώς αναφέρεται άλλως, το σύμβολον "%" ή ο όρος "τοις εκατόν" εις το παρόν Παράρτημα αντιπροσωπεύουν:-

(α) προκειμένου περί μιγμάτων στερεών ή υγρών, ως και προκειμένου περί διαλυμάτων και στερεών μουσκεμένων με υγρόν: ποσοστόν βάρους βασιζόμενον επί του ολικού βάρους του μίγματος, του διαλύματος ή του υγροποιηθέντος στερεού·

(β) προκειμένου περί αερειωδών μιγμάτων: ποσοστόν όγκου βασιζόμενον επί του ολικού όγκου του αερειώδους μίγματος.

(5) Άπαντα τα βάρη τα αναφερόμενα δια κόλα του παρόντος Παραρτήματος είναι, εκτός εάν άλλως ορίζωνται, μικτά βάρη. Το βάρος CONTAINERS ή δεξαμενών χρησιμοποιουμένων δια την μεταφοράν εμπορευμάτων δεν συμπεριλαμβάνεται εις το μικτόν βάρος.

(6) Πιέσεις όλων των ειδών αφορώσαι τα δοχεία (όπως

πίεσης δοκιμής, εσωτερική πίεσις, πίεσις ανοίγματος βαλβίδος-ασφαλείας) σημειούνται πάντοτε εις KG/CM^2 δείκτου πιέσεως (πίεσις πέραν της ατμοσφαιρικής πιέσεως)· εν τούτοις, η πίεσις ατμού των υλών εκφράζεται πάντοτε εις KG/CM^2 απολύτου πιέσεως. IO IO2 (Συνεχίζεται)

(7) Οσάκις το Παράρτημα τούτο καθορίζει βαθμόν πληρώσεως δοχείων ή δεξαμενών, ο βαθμός αύτός πληρώσεως αναφέρεται εις θερμοκρασίαν των υλών I5°C εκτός εάν κάποια άλλη θερμοκρασία σημειούται.

IO IO3

Τύποι οχημάτων IO IO4

(I) Μονάς μεταφοράς φορτωμένη με επικίνδυνες ύλες εν καμιά περίπτωσιν μπορεί να συμπεριλάβει περισσότερα του ενός τρέϊλερ ή ημι-τρέϊλερ.

(2) Ειδικές διατάξεις αφορώσας τους τύπους οχημάτων που πρόκειται να χρησιμοποιηθούν δια την μεταφοράν συγκεκριμένων επικινδύνων υλών θα ευρεθούν, όπου ενδείκνυται, εις το Κεφάλαιον II του παρόντος Παραρτήματος (βλέπε επίσης τα περιθώρια τα διέποντα την μεταφοράν εντός CONTAINERS, την μεταφοράν στερεών υλών εις χύμα, την μεταφοράν εντός δεξαμενών, και τας δεξαμενάς).

(3) Κόλα αποτελούμενα εκ συσκευασιών γενομένων από υλικά ευαίσθητα εις την υγρασίαν θα φορτώνονται εις κλειστά ή σκεπασμένα οχήματα.

IO IO5-
IO IO7

Πλήρες φορτίο IO IO8

Οσάκις εφαρμόζονται αι διατάξεις αι διέπουσαι μεταφοράν "πλήρους φορτίου", αι αρμόδιαι αρχαί μπορούν να απαιτήσουν όπως το όχημα ή το μεγάλο CONTAINER το χρησιμοποιούμενο δια την τοιαύτην μεταφοράν φορτωθεί μόνον εις ένα σημείον και εκφορτωθεί μόνον εις ένα σημείον.

IO IO9-
IO II0

Μεταφορά εις χύμα IO III

(I) Στερεές επικίνδυνες ύλες δεν μπορούν να μεταφερθούν εις χύμα εκτός εάν ο τρόπος αυτός της μεταφοράς επιτρέπεται για τις αναφερόμενες ύλες εκ των διατάξεων του Κεφαλαίου II του παρόντος Παραρτήματος, και τότε μόνον συμφώνως προς τούς όρους των διατάξεων αυτών. Παρ'όλον τούτο, μενές συσκευασίες, ακαθάριστες, μπορούν να μεταφερθούν εις χύμα εάν ο τρόπος αυτός δεν απαγορεύεται ρητώς εκ των διατάξεων του Παραρτήματος Α, Μέρος II.

(2) Δια μεταφοράν εις χύμα εντός CONTAINERS, βλέπε περιθώριον IO II8(2) και (5).

IO II2-
IO II7

Μεταφορά εντός CONTAINERS IO II8

Σημείωσις:- Αι διατάξεις που διέπουν την μεταφοράν εντός δεξαμενο-CONTAINERS ευρίσκονται εις τα περιθώρια τα τιτλοφορούμενα "Μεταφορά εντός δεξαμενών".

(I) Η μεταφορά υγρών εντός CONTAINERS εγκρίνεται.

(2) Αι ύλες δεν μπορούν να μεταφέρωνται εις χύμα IO II8
εντός CONTAINERS εκτός εάν η μεταφορά εις χύμα ρητώς επι- (Συνεχί-
τρέπεται (βλέπε περιθώριο IO III)· μικρά CONTAINERS πρέπει ζεται)
να είναι του ηλειστού τύπου και να έχουν πλήρη τοιχώματα.

(3) Τα μεγάλα CONTAINERS πρέπει να πληρούν τους δ-
ρους τους διέποντας το αμάξωμα του οχήματος οι οποίοι δια-
λαμβάνονται εις το παρόν Παράρτημα δια το οποίο απαιτείται·
·το αμάξωμα του οχήματος δεν χρειάζεται τότε να πλη-
ροί τις διατάξεις αυτές.

(4) Υπό την επιφύλαξιν των διατάξεων της τελευταίας
φράσεως της (3) ανωτέρω, το γεγονός ότι επικίνδυνες ύλες
εγκλείονται εις ένα ή περισσότερα CONTAINERS δεν θα επηρεά-
ζει τους όρους που απαιτούνται να πληροί το όχημα λόγω της
φύσεως και των μεταφερομένων ποσοτήτων των επικινδύνων υλών.

(5) Εάν αι επικίνδυνες ύλες αι μεταφερόμεναι εντός
CONTAINER είναι τοιαύτες ώστε, συμφώνως προς το Παράρτημα Α,
μία ή περισσότερες ετικέτες κινδύνου απαιτούνται να τεθούν
εις τα περιέχοντα αυτάς κόλα, η ίδια ετικέτα ή ετικέτες θα
τίθενται εις το εξωτερικόν του CONTAINER του περιέχοντος τις
ύλες αυτές σε κόλα ή χύμα. Εν τούτοις, η ετικέτα No.8 δεν
χρειάζεται να τεθεί εάν το CONTAINER διαθέτει μηχανισμόν ή
επιγραφήν εικονίζουσαν·σαφώς κατά ποίον τρόπον πρέπει να τη-
ρείται ορθιον.

IO II9-
IO I20

Μεταφορά εντός δεξαμενών IO I2I

(I) Οι επικίνδυνοι ύλες μπορούν να μεταφέρωνται

εντός δεξαμενών μόνον εάν ο τρόπος αυτός της μεταφοράς επιτρέπεται ρητώς για τις ύλες αυτές εκ των διατάξεων του Κεφαλαίου ΙΙ του παρόντος Παραρτήματος· η μεταφορά πρέπει τότε να συμμορφούται προς τις διατάξεις του παρόντος Παραρτήματος. Δεξαμενές από ενισχυμένη πλαστική ύλη μπορούν να χρησιμοποιούνται μόνον εάν η χρήσις των ρητώς επιτρέπεται εν Κεφαλαίω ΙΙ. Η θερμοκρασία της μεταφερομένης ύλης δεν θα υπερβαίνει τους 50°C κατά τον χρόνον της πληρώσεως. Βλέπε περιθώριο ΙΟ 500 για το μαρκάρισμα και τις ετικέτες των οχημάτων. ΙΟ Ι2Ι (Συνεχίζεται)

(2) Εάν οι ύλες οι μεταφερόμενες εντός λυομένης δεξαμενής, συστοιχίας δοχείων ή δεξαμενο-CONTAINER είναι τέτοιες ώστε, συμφώνως προς το Παράρτημα Α, μία ή περισσότερες ετικέτες κινδύνου απαιτούνται να τεθούν εις τα περιέχοντα αυτάς κύλα, η ίδια ετικέτα ή ετικέτες θα τίθενται εις το εξωτερικόν της λυομένης δεξαμενής, συστοιχίας δοχείων ή δεξαμενο-CONTAINER. Εν τούτοις, η ετικέτα No.8 δεν χρειάζεται να τεθεί εάν η δεξαμενή διαθέτει μηχανισμόν ή επιγραφήν εικονίζουσαν σαφώς τον τρόπον με τον οποίον πρέπει να τηρείται ορθία.

ΙΟ Ι22-
ΙΟ Ι26

Δεξαμενές ΙΟ Ι27

(Ι) Αι διατάξεις αι διέπουσαι το σχέδιον, επιθεώρησιν, πλήρωσιν και χρήσιν σταθερών δεξαμενών, λυομένων δεξαμενών και συστοιχιών δοχείων, και διάφοροι διατάξεις διέπουσαι τα βυτιοφόρα και την χρήσιν των, ευρίσκονται εις την Προσθήκην Β.Ια και, όσον αφορά το σχέδιον των σταθερών δε-

ξάρενών, λυομένων δεξαμενών και συστοιχιών δοχείων των προοριζομένων δια την μεταφοράν κατεψυγμένων υγροποιημένων αερίων της Κλάσεως 2, ευρίσκονται εις την Προσθήκην Β.Ιδ (δια την έγκρισιν δεξαμενο-οχημάτων (βυτιοφόρων), βλέπε περιθώριον ΙΟ Ι82)). ΙΟ Ι27 (Συνεχίζεται)

(2) Αι διατάξεις αι διέπουσαι την κατασκευήν, είδη εξοπλισμού, έγκρισιν του τύπου, δοκιμάς, μαρκάρισμα, κλπ. δεξαμενο-CONTAINERS ευρίσκονται εις την Προσθήκην Β.Ιβ και, όσον αφορά την κατασκευήν δεξαμενο-CONTAINERS προοριζομένων δια την μεταφοράν βαθειά-κατεψυγμένων υγροποιημένων αερίων της Κλάσεως 2, ευρίσκονται εις την Προσθήκην Β.Ιδ.

(3) Αι διατάξεις αι διέπουσαι την κατασκευήν σταθερών δεξαμενών και λυομένων δεξαμενών δι'ενισχυμένης πλαστικής ύλης ευρίσκονται εις την Προσθήκην Β.Ιγ.

(4) Αι κοιναί των Προσθηκών Β.Ι διατάξεις ευρίσκονται εις περιθώριον 200 000.

(5) Δια τα δοχεία (υποδοχείς), βλέπε Παράρτημα Α.

ΙΟ Ι28-
ΙΟ Ι70

Πληρώματα οχημάτων: Εποπτεία ΙΟ Ι7Ι

(Ι) Οσάκις αι διατάξεις του παρόντος Παραρτήματος αι διέπουσαι ειδικά εμπορεύματα απαιτούν όπως ο οδηγός συνοδεύεται από βοηθόν, ο βοηθός θα πρέπει να είναι ικανός να αντικαταστήσει τον οδηγόν.

(2) Αι διατάξεις του παρόντος περιθωρίου αι διέπουσαι την εποπτείαν (επίβλεψιν) διαρκούντος του χρόνου που το όχημα είναι σταθμευμένο (παρκαρισμένο) έχουν εφαρμογήν

πρόνον θα επικίνδυνες ύλες μεταφερόμενες εις ποσότητες άνω των εξαιρουμένων ορίων. ΙΟ Ι7Ι (Συνεχίζεται)

Μονάδες μεταφοράς μεταφέρουσες επικίνδυνα εμπορεύματα δια τα οποία το εξαιρούμενον όριον είναι μικρότερον των Ι.000 KG θα εποπτεύωνται κατά πάντα χρόνον προς αποφυγήν οιασδήποτε κακόβουλης πράξεως και τηρούν σε επιφυλακή τον οδηγόν και τις αρμόδιες αρχές σε περίπτωση ζημιών ή πυρκαϊάς.

Μονάδες μεταφοράς μεταφέρουσες επικίνδυνα εμπορεύματα για τα οποία το εξαιρούμενον όριον είναι Ι.000 KG και άνω είτε θα εποπτεύωνται είτε εναλλακτικώς θα σταθμεύουν, άνευ εποπτείας εις μεμονωμένην θέσιν εις το ύπαιθρον εις ασφαλές ντεπώ ή ασφαλείς εγκαταστάσεις του εργοστασίου. Εάν τοιαύτες εγκαταστάσεις δεν διατίθενται, η μονάς μεταφοράς, αφού εξασφαλισθεί κανονικώς, μπορεί να σταθμεύει εις μεμονωμένην θέσιν πληρούσαν τους όρους των κατωτέρω παραγράφων (Ι), (ΙΙ) ή (ΙΙΙ). Αι εγκαταστάσεις σταθμεύσεως αι επιτρεπόμενες εις παράγραφον (ΙΙ) θα χρησιμοποιούνται μόνον εάν αι περιγραφόμενες εις παράγραφον (Ι) δεν διατίθενται, και αι περιγραφόμενες εν παράγράφω (ΙΙΙ) δύνανται να χρησιμοποιηθούν μόνον εάν αι εγκαταστάσεις αι περιγραφόμενες εις τας παραγράφους (Ι) και (ΙΙ) δεν διατίθενται.

(Ι) Χώρος σταθμεύσεως οχημάτων επιβλεπόμενος υπό προσώπου εις το οποίον έχει γίνει γνωστή η φύσις του φορτίου και που ευρίσκεται ο οδηγός.

(ΙΙ) Δημόσιος ή ιδιωτικός χώρος σταθμεύσεως οχημάτων όπου η μονάς μεταφοράς δεν πρόκειται να υποστεί

ζημίας από άλλα οχήματα, ή IO I7I (Συνεχίζεται)

(III) Κατάλληλος υπαίθριος χώρος διαχωρισμένος από την δημοσίαν εθνικήν οδόν και οικισμόν, όταν το ποινόν κανονικώς δεν διέρχεται ή συγκεντρούται.

Μεταφορά επιβατών IO I72

Επιβάτες μη-μέλη του πληρώματος του οχήματος δεν θα μεταφέρωνται δια μονάδων μεταφοράς μεταφερουσών επικίνδυνες ύλες.

IO I73-

IO I80

Έγγραφα μεταφοράς IO I8I

(I) Επιπροσθέτως των εγγράφων των προβλεπομένων δυνάμει ετέρων διατάξεων, τα κατωτέρω έγγραφα θα μεταφέρωνται επί της μονάδας μεταφοράς:

(α) τα έγγραφα μεταφοράς τα προβλεπόμενα εν Παραρτήματι Α, περιθωρίων 2002(3) και (4), τα καλύπτοντα όλων των μεταφερομένων επικινδύνων εμπορευμάτων· και

(β) οδηγίες, ως προβλέπονται εν περιθωρίω IO I85, αφορώσας όλας τας μεταφερομένας επικινδύνους ύλας.

(2) Οσάκις αι διατάξεις του παρόντος Παραρτήματος απαιτούν την σύνταξιν των παραπάνω εγγράφων, τα αναφερόμενα εγγραφα θα μεταφέρωνται ομοίως επί της μονάδας μεταφοράς:-

(α) το ειδικό πιστοποιητικό εγκρίσεως το αναφερόμενο εις το περιθώριο IO I82, φιλελεύθερον όχημα· και

(β) την άδειαν εξουσιοδοτούσαν την επιχείρησιν της μεταφοράς.

Έγκρισις οχημάτων IO I82

(I) Βυτιοφόρα και, και οσάκις τούτο αιτείται εκ των διατάξεων του Κεφαλαίου II του παρόντος Παραρτήματος, όχημα οχήματα, θα υποβάλωνται εις τεχνικήν επιθεώρησιν εις την χώραν της εγγραφής των δια να εξασφαλίζεται το γεγονός ότι συμμορφούνται προς τας διατάξεις του παρόντος Παραρτήματος, συμπεριλαμβανομένων των Προσθηκών αυτού και των ποινικών περί ασφαλείας κανονισμών (συμπεριλαμβανομένων των φρένων, φωτισμού κλπ.) των ισχυόντων εις την χώραν της προελεύσεώς των· εάν τα οχήματα αυτά είναι ρυμουλκούμενα (τρέϊλερς) ή ημι-ρυμουλκούμενα (SEMI-TRAILERS) τα οποία ζευγνύονται όπισθεν σύροντος αυτά οχήματος, το σύρον όχημα θα υποβάλεται εις επιθεώρησιν δια τους αυτούς σκοπούς.

(2) Ειδικόν πιστοποιητικόν εγκρίσεως θα εκδίδεται υπό της αρμοδίας αρχής της χώρας της εγγραφής δι'έκαστον όχημα η επιθεώρησις του οποίου παρέχει ικανοποιητικά αποτελέσματα. Τούτο θα συντάσσεται εις την γλώσσα ή εις μία των γλωσσών της εκδιδούσης τούτο χώρας, και επίσης, εάν η γλώσσα αυτή δεν είναι η Αγγλική, ή η Γαλλική, ή η Γερμανική, εις την Αγγλικήν, Γαλλικήν ή Γερμανικήν, εκτός εάν συμβάσεις συναφθείσας μεταξύ των χωρών για τας οποίας πρόκειται και αφορώσας επιχειρήσεις μεταφοράς προβλέπουν άλλως. Τούτο θα συμμορφούται προς το μοντέλλο το εικονιζόμενο εις την Προσθήκην Β.3.

(3) Ειδικόν πιστοποιητικόν εγκρίσεως εκδιδόμενον υπό των αρμοδίων αρχών ενός Συμβαλλομένου Μέρους δι'όχημα εγγεγραμμένον εις την επικράτειαν του Συμβαλλομένου τούτου Μέρους θα γίνεται δεκτόν, εφ'όσον εξακολουθεί η ισχύς του, υπό των

αρμοδίων αρχών των ετέρων Συμβαλλομένων Μερών. ΙΟ Ι82

(4) Η ισχύς των ειδικών πιστοποιητικών εγκρίσεως θα εκπνέει όχι βραδύτερον του ενός έτους από της ημερομηνίας της τεχνικής επιθεωρήσεως του οχήματος που προηγείται της εκδόσεως του πιστοποιητικού. Εν τούτοις, προκειμένου περί δεξαμενών που υποβάλλονται εις αναγκαστικήν περιοδικήν επιθεώρησιν η παρούσα διάταξις δεν θα απαιτεί αι δοκιμαί στεγανότητας, υδραυλικής πιέσεως ή αι εσωτερικαί επιθεωρήσεις των δεξαμενών (βυτίων) να διεξάγωνται εις χρονικά διαστήματα βραχύτερα των αναφερομένων εις την Προσθήκην Β.Ια και Β.Ιγ. (Συνεχίζεται) ΙΟ Ι83-ΙΟ Ι84

Γραπτές οδηγίες ΙΟ Ι85

(Ι) Ως μέτρον προφυλάξεως κατά οιουδήποτε ατυχήματος ή καταστάσεως επειφούσης ανάγκης που ενδέχεται να συμβούν διαρκούσης της μεταφοράς, θα δίδωνται εις τον οδηγόν γραπτές οδηγίες καθορίζουσαι:-

(α) την φύσιν του κινδύνου του ενυπάρχοντος εις υπό μεταφοράν επικινδύνους ύλας, και τα μέτρα ασφαλείας τα οποία πρέπει να ληφθούν προς αποτροπήν αυτού·

(β) τα μέτρα που πρέπει να ληφθούν και την θεραπείαν δια πρόσωπα που ήλθον εις επαφήν με τα μεταφερόμενα εμπορεύματα ή με οιεσδήποτε ύλες που ενδέχεται να διέφυγαν από αυτά·

(γ) τα μέτρα που πρέπει να ληφθούν εις την περίπτωσιν

πυρκαϊάς και, ειδικώτερον, τον πυροσβεστικόν εξοπλισμόν ή τον εξοπλισμού ο οποίος δεν θα πρέπει να χρησιμοποιηθεί· Ι0 Ι85 (Συνεχίζεται)

(δ) τα μέτρα που πρέπει να ληφθούν σε περίπτωση θραύσεως ή φθοράς συσκευασιών ή των μεταφερομένων επικινδύνων υλών, ειδικώτερον όσάκις τοιαύτες επικίνδυνες ύλες έχουν χυθεί εις τόν δρόμον.

(2) Αι οδηγίες αυτές θα πρέπει να ετοιμάζωνται (συντάσσωνται)/βιβλίον επικίνδυνον ύλην ή Κλάσιν επικινδύνων υλών υπό του κατασκευαστού ή του αποστολέως, εις γλώσσαν της χώρας της προελεύσεως· οσάκις η γλώσσα αυτή δεν είναι η ίδια με την γλώσσα των χωρών τράζιτ ή προορισμού, αι οδηγίες θα πρέπει να συντάσσωνται επίσης εις την γλώσσα των χωρών αυτών. Μία σειρά των οδηγιών αυτών θα πρέπει να τηρείται εις την θέσιν του οδηγού.

(3) Αι οδηγίες αυτές θα δίδωνται εις τον μεταφορέα το βραδύτερον όταν η εντολή μεταφοράς δοθεί, ώστε να δύναται αυτός να λάβει άπαντα τα απαραίτητα μέτρα και εξασφαλισθεί ότι οι περί ων πρόκειται υπάλληλοι έχουν λάβει γνώσιν των οδηγιών αυτών και είναι ικανοί να εκτελέσουν αυτές αποδοτικώς.

Ι0 Ι86-
Ι0 Ι99

Άρθρο 2

Ειδικοί όροι τους οποίους πρέπει να πληρούν τα οχήματα και ο εξοπλισμός τους

ΙΟ 200-

ΙΟ 2Ι5

Οπισθία προστασία οχημάτων μεταφερόντων σταθερές δεξαμενές (βυτία), λυόμενες δεξαμενές ή συστοιχίες δοχείων ΙΟ 2Ι6

Προφυλακτήρας επαρκώς ανθεκτικός σε οπίσθιες προσκρούσεις θα εφαρμόζεται καθ'όλον το πλάτος της δεξαμενής (βυτίου) εις το πίσω μέρος του οχήματος. Θα πρέπει να υπάρχει διάκενο τουλάχιστον ΙΟΟ ΜΜ (χιλιοστών) μεταξύ του οπισθίου τοιχώματος της δεξαμενής (βυτίου) και του πίσω μέρους του προφυλακτήρα, το διάκενο τούτο θα μετράται εκ του ακραίου οπισθίου σημείου του τοιχώματος της δεξαμενής (βυτίου) ή εκ προεξεχόντων εξαρτημάτων ή παρακολουθημάτων ερχομένων εις επαφήν με την μεταφερομένην ύλην.

ΙΟ 2Ι7-

ΙΟ 239

Πυροσβεστικές συσκευές ΙΟ 240

(Ι) Κάθε μονάδα μεταφοράς μεταφέρουσα επικίνδυνες ύλες θα είναι εφοδιασμένη με

(α) τουλάχιστον ένα φορητόν πυροσβεστήρα καταλλήλου ολικής χωρητικότητας, κατάλληλον διά την καταπολέμησιν του πυρός εις τον κινητήρα ή εις οιονδήποτε έτερον μέρος της μονάδος μεταφοράς, και τοιούτου ώστε, εάν χρησιμοποιηθεί διά καταπολέμησιν

πυρκαϊάς στο φορτίο, να μην επιδεινώνει το πύρ και, ει δυνατόν να το ελέγχει· εν τούτοις, εάν το όχημα είναι εφωδιασμένον με σταθερόν (στερεωμένον) πυροσβεστήρα, αυτομάτως ή ευχερώς τιθέμενον εις κίνησιν, δια κατάσβεσιν πυρκαϊάς εις τον κινητήρα, ο φορητός πυροσβεστήρας δεν χρειάζεται να είναι κατάλληλος δια την κατάσβεσιν πυρκαϊάς εις τον κινητήρα· IO 240 (Συνεχίζεται)

(β) επιπροσθέτως του εν (α) παραπέρω προβλεπομένου εξοπλισμού, τουλάχιστον ένα φορητόν πυροσβεστήρα επαρκούς ολικής χωρητικότητος, κατάλληλον δια την κατάσβεσιν πυρκαϊάς εις το φορτίο, και τοιούτον ώστε, εάν χρειασθεί να χρησιμοποιηθεί δια την κατάσβεσιν πυρκαϊάς εις τον κινητήρα ή εις οιονδήποτε έτερον μέρος της μονάδος μεταφοράς, να μην επιδεινώνει το πυρ και, ει δυνατόν να το ελέγχει·

(2) Οι πυροσβεστικοί άγοντες οι περιεχόμενοι εις τους πυροσβεστήρες με τους οποίους μία μονάς μεταφοράς είναι εφοδιασμένη θα είναι τοιούτοι ώστε να μην απελευθερώνουν τοξικά αέρια εις την θέσιν του οδηγού ή να είναι υπό την επίδρασιν της θερμότητας του πυρός.

(3) Οσάκις μονάς μεταφοράς περιλαμβάνει ρυμουλκούμενον όχημα (τρέϊλερ) το οποίον δεν είναι συζευγμένον αλλά έχει αφεθεί εις την δημοσίαν εθνικήν οδόν, εις απόστασιν από το ρυμουλκούν όχημα, το ρυμουλκούμενο όχημα (τρέϊλερ) πρέπει να είναι εφωδιασμένο με τουλάχιστον ένα πυροσβεστήρα συμμορφούμε-

νον προς τας διατάξεις του εδαφίου (Ι)(β) του παρόντος περιθωρίου.

ΙΟ 24Ι-
ΙΟ 250

Ηλεκτρικός εξοπλισμός ΙΟ 25Ι

Αι διατάξεις οι διέπουσες τον ηλεκτρικόν εξοπλισμόν οχημάτων μεταφερόντων διάφορες επικινδυνότητας ύλες ευρίσκονται εις την Προσθήκην Β.2.

ΙΟ 252-
ΙΟ 259

Διάφορος εξοπλισμός ΙΟ 260

(Ι) Κάθε μονάδα μεταφοράς μεταφέρουσα επικίνδυνα εμπορεύματα θα είναι εφοδιασμένη με:-

(α) κιβώτιον εργαλείων (εργαλειοθήκη) και επισκευές επειγούσης ανάγκης εις το όχημα·

(β) ένα έναστον όχημα, τουλάχιστον ένας τάκος μεγέθους καταλλήλου με το βάρος του οχήματος και την διάμετρο των τροχών·

(γ) δύο κίτρινα φώτα (σημάτων τροχαίας). Τα φώτα αυτά θα είναι ανεξάρτητα του ηλεκτρικού εξοπλισμού του οχήματος και θα είναι έτσι σχεδιασμένα ώστε η χρήσις των να μη μπορεί να προκληθεί ανάφλεξις των μεταφερομένων εμπορευμάτων· θα είναι σταθερά ή φωτεινά (ακτινοβολούντα).

(2) Αι διατάξεις του εδαφίου (Ι)(γ) του παρόντος περιθωρίου δεν θα έχουν εφαρμογήν εις την επικράτειαν του Ηνωμένου Βασιλείου.

ΙΟ 261-

ΙΟ 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

ΙΟ 300-

ΙΟ 339

Πυροσβεστικές συσκευές ΙΟ 340

Το πλήρωμα του οχήματος πρέπει να γνωρίζει την χρήσιν των πυροσβεστικών συσκευών.

ΙΟ 341-

ΙΟ 352

Φορητή συσκευή φωτισμού ΙΟ 353

Εις το όχημα δεν θα μπαίνουν άτομα τα οποία θα μεταφέρουν συσκευήν φέρουσαν φλόγα. Επιπροσθέτως, η συσκευή φωτισμού δεν θα εκθέτει οιανδήποτε μεταλλική επιφάνεια υποκειμένην εις την δημιουργίαν σπινθήρων.

ΙΟ 354-

ΙΟ 373

Απαγόρευση καπνίσματος ΙΟ 374

Το κάπνισμα θα απαγορεύεται κατά τας εργασίας χειρισμού, εγγύς των κόλων των αναμενόντων χειρισμόν, εγγύς σταθμευμένων οχημάτων, και εις το εσωτερικόν των οχημάτων.

ΙΟ 375-

ΙΟ 399

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Άρθρο 4

Ειδικές διατάξεις για φόρτωση, εκφόρτωση και χειρισμό

IO 400

Περιορισμός των μεταφερομένων ποσοτήτων IO 401

Το γεγονός ότι επικίνδυνες ύλες εγκλείονται εις ένα ή περισσότερα CONTAINERS δεν θα επηρεάζει τους εις βάρος περιορισμούς τους προβλεπομένους υπό του παρόντος Παραρτήματος αναφορικώς με μεταφοράν εντός ενός οχήματος ή εντός μιάς μονάδος μεταφοράς.

IO 402

Απαγόρευση μικτής φορτώσεως ενός οχήματος IO 403

Εκτός εάν το αντίθετον ρητώς προβλέπεται υπό των διατάξεων του Άρθρου 4 του Κεφαλαίου II του παρόντος Παραρτήματος, αι απαγορεύσεις μικτής φορτώσεως εις ένα δχημα δεν θα έχουν εφαρμογήν βια αποστολές εμπορευμάτων συσκευασμένων καθ' όν τρόπον επιτρέπεται υπό των διατάξεων μικτής συσκευασίας των περιεχομένων εις το Παράρτημα Α.

Η συμμόρφωσις προς τας απαγορεύσεις μικτής φορτώσεως θα βασίζεται επί των ετικετών κινδύνου της Προσθήκης Α.9, αι οποίαι θα τοποθετούνται εις κόλα συμφώνως προς τας διατάξεις των διαφόρων Κλάσεων του Παραρτήματος Α.

Απαγόρευση μικτής φορτώσεως ενός CONTAINER IO 404

Αι απαγορεύσεις μικτής φορτώσεως ενός οχήματος θα τηρούνται επίσης εντός εκάστου CONTAINER.

Απαγόρευση μικτής φορτώσεως με εμπορεύματα περιεχόμενα σε CONTAINER IO 405

Προς τον σκοπόν της εφαρμογής των απαγορεύσεων μικτής φορτώσεως επί ενός οχήματος, δεν θα λαμβάνονται υπόψη οι

όλες οι περιεχόμενες σε κλειστά CONTAINERS με πλήρεις πλευρές.

ΙΟ 406-

ΙΟ 4Ι2

Καθάρισμα προ της φορτώσεως ΙΟ 4Ι3

Όλες αι διατάξεις του παρόντος Παραρτήματος αι οποίες αναφέρονται εις το καθάρισμα των οχημάτων προ της φορτώσεως θα ισχύουν επίσης και για το καθάρισμα των CONTAINERS.

Χειρισμός και στοιβασία ΙΟ 4Ι4

(Ι) Τα διάφορα συστατικά μέρη φορτίου αποτελουμένου από επικίνδυνες ύλες θα είναι καταλλήλως στοιβαγμένα επί του οχήματος και σφηνωμένα με κατάλληλα μέσα ώστε να αποφεύγεται η με οιονδήποτε τρόπον μετατόπισις αυτών μεταξύ των και προς τα τοιχώματα του οχήματος.

(2) Εάν το φορτίον αποτελείται από εμπορεύματα διαφόρων κατηγοριών τα κόλα των επικινδύνων υλών θα διαχωρίζονται από τα άλλα κόλα.

(3) Όλες αι διατάξεις του παρόντος Παραρτήματος αι οποίες αναφέρονται εις την φόρτωσιν και εκφόρτωσιν οχημάτων και εις την στοιβασίαν και τον χειρισμόν υλών θα έχουν επίσης εφαρμογήν εις την φόρτωσιν, στοιβασίαν και εκφόρτωσιν των CONTAINERS επί, εις και από τα οχήματα.

(4) Τίποτε δεν πρέπει να φορτώνεται επάνω από εύθραστο κόλον.

(5) Ο οδηγός ή βοηθός οδηγού δεν πρέπει να ανοίγει κόλον περιέχον επικινδύνους ύλες.

Καθάρισμα μετά την εκφόρτωση ΙΟ 4Ι5

(Ι) Εάν, όταν ένα όχημα το οποίον έχει φορτωθεί με

συσκευασμένες επικίνδυνες ύλες ξεφορτώνεται, μερικό από το περιεχόμενο ευρίσκεται να έχει διαφύγει από τις συσκευασίες, το όχημα θα καθαρίζεται ευθύς ως είναι δυνατόν και εν πάση περίπτώσει προ της εκ νέου φορτώσεως. IO 4I5 (Συνεχίζεται)

(2) Οχήματα τα οποία έχουν φορτωθεί με επικίνδυνες ύλες εις χύμα θα καθαρίζωνται καταλλήλως προ της εκ νέου φορτώσεως, εκτός εάν το νέον φορτίον αποτελείται εκ της αυτής επικινδύνου ύλης με το προηγούμενον φορτίον ύλης.

(3) Όλες αι διατάξεις του παρόντος Παραρτήματος αι οποίες αναφέρονται εις το καθάρισμα ή την απολύμανσιν των οχημάτων θα έχουν επίσης εφαρμογήν δια το καθάρισμα ή απολύμανσιν των CONTAINERS.

IO 4I6-
IO 4I8

Φόρτωση και εκφόρτωση επικινδύνων υλών σε CONTAINERS IO 4I9

Αι διατάξεις του παρόντος Παραρτήματος αι οποίες αναφέρονται εις την φόρτωσιν και εκφόρτωσιν οχημάτων και την στοιβασίαν και χειρισμόν επικινδύνων υλών θα έχουν επίσης εφαρμογήν εις την φόρτωσιν και εκφόρτωσιν επικινδύνων υλών σε CONTAINERS.

IO 420-
IO 430

Λειτουργία του κινητήρα (μηχανής) κατά τη φόρτωση και εκφόρτωση IO 43I

Εκτός οσάκις ο κινητήρας (μηχανή) πρόκειται να χρησιμοποιηθεί για να θέσει σε κίνηση αντλίες ή έτερους μηχανισμούς για τη φόρτωση ή εκφόρτωση του οχήματος και οι νόμοι

της χώρας εις την οποίαν το όχημα κινείται επιτρέπουν την τοιαύτην χρήσιν, ο κινητήρας (μηχανή) θα είναι σβυσμένος κατά τας εργασίας φορτώσεως και εκφορτώσεως. ΙΟ 431 (Συνεχίζεται)

ΙΟ 432-
ΙΟ 499

Άρθρο 5

Ειδικές διατάξεις για τη λειτουργία των οχημάτων

Σήματα Οχημάτων ΙΟ 500

(Ι) Αι μονάδες μεταφοράς αι μεταφέρουσαι τας επικινδύνους ύλας τας οριζομένας εις τα περιθώρια ... 500 θα διαθέτουν δύο ορθογώνιες ανακλαστικές πορτοκαλί-χρώματος πλάκες, βάσεως 40 CM και ύψους όχι μικροτέρου των 30 CM, τοποθετημένες σε κάθετο επίπεδο. Οι πλάκες θα έχουν μαύρο πλαίσιο (περιθώριο), πλάτους όχι μεγαλυτέρου των 15 MM. Θα είναι τοποθετημένες μία εις το πρόσθιον τμήμα και μία εις το οπίσθιον τμήμα της μονάδας μεταφοράς, και αι δύο καθέτως του επιμήκους άξονος της μονάδας μεταφοράς. Θα είναι ευκρινώς ορατές.

Σημείωσις.- Το χρώμα των πορτοκαλί πλακών υπό συνθήκες κανονικής χρήσεως δέον να έχει συντεταγμένες ποιότητας χρώματος (CHROMATICITY CO-ORDINATES) κειμένες εντός της ζώνης του διαγράμματος ποιότητας χρώματος που σχηματίζεται δι' ενώσεως των κατωτέρω συντεταγμένων:-

Συντεταγμένες ποιότητας χρώματος (CHROMATICITY CO-ORDINATES) σημείων στις γωνίες της ζώνης του εν λόγω διαγράμματος				
X	0.52	0.52	0.578	0.618
Y	0.38	0.40	0.422	0.38

Παράγων φωτεινότητας του ανακλαστικού χρώματος: Β 0.12 10 500 (Συνεχίζεται)
Κέντρον αναφοράς Ε, Πρότυπον Διαφωτιστικόν C, κανονική γωνία προσπτώσεως 45° και θεωμένη (VIEWED) εις 0°.

Συντελεστής εντάσεως ανακλαστικού φωτισμού εις γωνίαν φωτισμού 5°, θεωμένην (VIEWED) εις 0.2°: όχι κάτω των 20 ηρίων ανά λούξ (μονάς φωτός) ανά μ^2.

(2) Μονάδες μεταφοράς με σταθερές δεξαμενές μεταφέρουσες μόνον μία των υλών των αναφερομένων εις την Προσθήκην Β.5 θα διαθέτουν πλάκες χρώματος-πορτοκαλί ως προβλέπεται ανωτέρω, επί των οποίων οι αριθμοί αναγνωρίσεως οι εικονιζόμενοι εις την ανωτέρω Προσθήκην θα εμφανίζωνται.

(3) Εν τούτοις, όταν δύο διαφορετικές ύλες μεταφέρονται εντός μονάδας μεταφοράς αποτελουμένης εκ βυτιοφόρου ρυμουλκούντος δεξαμενο-ρυμουλκούμενον όχημα (TANK-TRAILER), το όχημα και το ρυμουλκούμενον όχημα θα διαθέτουν έκαστον τόσον εις το πρόσθιον όσον και εις το οπίσθιον μέρος αυτών πλάκα χρώματος πορτοκαλί φέρουσα τους αντιστοίχους αριθμούς αναγνωρίσεως των μεταφερομένων υλών.

(4) Όταν ένας αριθμός διαφορετικών υλών μεταφέρεται επί βυτιοφόρου εις χωριστάς δεξαμενές (βυτία) ή διαμερίσματα δεξαμενών, πλάκες χρώματος πορτοκαλί εντελώς όμοιες με τις περιγραφόμενες εις την παράγραφον (Ι), τοποθετημένες παραλλήλως του επιμήκους άξονος του οχήματος και φέρουσαι τους ενδεδειγμένους αριθμούς αναγνωρίσεως, θα εκτίθενται στις πλευρές εκάστου βυτίου (δεξαμενής) ή διαμερίσματος-δεξαμενής ώστε να είναι ευκρινώς ορατές. Στη περίπτωση αυτή οι πλάκες οι προβλεπόμενες στην παράγραφο (Ι) ανωτέρω ουδένα

αριθμόν θα εκθέτουν. IO 500

(Συνεχίζεται)

(5) Οι αριθμοί αναγνωρίσεως θά είναι κατασκευασμένοι με μαύρα ψηφία ύψους IOO MM (χιλιοστών) και πάχους πινελιάς I5 MM. Ο αριθμός αναγνωρίσεως κινδύνου (HAZARD_IDENTIFICATION) θα εγγράφεται εις το άνω μέρος της πλάκας και ο αριθμός αναγνωρίσεως της ύλης (SUBSTANCE_IDENTIFICATION) εις το κάτω μέρος· θα διαχωρίζωνται με οριζόντια μαύρη γραμμή, πλάτους πινελιάς I5 MM (χιλιοστών), εκτεινομένη από πλευράν εις πλευράν της πλάκας εις το μέσον ύψος (βλέπε Προσθήκην Β.5). Οι αριθμοί αναγνωρίσεως θα είναι ανεξίτηλοι και θα παραμένουν ευανάγνωστοι μετά από I5-λεπτον βύθισμά τους εις το πύρ.

(6) Αι ανωτέρω διατάξεις ισχύουν επίσης για κενές, καθαρισταις και μη-απαερωθείσες δεξαμενές (βυτία). Μετά την εκφόρτωσιν των επικινδύνων υλών και τον καθαρισμόν και απαερισμόν των δεξαμενών, αι πορτοκαλί χρώματος πλάκες δεν θα είναι του λοιπού ορατές.

(7) Τα βυτιοφόρα οφείλουν επίσης να φέρουν εις αμφότερες τις πλευρές και εις το πίσω μέρος τις ετικέτες τις προβλεπόμενες υπό του Άρθρου 5 δι' εκάστην Κλάσιν.

IO 50I-

IO 502

<u>Στάθμευση (παρκάρισμα) εν γένει</u> IO 503

Καμμία μονάδα μεταφοράς μεταφέρουσα επικίνδυνες ύλες μπορεί να σταθμεύει χωρίς να έχει πεδήσει.

IO 504

Στάθμευση (παρκάρισμα) τη νύκτα ή όταν η ορατότητα είναι μικρή IO 505

(I) Εάν όχημα σταθμεύσει (παρκάρει) τη νύκτα, ή όταν η ορατότης είναι μικρή, και τα φώτα του δεν λειτουργούν, τα κίτρινα φώτα (σημάτων τροχαίας), τα αναφερόμενα εις το περιθώριον IO 260 (I)(γ) θα τοποθετηθούν επί του δρόμου,

το ένα περίπου IO μ. έμπροσθεν του οχήματος,

και το άλλο περίπου IO μ. όπισθεν του οχήματος.

(2) Αι διατάξεις του παρόντος περιθωρίου δεν θα ισχύουν εις την επιφάτειαν του Ηνωμένου Βασιλείου.

IO 506

Στάθμευση οχήματος παρουσιάζοντος ειδικόν κίνδυνον IO 507

Επιφυλασσομένων των μέτρων των προβλεπομένων εις περιθώριον IO 505 ανωτέρω, εάν η φύσις των επικινδύνων υλών των μεταφερομένων εις το σταθμευμένο (παρκαρισμένο) όχημα αποτελεί πηγήν ειδικού κινδύνου δια τους χρήστες του δρόμου (π.χ. προκειμένου περί υλών επικινδύνων δια τους πεζούς, ζώα ή οχήματα χυμένων εις τον δρόμον) και το πλήρωμα του οχήματος αδυνατεί να εξαλείψει τον κίνδυνον ταχέως, ο οδηγός οφείλει να ειδοποιήσει ή μεριμνήσει όπως ειδοποιηθούν και τεθούν εν επιφυλακή πάραυτα αι πλησιέστεραι αρμόδιαι αρχαί. Επίσης, εάν χρειασθεί, θα λάβει τα μέτρα τα προβλεπόμενα μέτρα των οδηγιών των οριζομένων εις το περιθώριον IO I85.

IO 508-

IO 598

Άλλες διατάξεις IO 599

Ως προς διατάξεις μη συμπεροληφθείσας εις το παρόν Κεφάλαιον ή το Κεφάλαιον II του παρόντος Παραρτήματος που αφορούν την λειτουργίαν οχημάτων μεταφερόντων επικίνδυνα εμπορεύματα, τα οικεία μέτρα τα υιοθετηθέντα εις την σφαίραν αυτήν υπό εκάστου Συμβαλλομένου Μέρους επί τη βάσει της εσωτερικής του νομοθεσίας και αφορώντα την εις το εσωτερικόν μεταφοράν θα ισχύουν επί διεθνούς μεταφοράς χρησιμοποιούσης την επικράτειάν του.

Άρθρο 6

Μεταβατικές διατάξεις, ανακλήσεις, και διατάξεις ειδικές για ωρισμένες χώρες

IO 600-

IO 601

Ταχεία διαδικασία για εξουσιοδότηση ανακλήσεων προς τον σκοπόν διεξαγωγής δοκιμών IO 602

Προς τον σκοπόν της διεξαγωγής των απαραιτήτων δοκιμών για την τροποποίησιν των διατάξεων του παρόντος Παραρτήματος προσαρμοσθούν (προσαρμοσθούν) αύται εις τεχνολογικάς και βιομηχανικάς αναπτύξεις, αι αρμόδιαι αρχαί των Συμβαλλομένων Μερών μπορούν να συμφωνήσουν απ'ευθείας μεταξύ των να εξουσιοδοτήσουν ωρισμένας επιχειρήσεις μεταφοράς εις τις επικράτειές των διά προσωρινής ανακλήσεως των διατάξεων του παρόντος Παραρτήματος. Η αρχή η οποία ανέλαβε τη πρωτοβουλία σχέσει με την έγκρισιν της τοιαύτης ανακλήσεως οφείλει να ειδοποιήσει την αρμοδίαν υπηρεσίαν της Γραμματείας των Ηνωμένων Εθνών περί της ανακλήσεως, η οποία υπηρεσία θα την θέσει υπόψη των Συμβαλλομένων Μερών.

IO 603-

IO 999

Κεφάλαιο ΙΙ

ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΤΗΝ ΜΕΤΑΦΟΡΑΝ ΕΠΙΚΙΝΔΥΝΩΝ ΥΛΩΝ ΚΛΑΣΕΩΝ Ι έως 8

Κλάσεις Ια.- Εκρηκτικές ύλες και αντικείμενα

Ιβ.- Αντικείμενα γεμισμένα με εκρηκτικές ύλες

Ιγ.- Αναφλεκτήρες, πυροτεχνήματα και παρεμφερή εμπορεύματα

Άρθρο Ι

Γενικά

ΙΙ 000-
ΙΙ 103

Τύποι οχημάτων ΙΙ 104

(Βλέπε επίσης περιθώρια ΙΙ 105 και ΙΙ 106)

Επικίνδυνες ύλες των Κλάσεων Ια, Ιβ και Ιγ μπορούν να μεταφέρονται μόνον σε κλειστά οχήματα ή σε οχήματα σκεπασμένα στα οποία υπάρχουν πλαϊνά και οπίσθια σανίδα. Το σκέπασμα του σκεπασμένου οχήματος πρέπει να είναι από αδιαπέραστο υλικό όχι ευχερώς εύφλεκτο. Θα πρέπει να τεντώνεται εις τρόπον ώστε να καλύπτει το όχημα σ'όλες τις πλευρές, και να εξέχει όχι λιγότερο των 20 CM (εκ.) κάτω των πλευρών του οχήματος, και να τηρείται στη θέση του με δυνάμενες να κλειδώνουν μεταλλικές μπάρες ή αλυσίδες.

Κατηγορίες οχημάτων II 105

Δια την εφαρμογήν του παρόντος Παραρτήματος, μονάδες μεταφοράς εξουσιοδοτημένες να μεταφέρουν επικίνδυνες ύλες των Κλάσεων Ια, Ιβ και Ιγ ταξινομούνται ως εξής :-

(1) Μονάδες Μεταφοράς "Α": Μονάδες Μεταφοράς των οποίων οι κινητήρες χρησιμοποιούν υγράν καύσιμον ύλην με σημείον αναφλέξεως κάτω των 55°C.

(2) Μονάδες Μεταφοράς "Β": Μονάδες Μεταφοράς των οποίων οι κινητήρες χρησιμοποιούν υγράν καύσιμον ύλην με σημείον αναφλέξεως 55°C και άνω· η κατηγορία αυτή "Β" περιλαμβάνει τις εξής υπο-κατηγορίες:-

(α) Μονάδες Μεταφοράς "Β.Ι":

Αυτές είτε δεν έχουν ρυμουλκούμενο όχημα είτε έχουν ρυμουλκούμενο όχημα πληρούν τους εξής όρους:-

ο μηχανισμός συζεύξεως μπορεί να λυθεί αμέσως και είναι γερός· και

εφοδιασμένον με αποτελεσματικόν μηχανισμόν πεδήσεως ενεργούντα επί όλων των τροχών, τιθέμενον εις λειτουργίαν υπό του χειριστηρίου πέδης του ρυμουλκούντος οχήματος, και ακινητοποιούντα αυτομάτως το ρυμουλκούμενον όχημα εν περιπτώσει θραύσεως της συζεύξεως.

(β) Μονάδες Μεταφοράς "Β.ΙΙ":

Αυτές έχουν τα εξής χαρακτηριστικά επιπροσθέτως εκείνων της υπο-κατηγορίας "Β.Ι":

I.- Κινητήρας και Σύστημα Εξαγωγής

Ο κινητήρας και το σύστημα εξαγωγής II 105
είναι τοποθετημένα έμπροσθεν του προσθίου τοιχώ(Συνεχίζεται)
ματος του πήγματος (καρότσας). Η έξοδος του σωλήνος εξαγωγής βγαίνει έξω από τό όχημα.

2.- Δεξαμενή Καύσιμης Ύλης

Η δεξαμενή καύσιμης ύλης είναι τοποθετημένη αρκετά μακράν του κινητήρα, της ηλεκτρικής συνδεσμολογίας και της σωληνώσεως αερίων εξαγωγής (καυσαερίων), και κατά τέτοιο τρόπο ώστε σε περίπτωση διαρροής εκ της δεξαμενής η καύσιμος ύλη να εκκενούται απ'ευθείας εις το έδαφος και να μη μπορεί να φθάσει το φορτίο των εκρηκτικών. Η δεξαμενή καυσίμου είναι αρκετά μακράν του συσσωρευτού (μπαταρίας), ή τουλάχιστον διαχωρίζεται αυτής με στεγανό χώρισμα. Τοποθετείται έτσι ώστε να προστατεύεται όσο είναι δυνατόν σε σύγκρουση. Ο κινητήρας δεν τροφοδοτείται δια της βαρύτητας.

3.- Θέση Οδηγού (Κουβούκλιον)

Ουδέν εύφλεκτον υλικόν έχει χρησιμοποιηθεί κατά την κατασκευήν του κουβουκλίου του οδηγού, εκτός του εξοπλισμού του καθίσματος.

(γ) Μονάδες Μεταφοράς "Β.ΙΙΙ"

Έχουν όλες τα χαρακτηριστικά της υπο-κατηγορίας Β.ΙΙ και, επιπροσθέτως, το πήγμα (καρότσα) των έχει τα παρακάτω χαρακτηριστικά:-

I.- Είναι κλειστό και έχει συνεχή επιφάνεια·

χωρίζεται από το κουβούκλιο του οδηγού δι'αποστάσεως όχι μικροτέρας των 15 CM (εκ.)· είναι γερής κατασκευής και με υλικό το οποίο προστατεύει καταλλήλως τα μεταφερόμενα εμπορεύματα· τα υλικά τα χρησιμοποιηθέντα δια την επένδυσιν δεν είναι ικανά να παράγουν σπινθήρες· οι ιδιότητες μονώσεως και αντοχής εις την θερμότητα του πήγματος είναι εις όλα τα σημεία τουλάχιστον ισοδύναμες με εκείνες χωρίσματος αποτελουμένου εκ στρώματος αμιαντο-χαρτονίου πάχους 5 MM (χιλ.) μεταξύ των μεταλλικών τοιχωμάτων ή με εκείνες χωρίσματος αποτελουμένου εξ εξωτερικού μεταλλικού τοιχώματος επενδεδυμένου με ένα στρώμα πυριμάχου ξύλου πάχους 10 MM (χιλ.). II 105 (Συνεχίζεται)

2.- Η θύρα ή θύρες είναι εφωδιασμένες με κλειδαριά και κλειδί· όλες αι ενώσεις και τα κλεισίματα είναι τύπου επικαλύψεως (OVERLAPPING TYPE). Η θύρα ή θύρες πρέπει να είναι έτσι κατασκευασμένες ώστε να ελαττώνουν την αντοχήν του πήγματος όσο το δυνατόν ολιγώτερο.

Περιορισμοί στη χρήση οχημάτων συγκεκριμένων κατηγοριών II 106

(1) Αι μονάδες μεταφοράς "A" μπορούν να μεταφέρουν μόνον αντικείμενα της Κλάσεως Ιβ, $2^{o}(\beta)$, $4^{o}(\alpha)$, (β) και (ε), και της Κλάσεως Ιγ, $1^{o}(\alpha)$ και 3^{o}.

Ουδείς ειδικός περιορισμός του βάρους προβλέπεται δια την τοιαύτην μεταφοράν.

(2) Αι μονάδες μεταφοράς "B.I" μπορούν να μεταφέρουν

(α) χωρίς ειδικούς περιορισμούς του βάρους, αντικείμενα της Κλάσεως Ιβ, 2^{o}(β) και 4^{o}, και της Κλάσεως Ιγ, I^{o}(α) και 3^{o}. II I06 (Συνεχίζεται)

(β) υπό την επιφύλαξιν των περιορισμών του βάρους των προβλεπομένων εις το περιθώριον II 40I, τις επικίνδυνες ύλες τις αναφερόμενες εις το ανωτέρω περιθώριον.

(3) Αι διατάξεις αι διέπουσαι τις απαγορεύσεις (περιορισμούς), υπό το φως του βάρους και της φύσεως του φορτίου, επί της χρήσεως των μονάδων μεταφοράς "Β.ΙΙ" και "Β.ΙΙΙ", ευρίσκονται εις περιθώριον II 40I.

II I07-
II II7

Μεταφορά σε CONTAINERS II II8

Μικρά CONTAINERS θα πληρούν τους όρους τους προβλεπομένους εν σχέσει με το πήγμα του οχήματος δια την προκειμένην επιχείρησιν μεταφοράς· δεν θα είναι τότε απαραίτητον για το πήγμα του οχήματος να πληροί τους όρους τούτους.

II II9-
II I70

Πληρώματα οχημάτων: Επίβλεψις (Εποπτεία) II I7I

(I) Βοηθός οδηγού θα υπάρχει εν κάθε μονάδα μεταφοράς. Εάν οι εθνικοί κανονισμοί προβλέπουν τούτο, η αρμοδία αρχή συμβαλλομένης χώρας μπορεί να ζητήσει όπως εγκεκριμένον επίσημον πρόσωπον (αξιωματούχος) ενυπάρχει εις το όχημα κατ' έξοδον του μεταφορέως.

(2) Οι διατάξεις του περιθωρίου IO I7I (2) θα ισχύουν μόνον για τα επικίνδυνα εμπορεύματα τα αναγραφόμενα κατωτέρω σε ποσότητες υπερβαίνουσες τις οριζόμενες παρακάτω: II I7I (Συνεχίζεται

Κλάσις Ια: Ύλες και αντικείμενα (είδη) των I° - I4°: 5 KG·

Κλάσις Ιβ: Αντικείμενα (Είδη) των I°(β), (γ) και (δ), 5° - 7° και 9° - II° :50 KG· και

Κλάσις Ιγ: Αντικείμενα (είδη) των 2I° - 23° :50 KG.

II I72-
II I8I

Έγκρισις οχημάτων II I82

Οι όροι του περιθωρίου IO I82 θα ισχύουν για τις μονάδες μεταφοράς "Β.ΙΙΙ".

II I83-
II I99

Άρθρο 2

Ειδικοί όροι πληρούμενοι υπό οχημάτων και του εξοπλισμού αυτών

Υλικά που πρέπει να χρησιμοποιούνται κατά την κατασκευήν πηγμάτων οχημάτων II 200

Κατά την κατασκευήν (για την κατασκευήν) του πήγματος, δεν θα χρησιμοποιείται υλικόν το οποίον ενδέχεται να σχηματίσει επικίνδυνες ενώσεις με τα μεταφερόμενα εκρηκτικά (π.χ. μόλυβδος στη περίπτωση της μεταφοράς εξυλίου (HEXYL), πικρικού οξέος, πικρικών αλάτων, εκρηκτικών οργανικών αωτούχων ενώσεων διαλυτών εις νερό, ή εκρηκτικών φύσεως οξέος (βλέπε επίσης περιθώριον ΙΙΙ I05(2) (γ)).

II 20I-
II 2I5

Κουβούκλιον (θέσις) Οδηγού II 216

(Βλέπε περιθώριον II 105(2)(β)3)).

II 217

II 224

Συνδυασμός ρυμουλκούντος οχήματος και ρυμουλκουμένου II 225

(Βλέπε περιθώριον II 105(2)(α)).

II 226-

II 230

Κινητήρ και Σύστημα Εξαγωγής II 231

Βλέπε περιθώριον II 105(2)(β)1.)).

II 232-

II 239

Πυροσβεστικές Συσκευές II 240

Αι διατάξεις του περιθωρίου 10 240(1)(β) και (3) δεν θα ισχύουν δια την μεταφοράν επικινδύνων υλών της Κλάσεως Ιγ, 1° έως 3°, 5° έως 20°, 24°, 25° και 27°.

II 241-

II 250

Ηλεκτρικός Εξοπλισμός II 251

(1) Το διατετιμημένο βολτάζ του ηλεκτρο-φωτιστικού συστήματος δεν θα υπερβαίνει τα 24 Βόλτ.

(2) Ουδέν κύκλωμα θα εγκαθίσταται εσωτερικώς των πηγμάτων των μονάδων μεταφοράς "Β.ΙΙ".

(3) Αι διατάξεις της Προσθήκης Β.2, περιθώριον 22° 000(2), δεν θα ισχύουν δια τον ηλεκτρικόν εξοπλισμόν οχημάτων μεταφερόντων είδη της Κλάσεως Ιγ, 1°(α) και 3°, ή μεταφερόντων είδη της Κλάσεως Ιγ, 1°(β) σε ποσότητα μη υπερβαίνουσαν

τα 500 KG.

II 252-

II 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

II 300-

(Δεν υπάρχουν ειδικές διατάξεις) II 399

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωση, εκφόρτωση και χειρισμόν

Μέθοδος αποστολής και περιορισμοί επί προωθήσεως II 400

Ύλες της Κλάσεως Ια, I3° και I4°(α) και (β), μπορούν να μεταφέρωνται μόνον ως πλήρες φορτίο. Εν τούτοις, υλα ζυγίζοντα όχι άνω των I0 KG και παραδιδόμενα δια μεταφοράν σε ποσότητα μη υπερβαίνουσαν τα I00 KG μπορούν να μεταφέρωνται διαφορετικώς της μεταφοράς πλήρους φορτίου.

Περιορισμός των μεταφερομένων ποσοτήτων II 401

Η ποσότης επικινδύνων υλών της Κλάσεως Ια, Κλάσεως Ιβ και Ιγ που μπορεί να μεταφερθεί επί μονάδος μεταφοράς θα περιορίζεται όπως παραπάνω (βλέπε επίσης περιθώρια II 402 και II 403 αναφορικώς με την απαγόρευση μικτής φορτώσεως).

(I) Μονάς Μεταφοράς "Β.Ι" μπορεί να μεταφέρει μόνον

(α) εν των φορτίων των εξουσιοδοτημένων υπό των περιθωρίων II I06(I) και (2)(α)· ή

(β) όχι περισσότερα των 500 KG των ειδών της Κλάσεως Ιγ, I°(β)· ή

(γ) όχι περισσότερα των 300 KG των υλών της

Κλάσεως Ια, I2°· ή II 401

(δ) όχι περισσότερα των I00 KG των υλών της Κλάσεως Ια, II°, I3° και I4°. (Συνεχίζεται)

(2) Μονάδα Μεταφοράς "Β.ΙΙ" μπορεί να μεταφέρει μόνον

(α) ένα των φορτίων των εξουσιοδοτημένων εν

(I) ανωτέρω δια τις μονάδες μεταφοράς "Β.Ι"· ή

(β) όχι περισσότερα των 500 KG των υλών της Κλάσεως Ια, I° έως I0° και I2°· των ειδών της Κλάσεως Ιβ, I° έως 4° και 6° έως II°· ή των επικινδύνων υλών της Κλάσεως Ιγ. Εν τούτοις, αι ύλες της Κλάσεως Ια, 3°, 4° και 5° πρέπει να συσκευάζωνται με ό,τι προβλέπεται δι' αποστολές εμπορευμάτων μεταφερομένων διαφορετικώς της μεταφοράς πλήρους φορτίου.

(3) Μονάδα Μεταφοράς "Β.ΙΙΙ" μπορεί να μεταφέρει μόνον

(α) ένα των φορτίων των εξουσιοδοτημένων εν

(2) ανωτέρω δια μονάδες μεταφοράς "Β.ΙΙ"· ή

(β) υπό τον όρον ότι το βάρος του φορτίου των επικινδύνων υλών δεν υπερβαίνει το 90τον εκατόν του βάρους του φορτίου συνήθων εμπορευμάτων του δηλωθέντος ως επιτρεπτού δια το όχημα υπό της αρμοδίας αρχής της χώρας εγγραφής του οχήματος, όχι περισσότερα των 9.000 KG των επικινδύνων υλών των Κλά-

σεων Ια, Ιβ ή Ιγ ανά αρθρωτόν όχημα ή όχημα με ρυμουλκούμενον όχημα, ή των 15.000KG των επικινδύνων υλών δια μονάδα μεταφοράς ετέρου είδους. Εν τούτοις, εάν το φορτίον περιλαμβάνει μίαν ή περισσοτέρας ύλας της Κλάσεως Ια, 11°, 13° ή 14°, ή ένα ή περισσότερα είδη της Κλάσεως Ιβ, 5°, 6° και 11°, τα ανωτέρω όρια θα μειώνονται σε 6.000 KG και 10.000 KG αντιστοίχως. II 401 (Συνεχίζεται

II 402

Απαγόρευση μικτής φορτώσεως σε όχημα II 403

(1) Ύλες και είδη της Κλάσεως Ια δεν θα φορτώνονται μαζί επάνω σε ένα όχημα: μαζί με:

(α) είδη της Κλάσεως Ιβ κλεισμένα σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No. 1· μαζί με:

(β) κόλα φέροντα ετικέτα οιωνδήποτε των μοντέλων No.2D, 4, 4A, 6A, 6B και 6Γ· ή μαζί με:

(γ) κόλα φέροντα ετικέτα ή ετικέτες οιωνδήποτε των μοντέλων No. 2A, 2B, 2Γ και 5.

(2) Είδη της Κλάσεως Ιβ κλεισμένα σε κόλα φέροντα ετικέτα σύμφωνον προς το μοντέλο No.1 δεν θα φορτώνονται μαζί πάνω σε ένα όχημα μέ:-

(α) είδη της Κλάσεως Ιβ κλεισμένα σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No.1· με

(β) κόλα φέροντα ετικέτα οιωνδήποτε των μοντέλων No.2Δ, 4, 4A, 6A, 6B και 6Γ· ή μέ

(γ) κόλα φέροντα ετικέτα ή ετικέτες οιωνδήποτε των μοντέλων No. 2A, 2B, 2Γ, 3 και 5.

(3) Είδη της Κλάσεως Ιβ πλεισμένα σε πόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No.I δεν θα φορτώνονται στο αυτό όχημα με:- II 403 (Συνεχίζεται)

(α) ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ πλεισμένα σε πόλα φέροντα ετικέτα σύμφωνον προς το μοντέλο No.I· ή με

(β) τις ύλες τις οριζόμενες υπό στοιχείον (2)(β) και (2)(γ) ανωτέρω.

(4) Είδη της Κλάσεως Ιγ πλεισμένα σε πόλα φέροντα ετικέτα σύμφωνη προς το μοντέλλο No.I δεν θα φορτώνωνται μαζί σε όχημα με:-

(α) είδη της Κλάσεως Ιβ πλεισμένα σε πόλα φέροντα δύο ετικέτες συμφώνως προς το Μοντέλο No.I· με

(β) πόλα φέροντα ετικέτα οιωνδήποτε των μοντέλων No. 2Δ, 4, 4Α, 6Α, 6Β και 6Γ· ή με

(γ) πόλα φέροντα ετικέτα ή δύο ετικέτες οιωνδήποτε των μοντέλων No. 2Α, 2Β, 2Γ, 3 και 5.

II 404

Απαγόρευση μικτής φορτώσεως με εμπορεύματα περιεχόμενα σε CONTAINER II 405

(1) Αι απαγορεύσεις μικτής φορτώσεως εμπορευμάτων αναφερομένων εις περιθώριον II 403 θα ισχύουν (δια φόρτωσιν) εντός εκάστου CONTAINER.

(2) Αι διατάξεις του περιθωρίου II 403 θα ισχύουν δι' επικίνδυνες ύλες περιεχόμενες εις CONTAINER και τις άλλες επικίνδυνες ύλες τις φορτωμένες στο ίδιο όχημα, ανεξαρτήτως εάν οι τελευταίες ύλες επιτρέπωνται ή όχι σε ένα ή περισσότερα άλλα CONTAINERS.

II 406

Τόποι Φορτώσεως και Εκφορτώσεως II 407

(Ι) Αι παρακάτω εργασίαι απαγορεύονται:-

(α) φόρτωσις ή εκφόρτωσις επικινδύνων υλών Κλάσεων Ια, Ιβ και Ιγ εις δημόσιον χώρον κατοικημένης περιοχής άνευ ειδικής αδείας των αρμοδίων αρχών·

(β) φόρτωσις ή εκφόρτωσις επικινδύνων υλών των ρηθεισών Κλάσεων εις δημόσιον χώρον διάφορον της κατοικημένης περιοχής άνευ προηγουμένης σχετικής ειδοποιήσεως των αρμοδίων αρχών, εκτός εάν οι αναφερόμενες εργασίαι δικαιολογούνται δια σοβαρούς λόγους ασφαλείας.

(2) Εάν, δι'οιονδήποτε λόγον, εργασίαι χειρισμού πρέπει να διεξαχθούν εις δημόσιον χώρον, τότε:

- ύλες και είδη διαφόρων ειδών θα διαχωρίζονται συμφώνως προς τις ετικέτες· και
ηδλα εφωδιασμένα με χειρολαβές ή υποστηρίγματα θα τηρούνται ίσα.

II 408-
II 4I2

Καθάρισμα προ της φορτώσεως II 4I3

Προτού επικίνδυνες ύλες Κλάσεων Ια, Ιβ ή Ιγ φορτωθούν, όλα τα υπολείμματα αχύρου, ρακών, χάρτου και παρομοίων υλικών, και όλων των σιδηρών αντικειμένων (καρφιά, βίδες, κλπ.) που δεν αποτελούν αναπόσπαστον τμήμα του πήγματος του οχήματος, θα αφαιρεθούν.

Χειρισμός και στοιβασία II 414

(1) Η χρήση ευχερώς ευφλέκτων υλών για κόλα στοιβασίας σε οχήματα απαγορεύεται.

(2) Κόλα περιέχοντα επικίνδυνες ύλες των Κλάσεων Ια, Ιβ και Ιγ θα φορτώνονται κατά τέτοιον τρόπον ώστε να μπορούν να εκφορτώνονται ένα ένα εις το σημείον του προορισμού χωρίς να υπάρχει ανάγκη νέας διευθετήσεως του φορτίου.

(3) Τα κόλα θα στοιβάζωνται στο όχημα έτσι ώστε να μη μπορούν να μετατοπίζωνται. Θα προστατεύωνται έναντι οιασδήποτε τριβής ή προσκρούσεως. Εάν βυτία (κάδοι) μεταφέρωνται κείμενα επί των πλευρών των, θα διευθετούνται κατά τέτοιον τρόπον ώστε ο επιμήκης άξων αυτών να είναι παραλλήλως προς τον άξονα του οχήματος και ξύλινες σφήνες θα χρησιμοποιούνται για να αποφεύγεται οποιαδήποτε πλευρική μετακίνηση.

II 415-
II 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσες την λειτουργίαν οχημάτων

Σήματα Οχήματος II 500

Αι διατάξεις του περιθωρίου IO 500, παράγραφοι (1) και (6), θα ισχύουν για την μεταφοράν επικινδύνων υλών των Κλάσεων Ια, Ιβ και Ιγ.

II 501-
II 507

Διακοπές για την διερεύνησιν μέσω Τελωνείου II 508

Όταν μονάς μεταφοράς ή φάλαγξ οχημάτων μεταφέ-

ρούσα επικίνδυνες ύλες των Κλάσεων Ια, Ιβ και Ιγ πρό- II 508
κειται να περάσει από συνοριακό Τελωνείο, η μονάδα μετα- (Συνεχίζε-
φοράς (ή φάλαγγα) θα σταματήσει τουλάχιστον 50 μ. από το ται)
Τελωνείο. Ο βοηθός οδηγού θα μεταβεί στο Τελωνείο να γνω-
ρίσει στις αρχές την άφιξη της μονάδας μεταφοράς (ή φά-
λαγγας) της μεταφερούσας τας επικινδύνους ύλες.

Διακοπές περιωρισμένης διαρκείας διά ανάγκες σέρβις II 509

Εφ'όσον είναι δυνατόν, διακοπές διά ανάγκες σέρβις
δεν θα γίνονται πλησίον κατοικημένων τόπων ή τόπων διαμονής
(παραθερισμού, κλπ.). Σταμάτημα πλησίον τέτοιου τόπου δεν
θα παρατείνεται εκτός κατόπιν εγκρίσεως των αρμοδίων αρχών.

II 510-
II 519

Φάλαγγες (Κονβόϊ) II 520

(1) Οσάκις οχήματα μεταφέροντα επικίνδυνες ύλες
των Κλάσεων Ια, Ιβ και Ιγ ταξειδεύουν σε φάλαγγα, μία από-
στασις όχι μικροτέρα των 80 μ. θα πρέπει να τηρείται μεταξύ
κάθε μονάδος μεταφοράς και της επομένης.

(2) Εάν, διά οιονδήποτε λόγον, η φάλαγγα υποχρεωθεί
να σταματήσει και εάν, ειδικώτερα, αι εργασίαι φορτώσεως ή
εκφορτώσεως πρέπει να διεξαχθούν εις δημόσιον τόπον, μία
απόστασις όχι μικροτέρα των 50 μ. θα πρέπει να τηρείται
μεταξύ των σταματημένων οχημάτων.

(3) Αι αρμόδιαι αρχαί ενδέχεται να εκδώσουν κανόνας
διά την σειράν ή σύνθεσιν των φαλάγγων (κονβόϊ).

II 521-
II 599

Άρθρο 6

Μεταβατικές διατάξεις, αναλήσεις, και διατάξεις ειδικές για ωρισμένες χώρες

II 600-
II 604

Μεταβατικές διατάξεις II 605

Δι'αναλήσεως του άρθρου 4, Παράγραφος 2, της Συμφωνίας, οχήματα τα οποία ήσαν εν υπηρεσία εις την επικράτειαν Συμβαλλομένου Μέρους όταν τέθηκε σε ισχύ το παρόν Παράρτημα ή τέθηκαν σε υπηρεσία εκεί εντός δύο μηνών αφότου τέθηκε σε ισχύ, μπορούν να χρησιμοποιηθούν για τη διεθνή μεταφορά επικινδύνων υλών των Κλάσεων Ια, Ιβ, και Ιγ μόνον διαρκούσης περιόδου ενός έτους από της τοιαύτης θέσεως εν ισχύ εάν το σχέδιον και ο εξοπλισμός των δεν πληρούν πλήρως τους δια την τοιαύτην μεταφοράν όρους του παρόντος Παραρτήματος.

II 606-
II 609

Διατάξεις ειδικές για ωρισμένες χώρες II 610

Η μεταφορά επικινδύνων υλών των Κλάσεων Ια, Ιβ και Ιγ θα υπόκειται εις τους ισχύοντας εις τον Ηνωμένον Βασίλειον κανονισμούς κατά την εις την επικράτειαν της χώρας ταύτης μεταφοράν.

II 611-
20 999

Κλάση 2

Αέρια: πεπιεσμένα, υγροποιημένα ή διαλυόμενα υπό πίεση

Άρθρο Ι

Γενικά

2Ι 000-

2Ι ΙΙ7

Μεταφορά σε CONTAINERS 2Ι ΙΙ8

Η μεταφορά σε μικρά CONTAINERS ηδλων περιεχόντων αέρια των 7°(α) και 8°(α) απαγορεύεται.

2Ι ΙΙ9-

2Ι Ι20

Μεταφορά σε δεξαμενές (βυτία) 2Ι Ι2Ι

(Ι) Αέρια της Κλάσεως 2 πλην των κατωτέρω αναφερομένων μπορούν να μεταφέρωνται σε σταθερές δεξαμενές, λυόμενες δεξαμενές, ή σε συστοιχίες δοχείων: φθόριον και τετραφθοριούχο πυρίτιον (Ι° (Α Τ))· οξείδιο του αζώτου (Ι°(C Τ))· μίγματα υδρογόνου με όχι άνω του ΙΟ τοις εκατόν υδρογονούχου SELENIDE ή φωσφίνης ή υδρογονούχου πυριτίου (SILANE) ή γερμανίου (GERMANE) κατ'όγκον ή με όχι άνω των Ι5 6τοι εκατόν αραίνης κατ'όγκον· μίγματα αζώτου ή σπανίων αερίων (περιέχοντα όχι άνω του ΙΟ 6τοις εκατόν ξένον (XENON) κατ'όγκον) με όχι άνω του ΙΟ 6τοις εκατόν υδρογονούχου SELENIDE ή φωσφίνης ή υδρογονούχου πυριτίου ή γερμανίου κατ'όγκον ή με όχι άνω του Ι5 6τοι εκατόν αρσίνης κατ'όγκον (2°(Β Τ))· μίγματα υδρογόνου με όχι άνω του ΙΟ 6τοις εκατόν DIBORANE κατ'όγκον· μίγματα αζώτου ή σπανίων αερίων (περιέχοντα όχι άνω του ΙΟ 6τοις εκατόν ξένον (XENON) κατ'όγκον)) με όχι άνω τοτ' Ιο 6τοι.

εκατόν DIBORANE κατ'όγκον (2°(C T))· βοριοχλωρίδιο, τρι- 2Ι Ι2Ι
φθοριούχο χλώριο, νιτροζυχλωρίδιο, φθοριούχο SULPHURYL (Συνεχί-
και εξαφθοριούχο βολφράμιο (3°(A T))· μεθυλικό υδρογο- ζεται)
νούχο πυρίτιο (METHYLSILANE) (3°(β))· αρσίνη, διχλωρο-
υδρογονούχο πυρίτιο (DICHLOROSILANE), διμεθυλικό υδρο-
γονούχο πυρίτιο (DIMETHYLSILANE), υδρογονούχο SELENIDE
και τριμεθυλικό υδροχονούχο πυρίτιο (TRIMETHYLSILANE)
(3°(B T))· κυάνιο, χλωριούχο κυάνιο και οξείδιο αιθυλε-
νίου (3°(C T))· μίγματα μεθυλικών υδρογονούχων πυριτίων
(METHYLSILANES) (4°(B T))· οξείδιο αιθυλενίου περιέχον
όχι άνω του 50 τοις εκατόν αλάτων μεθυλικού μυρμηκικού
οξέος κατά βάρος (4°(C T))· υδρογονούχο πυρίτιο (SILANE)
(5°(β))· όλες των 5°(B T) και (C T)· διαλελυμένο ακετυ-
λένιο (9°(C))· και αέρια των Ι2° και Ι3°.

(2) Αέρια της Κλάσεως 2 πλην των κατωτέρω αναφερο-
μένων μπορούν να μεταφέρονται σε δεξαμενο-CONTAINERS:
φθόριο και τετραφθοριούχο πυρίτιο (Ι° (A T))· οξείδιο του
αζώτου (Ι° (C T))· μίγματα υδρογόνου με όχι άνω του ΙΟ
τοις εκατόν υδρογονούχου SELENIDE ή φωσφίνης ή υδρογονού-
χου πυριτίου (SILANE) ή γερμανίου (GERMANE) κατ'όγκον ή
με όχι άνω των Ι5 τοις εκατόν αρσίνης κατ'όγκον· μίγματα
αζώτου ή σπανίων αερίων (περιέχοντα όχι άνω του ΙΟ τοις
εκατόν ξένον (XENON) κατ'όγκον) με όχι άνω του ΙΟ τοις εκα-
τόν υδρογονούχου SELENIDE ή φωσφίνης ή υδρογονούχου πυρι-
τίου ή γερμανίου κατ'όγκον ή με όχι άνω του ±5 τοις εκατόν
αρσίνης κατ'όγκον (2° (B T))· μίγματα υδρογόνου με όχι
άνω του ΙΟ τοις εκατόν β DIBORANE κατ'όγκον· μίγματα αξώ-

του ή σπανίων αερίων (περιέχοντα όχι άνω του 10 6τοις εκατόν ξένον (XENON) κατ'όγκον)) με όχι άνω του 10 6τοις εκατόν DIBORANE κατ'όγκον (2° (C T))· βοριοχλωρίδιο, τριφθοριούχο χλώριο, νιτροζυχλωρίδιο, φθοριούχο SULPHURYL και εξαφθοριούχο βολφράμιο (3° (A T))· μεθυλικό υδρογονούχο πυρίτιο (METHYLSILANE) (3° (β))· αρσίνη, διχλωρουδρογονούχο πυρίτιο (DICHLOROSILANE), διμεθυλικό υδρογονούχο πυρίτιο (DIMETHYLSILANE), υδρογονούχο SELENIDE και τριμεθυλικό υδρογονούχο πυρίτιο (TRIMETHYLSILANE) (3°(B T))· κυάνιο, χλωριούχο κυάνιο και οξείδιο αιθυλενίου (3°(C T))· μίγματα μεθυλικών υδρογονούχων πυριτίων (METHYLSILANES) (4° (B T))· οξείδιο αιθυλενίου περιέχον όχι άνω του 50 6τοις εκατόν αλάτων μεθυλικού μυρμηκικού οξέος κατά βάρος (4° (C T))· υδρογονούχο πυρίτιο (SILANE) (5°(β))· και τα αέρια των 12° και 13°. Εν τούτοις, χλώριον και φωσγένιον (3° (A T)) δεν θα μεταφέρωνται σε δεξαμενο-CONTAINERS χωρητικότητας υπερβαίνούσης το 1μ³. 21 121 (Συνεχίζεται)

(3) Δεξαμενο-CONTAINERS περιέχοντα όλες των 1°(β)· 2°(β)· 3°(β)· χλωροαιθάνιον (χλωριούχον αιθύλιον) ή διμεθυλικόν αιθέρα της 3°(B T)· όλες της 3°(γ)· βρωμιούχο βινύλιο ή μεθυλικόν βινυλικόν αιθέρα της 3° (C T)· ή όλες της 4°(β), 4°(γ), 5°(β), 6°(γ), 7°(β) ή 8°(β), θα φέρουν επί των πλευρών τους ετικέτα σύμφωνη προς το μοντέλο No. 2A.

Δεξαμενο-CONTAINERS περιέχοντα οξυγόνον της 1°(α)· τριφθοριούχο βόριον της 1°(A T)· μίγματα περιέχοντα άνω του 20 6τοις εκατόν οξυγόνον κατ'όγκον, της 2°(α)· μονοξεί-

διο του αζώτου της 5°(α)· μονοξείδιο του αζώτου ή οξυγόνον της 7°(α)· ή υγρόν αέρα ή μίγματα περιέχοντα άνω του 20θτοκ εκατόν οξυγόνον κατά βάρος, της 8°(α), θα φέρουν και εις δυό πλευρές τους ετικέτα σύμφωνον προς το μοντέλο No. 3. 2I I2I (Συνεχίζεται)

Δεξαμενο-CONTAINERS περιέχοντα αέρια των I°(B T) ή 2°(B T), ή διμεθυλαμίνην, αιθυλαμίνην, υδρόθειον, μεθυλαμίνην, χλωριούχο μεθύλιο, μεθυλικό MERCAPTAN, ή τριμεθυλαμίνην, της 3°(B T), θα φέρουν και εις δυό πλευρές τους ετικέτες σύμφωνες προς τα μοντέλα No. 2A και 4.

Δεξαμενο-CONTAINERS περιέχοντα διοξείδιον του αζώτου ή φωσγένιον της 3°(A T) θα φέρουν και εις δυό πλευρές τους ετικέτες σύμφωνες προς τα μοντέλα No. 3 και 4.

Δεξαμενο-CONTAINERS περιέχοντα υδροβρωμίδιον της 3°(A T) ή υδροχλώριον της 5°(A T) θα φέρουν και εις δυό πλευρές τους ετικέττες σύμφωνες προς τα μοντέλα No.4 και 5.

2I I22-
2I I27

Κενά βιτζία (δεξαμενές) 2I I28

(I) Για κενές σταθερές δεξαμενές, κενές συστοιχίες δοχείων και κενές λυόμενες δεξαμενές, βλέπε Παράρτημα A, περιθώριο 220I, I4°, Σημείωσις I.

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριο 2I2 I77.

2I I29
2I I70

Πληρώματα οχημάτων: Επίβλεψις (Εποπτεία) 2I I7I

Αι διατάξεις του περιθωρίου IO I7I(2) θα ισχύουν μόνον για τα επικίνδυνα εμπορεύματα τα αναγραφόμενα κατωτέρω σε προσδτητες υπερβαίνουσες τα οριζόμενα βάρη:

- τριφθοριούχο βόριον και φθόριο (I° (A T))· οι ύλες της 3°(A T)· της 3°(B T) πλην του διμεθυλικού αιθέρα και του χλωριούχου αιθυλίου· και της 3° (C T)· υδροχλώριον της 5° (A T)· και τα βαθειά κατεψυγμένα υγροποιημένα αέρια της 7°(α) και 8°(α): I.000 KG
- οι ύλες της 3°(β)· διμεθυλικός αιθέρας και χλωριούχο αιθύλιο της 3°(B T)· χλωριούχο βινύλιο της 3°(γ)· οι ύλες της 4°(β)· και τα εύφλεκτα υγροποιημένα αέρια της 7°(β) και 8°(β): IO.000 KG.

2I I72-
2I I99

Άρθρο 2

Ειδικοί όροι που πρέπει να πληρούν τα οχήματα και ο εξοπλισμός των

2I 200
2I 2II

Εξαερισμός 2I 2I2

Εάν υδλα περιέχοντα αέρια των I° έως 6° και 9°(γ) μεταφέρονται σε κλειστό όχημα, το όχημα θα πρέπει να είναι εφοδιασμένο με κατάλληλον εξαερισμόν.

2I 2I3-
2I 230

Κινητήρας και σύστημα εξαγωγής 2I 23I

Ο κινητήρας οχήματος μεταφέροντος αέριον της Κλάσεως 2 σε σταθερό βυτίο (δεξαμενή), σε λυομένη δεξαμενή ή συστοιχία δοχείων, και οσάκις ενδείκνυται ο κινητήρας που κινεί την αντλία αποστάξεως (DECANTING PUMP), θα είναι έτσι εξοπλισμένος και τοποθετημένος, και οι σωλήνες εξαγωγής θα έχουν τέτοια κατεύθυνση ή προστατεύωνται, ώστε να αποφεύγεται οιοσδήποτε βία το φορτίο κίνδυνος εκ θερμάνσεως ή αναφλέξεως.

2I 232-

2I 239

Πυροσβεστικές συσκευές 2I 240

Οι διατάξεις του περιθωρίου IO 240 (I) (β) και (3) δεν θα ισχύουν βία μεταφοράν πλην εκείνης των ευφλέκτων αερίων ή ειδών των αναφερομένων εις περιθώριον 220 002, ή των κενών συσκευασιών της I4° αι οποίαι περιείχον τα τοιαύτα αέρια.

2I 24I-

2I 250

Ηλεκτρικός εξοπλισμός 2I 25I

Οι διατάξεις της προσθήκης Β.2δεν θα ισχύουν δια μεταφοράν πλην εκείνης των ευφλέκτων αερίων ή ειδών των αναφερομένων εις περιθώριον 220 002, ή των κενών συσκευασιών της IO° που περιείχον τα τοιαύτα αέρια.

2I 252-

2I 259

Ειδικός εξοπλισμός 2Ι 260

Οσάκις μεταφέρονται πεπιεσμένα αέρια ή υγροποιημένα αέρια επικίνδυνα (βλαβερά) για τα αναπνευστικά όργανα ή εγκυμονούντα κίνδυνον δηλητηριάσεως και προσδιοριζόμενα με το γράμμα "Τ" εις την κατάστασιν των υλών, το πλήρωμα του οχήματος θα είναι εφοδιασμένον με αναπνευστικές μάσκες του καταλλήλου των μεταφερομένων αερίων τύπου.

2Ι 261-
2Ι 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

2Ι 300-
2Ι 352

Φορητή συσκευή φωτισμού 2Ι 353

Οσάκις μεταφέρονται αέρια ή είδη του περιθωρίου 220 002, εις το κλειστό όχημα δεν επιτρέπεται να εισέρχωνται πρόσωπα μεταφέροντα συσκευήν φωτισμού πλην φορητών λυχνιών έτσι σχεδιασμένων και κατασκευασμένων που να μη μπορούν να αναφλέξουν οιαδήποτε αέρια που ενδέχεται να εισέδυσαν στο εσωτερικό του οχήματος.

2Ι 354-
2Ι 399

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωσιν, εκφόρτωσιν και χειρισμόν

Μέθοδος αποστολής και περιορισμοί προωθήσεως 2Ι 400

Διοξείδιον του άνθρακος και/οξείδιον του αζώτου μονο-

της 7°(α), μίγματα περιέχοντα διοξείδιο του άνθρακος και 2I 400
μονοξείδιο του αζώτου της 8°(α), και τα αέρια της 8° (Συνεχίζε-
(β), και τα αέρια της 8°(β) μπορούν να μεταφέρονται μό- ται)
νον σε σταθερές δεξαμενές, λυόμενες δεξαμενές ή συστοιχί-
ες δοχείων ή σε δεξαμενο-CONTAINERS.

2I 401-
2I 402

Απαγόρευση μικτής φόρτωσεως σε ένα όχημα 2I 403

Είδη της Κλάσεως 2 πλεισμένα σε πόλα φέροντα ετι-
κέτα σύμφωνον προς το μοντέλο No. 2A δεν θα φορτώνονται
μαζί σε ένα όχημα με όλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ
πλεισμένα σε πόλα φέροντα ετικέτα ή δύο επικέτες σύμφω-
νες προς το μοντέλο No.I.

2I 404-
2I 406

Τόποι φορτώσεως και εκφορτώσεως 2I 407

(I) Αι παρακάτω εργασίες απαγορεύονται:-

(α) φόρτωσις ή εκφόρτωσις των κατωτέρω υλών σε δη-
μόσιο χώρο κατοικημένης περιοχής χωρίς την άδεια
των αρμοδίων αρχών: υδροβρωμίδιον, χλώριον, διο-
ξείδιον του αζώτου, διοξείδιον του θείου ή φωσ-
γένιον (3° (A T))· υδρόθειον (3° (B T))· και
υδροχλώριον (5° (A T))·

(β) φόρτωσις ή εκφόρτωσις των υλών των αναφερομένων
υπό στοιχείον (α) ανωτέρω εις δημόσιον χώρος αλλα-
χού όχι εις δημόσιον χώρον άνευ προηγουμένης ει-
δοποιήσεως των αρμοδίων αρχών, εκτός εάν αι ανα-

γιορτινές εργασίες δικαιολογούνται για σοβαρούς λόγους ασφαλείας. 2I 407 (Συνεχίζεται)

(2) Εάν βαλοιονδήποτε λόγον εργασίες χειρισμού πρέπει να εκτελεσθούν σε δημόσιο χώρο, τότε:-

- ύλες και είδη διαφόρων ειδών θα διαχωρίζωνται συμφώνως προς τις ετικέτες· και
- κόλα εφοδιασμένα μέσα χειρισμού θα τηρούνται ίσα (επίπεδα) κατά τον χειρισμόν των.

2I 408-

2I 4I3

Χειρισμός και στοιβασία 2I 4I4

(I) Τα κόλα δεν θα ρίπτωνται ή υποβάλλωνται σε πρόσκρουση.

(2) Τα δοχεία θα στοιβάζωνται κατά τέτοιο τρόπο στο όχημα ώστε να μη μπορούν να αναποδογυρίσουν ή πέσουν και όπως πληρούνται οι παρακάτω όροι:-

(α) οι κύλινδροι οι αναφερόμενοι στο περιθώριο 22I2 (I) (α) θα τοποθετούνται παράλληλα ή εις ορθές γωνίες προς τον επιμήκη άξονα του οχήματος· εν τούτοις, οι ευρισκόμενοι πλησίον του προσθίου εγκαρσίου τοιχώματος θα τοποθετούνται εις ορθές γωνίες προς τον εγκαρσίως άξονα.

Κοντοί κύλινδροι μεγάλης διαμέτρου (περίπου 30 CM και άνω) μπορούν να στοιβάζωνται κατά μήκος των μηχανισμών των προστασίας δια βαλβίδας (VALVE-PROTECTING DEVICES) με κατεύθυνσιν προς το μέσον του οχήματος.

Κύλινδροι οι οποίοι είναι αρκετά σταθεροί

ή μεταφέρονται σε κατάλληλους μηχανισμούς εμποδίζοντας αυτούς να αναποδογυρίσουν μπορούν να τοποθετούνται ορθιοι. 2I 4I4 (Συνεχίζεται)

Κύλινδροι οι οποίοι είναι τοποθετημένοι επίπεδα θα σφηνώνονται κατά τοιούτον τρόπον ώστε να μη μπορούν να μετατοπισθούν·

(β) δοχεία περιέχοντα αέρια των 7°(α) ή 8°(α) θα τοποθετούνται πάντοτε στη θέση την καθορισθείσα δι' αυτά και προστατεύονται κατά της πιθανότητας καταστροφής των υπό άλλων πόλων.

2I 4I5-

2I 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσες την λειτουργία των οχημάτων

Σήματα Οχήματος 2I 500

(I) Οι διατάξεις του περιθωρίου IO 500, παράγραφοι (I) και (6) θα ισχύουν δια την μεταφοράν επικινδύνων υλών της Κλάσεως 2. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν επιπροσθέτως δια την μεταφοράν των υλών των αναφερομένων εις την Προσθήκην Β.5.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, μη-καθαρισμένες) που έχουν περιλάβει όλες αναφερόμενες στη Προσθήκη Β.5, θα φέρουν επιπροσθέτως τις ακόλουθες ετικέτες εις δύο πλευρές και στο πίσω μέρος:-

Αέρας, υγροποιημένος	3
Αμμωνία, άνυδρη	4

Βουταδιένιον	2Α	2Ι 500 (Συνεχίζεται)
Βουτάνιον	2Α	
Βουτυλένιον	2Α	
Χλώριον	4	
Κυκλοπροπάνιον	2Α	
Διμεθυλικός Αθήρ	2Α	
Χλωριούχον Αιθύλιον	2Α	
Αιθυλένιον	2Α	
Αιθυλένιον, υγρόν (κατεψυγμένον)	2Α	
Υδρογονάνθρακες, μίγματα αυτών (Μίγματα Α, ΑΟ, ΑΙ, Β και Γ)	2Α	
Υδροβρωμίδιον	4 ή 5	
Υδροχλώριον	4 ή 5	
Ισοβουτάνιον	2Α	
Ισοβουτυλένιον	2Α	
Μεθάνιον, υγρόν (κατεψυγμένον)	2Α	
Μεθυλαμίνη, άνυδρος	4	
Μεθυλικόν Βρωμίδιον	4	
Χλωριούχον Μεθύλιον	2Α ή 4	
Μεθυλικός Βινυλικός Αιθήρ	2Α	
Φυσικόν αέριον, υγρόν (κατεψυγμένον)	2Α	
Διοξείδιον του Αζώτου NO_2	3 ή 4	
Μονοξείδιον του Αζώτου N_2O	3	
Οξυγόνον (κατεψυγμένον)	3	
Φωσγένιον	3 ή 4	
Προπυλένιον	2Α	
Τριμεθυλαμίνη, άνυδρος	2Α ή 4	

Χλωριούχον Βινύλιον	2Α	2Ι 500
		2Ι 501-
		2Ι 508
Διακοπές (Σταματήματα) περιωρισμένης διαρκείας διά ανάγκης σέρβις		2Ι 509

Κατά την μεταφορά επικινδύνων υλών της Κλάσεως 2 πλην των Ι°, (α) και (Α Τ)· 2°(α)· 7°(α)· 8°(α)· και Ιο°, διακοπές (σταματήματα οχημάτων) διά ανάγκης σέρβις δεν θα πρέπει όσον είναι δυνατόν να γίνονται πλησίον κατοικημένων περιοχών ή τόπων διαμονής. Σταμάτημα πλησίον τοιούτου τόπου δεν επιτρέπεται να παραταθεί εκτός κατόπιν εγκρίσεως των αρμοδίων αρχών.

2Ι 510-
2ΙΙ 599

Μεταβατικές διατάξεις, αναλήσεις και διατάξεις ειδικές για ωρισμένες χώρες

2Ι 600-
2Ι 609

Διατάξεις ειδικές για ωρισμένες χώρες 2Ι 610

Η μεταφορά επικινδύνων υλών της Κλάσεως 2 θα υπόκειται στην επικρατεία του Ηνωμένου Βασιλείου εις τους κανονισμούς τους ισχύοντας εις την χώραν αυτήν κατά τον χρόνον της μεταφοράς.

2Ι 611-
30 999

Κλάσις 3

Εύφλεκτα Υγρά

Άρθρο I

Γενικά

3I 000-

3I II7

Μεταφορά σε CONTAINERS 3I II8

Εύθραυστα πόλα εντός της εννοίας του περιθωρίου IO I02 (I) δεν επιτρέπεται να μεταφέρωνται σε μικρά CONTAINERS.

3I II9-

3I I20

Μεταφορά σε δεξαμενές (βυτία) 3I I2I

(I) Όλα τα υγρά της Κλάσεως 3 πλην νιτρομεθάνης (3°) επιτρέπεται να μεταφέρωνται σε σταθερές δεξαμενές και λυόμενες δεξαμενές.

(2) Όλες οι ύλες της Κλάσεως 3 πλην νιτρομεθάνης (μονο-νιτρομεθάνη) (3°) επιτρέπεται να μεταφέρωνται σε δεξαμενο-CONTAINERS.

(3) Αι κατωτέρω ύλες επιτρέπεται να μεταφέρωνται σε ενισχυμένες πλαστικές δεξαμενές συμμορφούμενες προς τις διατάξεις της Προσθήκης Β.Ιγ:

Ακάθαρτον πετρέλαιον και λοιπά αργά πετρέλαια· πτητικά προϊόντα εκ της αποστάξεως ακαθάρτου πετρελαίου και λοιπών αργών πετρελαίων (I°(α)).

Ημι-βαρέα προϊόντα εκ της αποστάξεως πετρελαίου και λοιπών αργών πετρελαίων (3°).

Πετρέλαια θερμάνσεως και πετρέλαια ντήζελ (4°).

3I I22-
3I I27

Κενές δεξαμενές (βυτία) 3I I28

(I) Για να γίνουν δεκτές για μεταφορά, κενές σταθερές δεξαμενές και κενές λυόμενες δεξαμενές που περιείχαν εύφλεκτα υγρά της Κλάσεως 3 θα πληρούνται κατά τον αυτόν τρόπον και θα είναι του αυτού βαθμού στεγανές ως εάν ήσαν πλήρεις.

(2) Δια δεξαμενο-CONTAINERS, βλέπε περιθώριον 2I2 I77.

3I I29-
3I I70

Πληρώματα οχημάτων· Επίβλεψις (Εποπτεία) 3I I7I

Αι διατάξεις του περιθωρίου I0 I7I (2) θα ισχύουν μόνον δια τα κατωτέρω αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες υπερβαίνουσες τις κατωτέρω οριζόμενες:-

- Ύλες της I° πλην διθειούχου άνθρακος, αλδεΰδης του αλκοολικού πνεύματος (ακρολεΐνη) και χλωροπρένιον (χλωτοβουταδιένιον), και αι ύλες της 5°: I0.000 KG
- Διθειούχος άνθραξ, αλδεΰδη του αλκοολικού πνεύματος (ακρολεΐνη) και χλωροπρένιον (χλωροβουταδιένιον) της I°: I.000 KG

3I I72-
3I I99

Άρθρο 2

Ειδικές Διατάξεις που πρέπει να πληρούν τα οχήματα και ο εξοπλισμός των

3I 200-
3I 215

Κουβούκλιον (Θέσις Οδηγού) 3I 216

Ευχερώς εύφλεκτον υλικόν δεν θα χρησιμοποιείται για την κατασκευήν των κουβουκλίων οχημάτων μεταφερόντων υγρά της I° σε σταθερές δεξαμενές ή λυόμενες δεξαμενές.

3I 217-
3I 230

Κινητήρας (Μηχανή) και σύστημα εξαγωγής 3I 231

Ο κινητήρας (μηχανή) ενός οχήματος μεταφέροντος υγρόν της I° σε σταθερά δεξαμενή ή λυόμενη δεξαμενή θα είναι έτσι κατασκευασμένος και τοποθετημένος, και ο σωλήν εξαγωγής θα έχει τέτοια κατεύθυνσιν ή προστατεύεται, ώστε να αποφεύγεται οιοσδήποτε δια το φορτίο κίνδυνος εκ θερμάνσεως ή αναφλέξεως.

Σωλήνωσις Αεραγωγού Εισαγωγής 3I 232

Προκειμένου περί οχημάτων μεταφερόντων υγρών της I° σε σταθερές δεξαμενές ή σε λυόμενες δεξαμενές, η σωλήνωσις εισαγωγής κάθε πετρελαιομηχανής θα είναι εφοδιασμένη με φίλτρο ικανό να υπηρετεί ως φλογοπαγίς.

3I 233-
3I 234

Πετρελαιοδεξαμενή (Δεξαμενή Βενζίνης) 3I 235

Η πετρελαιοδεξαμενή η τροφοδοτούσα τον κινητήρα

ενός οχήματος μεταφέροντος υγρόν της Ι° εντός σταθερᾶς δε- 3Ι 235
ξαμενής ἡ λυομένης δεξαμενής θα εἶναι ἔτσι τοποθετημένη (Συνεχί-
ζεται)
ὥστε να προστατεύεται ὅσον εἶναι δυνατόν κατά αναγκαστικής
προσκρούσεως και ὅπως σε περίπτωση διαρροής καυσίμου το
τελευταῖον να μπορεῖ να εκκενούται απ'ευθείας εις το ἔδα-
φος. Η πετρελαιοδεξαμενή σε ομοιομιά περίπτωση θα τοποθε-
τεῖται ακριβῶς ἄνω της σωληνώσεως εξαγωγής. Ἐάν η δεξαμε-
νή περιέχει καύσιμον, θα εἶναι εφοδιασμένη με κατάλληλον
φλογοπαγίδα εφαρμόζουσαν εις το στόμιον πληρώσεως ἡ με μη-
χανισμόν δια του οποίου το στόμιον πληρώσεως θα μπορεῖ να
τηρεῖται ερμητικῶς κλεισμένον.

3Ι 236-
3Ι 250

Ηλεκτρικός εξοπλισμός 3Ι 25Ι

Αι διατάξεις της Προσθήκης Β.2, περιθώριον 220 000,
δεν θα ισχύουν δια την μεταφοράν επικινδύνων υλῶν της Κλά-
σεως 3 πλην ευφλέκτων υγρῶν των Ι°, 2° και 3° και οξεικής
αλδεΐνης, ακετόνης και μιγμάτων ακετόνης της 5°.

3Ι 252-
3Ι 299

Ἄρθρο 3

Διατάξεις Γενικῶν Υπηρεσιῶν

3Ι 300
3Ι 352

Χρῆσις φορητῆς συσκευῆς φωτισμοῦ 3Ι 353

Σε κλειστόν ὄχημα δεν επιτρέπεται να εισέρχονται
πρόσωπα μεταφέροντα συσκευήν φωτισμοῦ πλην φορητῶν λυχνιῶν

σχεδιασμένων και κατασκευασμένων κατά τέτοιον τρόπον ώστε να μη μπορούν να αναφλέξουν οιονδήποτε αέριον το οποίον ενδέχεται να εισχώρησεν εις το εσωτερικόν του οχήματος. 3I 353 (Συνεχίζεται)

3I 354-

3I 399

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωσιν, εκφόρτωσιν και χειρισμόν

3I 400-

3I 402

Απαγόρευση μικτής φορτώσεως επί ενός οχήματος 3I 403

(I) Υγρά της Κλάσεως 3, κλεισμένα σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμμορφούμενες προς το μοντέλο No.2A δεν θα φορτώνονται μαζί σε ένα όχημα με ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμμορφούμενες προς το μοντέλο No. I.

(2) Ύλες της Κλάσεως 3, κλεισμένες σε κόλα φέροντα δύο ετικέτες σύμφωνες με το μοντέλο No. 2A δεν θα φορτώνονται μαζί σε ένα όχημα με:-

(α) ύλες των Κλάσεων 5.I ή 5.2 κλεισμένες σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No.3· ή με

(β) υγρά της Κλάσεως 8 κλεισμένα σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No.5.

3I 404-

3I 4I3

Χειρισμός και στοιβασία 3I 4I4

Η χρήσις ευχερώς ευφλέκτων υλών δια στοιβαζόμενα 3I 4I4
κόλα σε οχήματα απαγορεύεται.

3I 4I5

Προφυλάξεις κατά ηλεκτροστατικών φορτίσεων 3I 4I6

Προ της πληρώσεως ή εκκενώσεως δεξαμενών αδρόενισχυμένης πλαστικής ύλης με ύλες σημείου αναφλέξεως 55°C και κάτω, μέτρα θα λαμβάνωνται δια να υπάρχει καλή ηλεκτρική σύνδεσις του σασσί του οχήματος με τη γη.

Ο ρυθμός πληρώσεως για ύλες με σημείον αναφλέξεως 3I 4I7
55°C και κάτω θα περιορίζεται εις τρόπον ώστε να αποφεύγεται η δημιουργία μη-ασφαλών ηλεκτροστατικών φορτίσεων.

3I 4I8-
3I 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσες την λειτουργίαν οχημάτων

Σήματα οχήματος 3I 500

(I) Αι διατάξεις του περιθωρίου I0 500, παράγραφοι (I) και (6), θα ισχύουν δια την μεταφοράν υλών των I°, 3°, 4° και 5°. Αι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν δια την μεταφοράν υλών αναφερομένων εις την Προσθήκην Β.5.

(2) Σταθερές δεξαμενές περιέχουσαι ύλες αναγραφόμενες στην Προσθήκη Β.5 θα φέρουν επιπροσθέτως στις δυο των πλευρές και εις το πίσω μέρος ετικέτα σύμφωνον προς το μοντέλο No. 2A° δεξαμενές περιέχουσαι ή (κενές δεξαμενές, μη-καθαρισθείσαι) που περιείχον ACRYLALDEHYDE (ακρολείνην) ή χλωροπρένιον (χλωροβουταδιένιον) (I°(α)) ή μεθανάλην

(μεθυλικήν αλκοδλην) (5^{o}) θα φέρουν επιπροσθέτως ετικέτες συμφώνως προς το μοντέλο No. 4. 3I 500 (Συνεχίζεται)

3I 50I-
3I 599

Άρθρο 6

Μεταβατικές Διατάξεις, αναλήσεις, και διατάξεις ειδικές για ωρισμένες χώρες

3I 600-
3I 604

3I 605

Μεταβατικές διατάξεις

Δεξαμενές που ήσαν εν υπηρεσία εις την επικράτεια του Συμβαλλομένου Μέρους όταν η Σύμβασις ετέθη εν ισχύϊ συμφώνως προς το άρθρον 7, παράγραφος I, ή ετέθησαν εν υπηρεσία εντός δύο μηνών από της ημερομηνίας θέσεως εν ισχύϊ της Συμβάσεως, μπορούν να χρησιμοποιηθούν δια την διεθνή μεταφοράν επικινδύνων υλών διαρκούσης περιόδου τριών ετώναπό της της τοιαύτης ημερομηνίας ακόμη και εάν το σχέδιον και ο εξοπλισμός αυτών δεν πληρούν πλήρως τους όρους της Προσθήκης B.I.

3I 606-
3I 609

Διατάξεις ειδικές για ωρισμένες χώρες

3I 6I0

Η μεταφορά υγρών της Κλάσεως 3, το σημείον αναφλέξεως των οποίων είναι κάτω των 23^{o}C θα υπόκειται εις την επικράτειαν του Ηνωμένου Βασιλείου εις τους κανονισμούς τους ισχύοντας εις την χώραν αυτήν κατά τον χρόνον της μεταφοράς.

3I 6II

4^{o} 999

Κλάσις 4.Ι

Εύφλεκτα στερεά

Άρθρο Ι

Γενικά

4Ι 000-
4Ι Ι03

Τύποι οχημάτων 4Ι Ι04

Κόλα περιέχοντα ύλες των 4° έως 8° θα φορτώνονται σε κλειστά οχήματα ή σε σκεπασμένα οχήματα.

4Ι Ι05-
4Ι ΙΙ0

Μεταφορά εμπορευμάτων εις χύμα 4Ι ΙΙΙ

(Ι) Θείον της 2°(α) μπορεί να μεταφερθεί εις χύμα.

(2) Ναφθαλίνη της ΙΙ°(α) και (β) μπορεί να μεταφερθεί εις χύμα· στη περίπτωση αυτή πρέπει να μεταφέρεται σε κλειστά οχήματα με μεταλλικό πήγμα ή σε σκεπασμένα οχήματα με μη-εύφλεκτο κάλυμμα και είτε έχοντα μεταλλικό πήγμα ή έχοντα κάλυμμα από στενά-υφασμένο υλικό απλωμένο εις το δάπεδο. Δια την μεταφοράν ναφθαλίνης της ΙΙ°(α), τα δάπεδα των οχημάτων θα προστατεύωνται από πετρελαιοστεγανή επένδυση.

4Ι ΙΙ2-
4Ι ΙΙ7

Μεταφορά σε CONTAINERS 4Ι ΙΙ8

Δια την μεταφορά ναφθαλίνης της ΙΙ°(α) και (β), μικρά ξύλινα CINTAINERS (εμπορευματοκιβώτια) θα είναι εφοδιασμένα με πετρελαιοστεγανή επένδυση.

4Ι ΙΙ9-
4Ι Ι20

Μεταφορά σε δεξαμενές 4I I2I

(I) Θείον (2°), φωσφορική εξασουλφίδη (PHOSPHORUS SESQUISULPHIDE), φωσφορική πεντασουλφίδη (PHOSPHORUS PENTA SULPHIDE) (8δ) και ναφθαλίνη (II°) μπορούν να μεταφέρωνται σε σταθερές ή λυόμενες δεξαμενές.

(2) Οι ίδιες αυτές ύλες μπορούν επίσης να μεταφερθούν σε δεξαμενο-CONTAINERS.

4I I22-
4I I27

Κενές δεξαμενές 4I I28

Για δεξαμενο-CONTAINERS, βλέπε περιθώριον 2I2 I77.

4I I29-
4I I70

Πληρώματα οχημάτων· Επίβλεψις (Επιτελα) 4I I7I

(I) Βοηθός οδηγού θα μεταφέρεται (υπάρχει) σε κάθε μονάδα μεταφοράς που μεταφέρει άνω των 300 KG υλών της 6°.

(2) Αι διατάξεις του περιθωρίου I0 I7I (2) θα ισχύουν μόνον για τα παρακάτω αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες υπερβαίνουσες τις παρακάτω οριζόμενες:

- Ύλες της 7°(α), (β) και (γ) : I.000 KG

4I I72-
4I I99

Άρθρο 2

Ειδικές Διατάξεις αφορώσες τα οχήματα και τον εξοπλισμόν αυτών

4I 200-
4I 250

Ηλεκτρικός εξοπλισμός 4I 25I

Αι διατάξεις της Προσθήκης Β.2, περιθώριον 220 000,

δεν θα έχουν εφαρμογήν για μεταφοράν υλών πλην των υλών των 3° έως 7°.

4I 252-
4I 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

(Ουδεμία ειδική διάταξις) 4I 300-
4I 399

Άρθρο 4

Ειδικαί Διατάξεις διέπουσαι την φόρτωσιν, εκφόρτωσιν και χειρισμόν

Μέθοδος αποστολής και περιορισμοί προωθήσεως 4I 400

Θείον εις τετηγμένην κατάστασιν (2°(β)) και ναφθαλίνη εις τετγμένην κατάστασιν (II°(γ)) μπορούν να μεταφέρωνται μόνο σε βυτιοφόρα και δεξαμενο-CONTAINERS.

4I 401-
4I 402

Απαγόρευση μικτής φορτώσεως επί ενός οχήματος 4I 403

(I) Ύλες της Κλάσεως 4.I πλεισμένες σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμφώνως προς το μοντέλο No. 2B δεν θα φορτώνωνται μαζί επάνω σε όχημα με ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ πλεισμένα σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμφώνως προς το μοντέλο No.I.

(2) Ύλες της Κλάσεως 4.I πλεισμένες σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο 2B δεν θα φορτώνωνται μαζί επάνω σε όχημα με:-

(α) ύλες των Κλάσεων 5.I ή 5.2 πλεισμένες σε κόλα

φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No.3· 4I 403
ή με (Συνεχί-
(β) υγρά της Κλάσεως 8 κλεισμένα σε κόλα φέροντα δύο ετι- ζεται)
κέτες συμφώνως προς το μοντέλο No. 5.

4I 404-
4I 499

Άρθρο 5

Ειδικές διατάξεις διέπουσες την λειτουργίαν οχημάτων

Σήματα Οχημάτων 4I 500

(I) Αι διατάξεις του περιθωρίου I0 500, παράγραφοι (I) και (6), θα ισχύουν δια την μεταφοράν υλών των 2°(β), 4° έως 8° και II°(γ). Αι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν επίσης δια την μεταφοράν των υλών των αναφερομένων εις την Προσθήκην Β.5.

(2) Σταθεραί δεξαμεναί περιέχουσαι ή (κεναί δεξαμεναί, ακαθάριστοι) που περιείχον ύλες αναφερόμενες στην Προσθήκη Β.5 θα φέρουν επιπροσθέτως δύο πλευρές και πίσω ετικέτα συμφώνως προς το μοντέλο No.2Β.

4I 50I-
4I 599

Άρθρο 6

Μεταβατικές Διατάξεις, ανακλήσεις και διατάξεις ειδικές για ωρισμένες χώρες

(Ουδεμία ειδική διάταξις) 4I 600-
4I 999

Κλάση 4.2

Ύλες υποκείμενες σε αυτανάφλεξη

Άρθρο I

Γενικά

42 000-
42 103

Τύποι Οχημάτων 42 104

Κόλα περιέχοντα ύλες των 4° και 10° θα φορτώνονται σε κλειστά οχήματα ή σε σκεπασμένα οχήματα.

42 105-
42 110

Μεταφορά Εμπορευμάτων εις Χύμα 42 111

Ύλες της 5°, κόνις (σκόνη) από φίλτρα υφιναμίνων (6°(α)) και ύλες της 10° μπορούν να μεταφέρονται εις χύμα. Ύλες των 5° και 10° στη περίπτωση αυτή θα μεταφέρονται σε κλειστά οχήματα με μεταλλικόν πήγμα, και κόνις από φίλτρα υφιναμίνων σε κλειστά οχήματα με μεταλλικό πήγμα ή σκεπασμένα οχήματα με μεταλλικό πήγμα.

42 112-
42 120

Μεταφορά σε δεξαμενές 42 121

(1) Λευκός ή κίτρινος φώσφορος (1°) και νεωστί-σβυσμένος ξυλάνθρακας, σε κατάσταση κόνεως ή κόκκων, (8°) μπορούν να μεταφέρονται σε σταθερές δεξαμενές ή λυόμενες δεξαμενές.

(2) Λευκός ή κίτρινος φώσφορος (1°), αλκύλια αλουμινίου, αλογονίδια και υδρογονούχα αλκυλίων αλουμινίου (3°) και νεωστί-σβυσμένος ξυλάνθρακας σε κατάσταση κόνεως ή κόκκων,

(8°) μπορούν να μεταφέρονται σε δεξαμενο-CONTAINERS.

42 I22-
42 I27

Κενές δεξαμενές 42 I28

(I) Θα γίνονται δεκτές για μεταφορά, κενές σταθερές δεξαμενές και κενές λυόμενες δεξαμενές που περιείχον φώσφορον της I° είτε:

- θα πληρούνται με άζωτον, οπότε το έγγραφο μεταφοράς θα πρέπει να πιστοποιεί ότι η δεξαμενή, μετά το κλείσιμο, είναι αεριο-στεγανή· ή
- θα πληρούνται μέχρι όχι λιγότερο του 96 στα εκατόν της χωρητικότητάς τους με νερό μεταξύ Ιης Οκτωβρίου και 3Ιης Μαρτίου το νερό αυτό θα περιέχει, ως συμπύκνωση που δεν θα επιτρέπει το νερό να φυχθεί διαρκούσης της μεταφοράς, έναν ή περισσοτέρους μη-διαβρωτικούς αντιψυκτικούς άγοντας μη-υποκειμένους σε αντίδραση με τον φώσφορον.

(2) Δια δεξαμενο-CONTAINERS, βλέπε 2I2 I77 και 2I2 474.

42 I29-
42 I70

Πληρώματα οχημάτων· Επίβλεψις (Εποπτεία) 42 I7I

(I) Βοηθός οδηγού θα μεταφέρεται (υπάρχει) σε κάθε μονάδα μεταφοράς μεταφέρουσα ύλες των I°, 2°, 3° και 4°.

(2) Οι διατάξεις του περιθωρίου I0 I7I (2) θα ισχύουν μόνον δια τα κατωτέρω αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες μη υπερβαίνουσες τις παραπλεύρως οριζόμενες:

- Ύλες των I° - 3°, πλην ζιρκονίου της 6°(α) και μέταλλα πυροφορικού τύπου της 6°(δ): I0.000 KG.

42 I72-
42 I99

Άρθρο 2

Ειδικές Διατάξεις τις οποίες πρέπει να πληρούν τα οχήματα και ο εξοπλισμός των

42 200-
42 250

Ηλεκτρικός εξοπλισμός 42 25I

Αι διατάξεις της Προσθήκης Β.2, περιθώριον 220 000, δεν θα ισχύουν για την μεταφοράν επικινδύνων υλών της Κλάσεως 4.2.

42 252-
42 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

42 300-
42 399

(Ουδεμία ειδική διάταξις)

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωσιν, εκφόρτωσιν και εξοπλισμόν

42 400-
42 402

Απαγόρευση μικτής φορτώσεως επί ενός οχήματος 42 403

(I) Ύλες της Κλάσεως 4.2 κλεισμένες σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμφώνως προς το μοντέλο No. 2Γ δεν θα φορτώνονται μαζί επί ενός οχήματος με ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα ετικέτα ή δύο ετικέτες συμφώνως προς το Μοντέλο No.I.

(2) Ύλες της 4° κλεισμένες σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No. 2Γ δεν θα φορτώνονται μαζί σε ένα όχημα με:- 42 403 (Συνεχίζεται)

(α) ύλες των Κλάσεων 5.1 ή 5.2 κλεισμένες σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No.3· ή με

(β) υγρά της Κλάσεως 8 κλεισμένα σε κόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No.5.

42 404-
42 413

Χειρισμός και στοιβασία 42 414

(1) Δοχεία και κόλα περιέχοντα ύλες των 1° και 3° δεν πρέπει να υποβάλλωνται σε πρόσκρουση. Θα τοποθετούνται κατά τέτοιο τρόπο εις το όχημα ώστε να μη μπορούν να αναποδογυρίσουν ή πέσουν ή μετατοπισθούν κατά οιονδήποτε τρόπον.

(2) Η χρήσις ευχερώς ευφλέκτων υλών για στοιβαζόμενα κόλα σε οχήματα απαγορεύεται.

42 415-
42 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσες την λειτουργίαν οχημάτων

Σήματα Οχημάτων 42 500

(1) Οι διατάξεις του περιθωρίου 10 500, παράγραφοι (1) και (6), θα ισχύουν δια την μεταφοράν υλών των 1° έως 4° και 6°. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν επίσης για την μεταφοράν των υλών των αναφερομένων εις την Προσθήκην Β.5.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, αναθάρισπες) που περιείχαν ύλες αναφερόμενες εις την Προσθήκην Β.5 θα φέρουν επιπροσθέτως δύο πλευρές τοιχαι πίσω ετικέτα συμφώνως προς το μοντέλο Νο. 2Γ. (Συνεχίζεται) 42 500

42 501-
42 599

Άρθρο 6

Μεταβατικές διατάξεις, αναλήσεις, και διατάξεις ειδικές για ωρισμένες χώρες

42 600-
42 999

(Ουδεμία ειδική διάταξις)

Κλάσις 4.3

Ύλες που αναδίδουν εύφλεκτα αέρια σε επαφή με το νερό

Άρθρο 1

Γενικά

43 000-
43 103

Τύποι Οχημάτων 43 104

Επικίνδυνες ύλες της Κλάσεως 4,3 σε ηόλα θα φορτώνωνται σε κλειστά ή σκεπασμένα οχήματα. Εν τούτοις, δοχεία περιέχοντα ανθρακασβέστιον (2^{o}(α)) μπορούν επίσης να φορτώνωνται σε ανοικτά οχήματα.

43 105-
43 110

Μεταφορά Εμπορευμάτων εις χύμα 43 III

Ανθρακασβέστιον (2°(α)) και πυριτικόν ασβέστιον σε βώλους (2°(δ)) μπορούν να να μεταφέρωνται εις χύμα εις οχήματα με κινητά ή σταθερά δοχεία τα οποία πρέπει να πληρούν τους γενικούς όρους συσκευασίας τους διαλαμβανομένους εις το περιθώριον 2472(I), (2) και (3). Τα τοιαύτα δοχεία πρέπει να είναι έτσι σχεδιασμένα ώστε τα στόμια τα χρησιμοποιούμενα δια την φόρτωσιν ή εκφόρτωσιν να μπορούν να κλείουν ερμητικώς.

43 II2-
43 II7

Μεταφορά σε CONTAINERS 43 II8

Μικρά CONTAINERS χρησιμοποιούμενα δια την μεταφορά εις χύμα των υλών των αναφερομένων εις το περιθώριον 43 III θα συμμορφούνται προς τις διατάξεις του περιθωρίου τούτου που διέπουν τα οχήματα και τα δοχεία των οχημάτων.

43 II9-
43 I20

Μεταφορά σε δεξαμενές 43 I2I

(I) Νάτριον, κάλιον, και κράματα νατρίου ή καλίου (I°(α)), και τριχλωριούχο υδρογονούχο πυρίτιο (TRICHLORO-SILANE) (SILICOCHLOROFORM) (4°), μπορούν να μεταφέρωνται σε σταθερές δεξαμενές ή λυόμενες δεξαμενές.

(2) Οι ύλες αυτές μπορούν επίσης να μεταφέρωνται σε δεξαμενο-CONTAINERS.

43 I22-
43 I27

Κενές δεξαμενές 43 I28

(I) Για να γίνουν δεκτές για μεταφορά, οι κενές δεξαμενές και κενές λυόμενες δεξαμενές που περιείχον νάτριον, κάλιον ή κράματα νατρίου και καλίου (I°(α)) θα κλείωνται κατά τον αυτόν τρόπον και με τον αυτόν βαθμόν στεγανότητος ως εάν ήσαν πλήρεις.

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριο 2I2 I77.

43 I29-
43 I70

Πληρώματα οχημάτων· Επίβλεψις (Εποπτεία) 43 I7I

(I) Βοηθός οδηγού θα μεταφέρεται (υπάρχει) σε κάθε μονάδα μεταφοράς μεταφέρουσα ύλες της Κλάσεως 4.3 πλην ανθρακασβεστίου (2°(α)) καθ πυριτικού ασβεστίου (2°(δ)).

(2) Αι διατάξεις του περιθωρίου I0 I7I (2) θα ισχύουν μόνον δια τα κάτωθι αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες υπερβαίνουσες τις κατωτέρω οριζόμενες:

- Αλκαλικά μέταλλα και ύλες περιέχουσες αλκαλικά μέταλλα της I°, αλκαλικά μεταλλικά υδρογονούχα της 2°(β) και τριχλωριούχο υδρογονούχο πυρίτιο (TRICHLOROSILANE) (SILICOCHLOROFORM) της 4° : I0.000 KG.

43 I72-
43 I99

Άρθρο 2

Ειδικές διατάξεις που πρέπει να πληρούν τα οχήματα και ο εξοπλισμός αυτών

43 200-

(ουδεμία ειδική διάταξις) 43 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

43 300-
43 399

(Ουδεμία ειδική διάταξη)

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωση, εκφόρτωση και χειρισμόν

43 400-
43 402

Απαγόρευση μικτής φορτώσεως επί ενός οχήματος 43 403

Ύλες της Κλάσεως 4.3 δεν θα φορτώνονται μαζί σε όχημα με ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα ετικέτα ή δύο ετικέτες σύμφωνως προς το μοντέλο No.I.

43 404-
43 413

Χειρισμός και στοιβασία 43 414

Τα κόλα θα στοιβάζονται στο όχημα κατά τρόπον ώστε να μη μπορούν να μετατοπισθούν. Θα προστατεύωνται κατά οιασδήποτε τριβής ή προσκρούσεως. Κατά τον χειρισμόν των κόλων, ειδικά μέτρα θα λαμβάνωνται ώστε να αποφευχθεί η επαφή τους με το νερό.

43 415-
43 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσες την λειτουργίαν οχημάτων

Σήματα Οχημάτων 43 500

(I) Οι διατάξεις του περιθωρίου IO 500, παράγραφοι (I) και (6), θα ισχύουν για την μεταφορά επικινδύνων υλών της Κλάσεως 4.3. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν για την μεταφορά των υλών των αναφερομένων εις την Προσθήκη Β.5. 43 500 (Συνεχίζεται)

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, ακαθάριστες) που περιείχον ύλες αναφερόμενες στην Προσθήκη Β.5 θα φέρουν επιπροσθέτως στις δυο πλευρές τους και πίσω ετικέτα σύμφωνον προς το μοντέλο No. 2Δ.

43 501-
43 599

Άρθρο 6
Μεταβατικές Διατάξεις, ανακλήσεις, και διατάξεις ειδικές για ωρισμένες χώρες

43 600-
50 999

(Ουδεμία ειδική διάταξις)

Κλάσις 4.I
Οξειδωρικές Ύλες
Άρθρο I
Γενικά

5I 000-
5I II0

Μεταφορά εις χύμα 5I III

(I) Ύλες των 4° έως 6° και 7°(α) και (β) μπορούν να μεταφέρωνται εις χύμα ως πλήρες φορτίο.

(2) Ύλες των 4° και 5° θα μεταφέρωνται σε ανοικτά

μεταλλικά "οχήματα κάδοι" (VAT VEHICLES) (VEHICULES CUVES) 5Ι ΙΙΙ καλυμμένα με αδιαπέραστο μη-εύφλεκτο κάλυμμα, ή σε μεταλλικά CONTAINERS (βλέπε περιθώριο 5Ι ΙΙ8(2)). (Συνεχίζεται)

(3) Ύλες των 6° και 7°(α) και (β) θα μεταφέρωνται σε κλειστά οχήματα ή σε οχήματα καλυμμένα με αδιαπέραστο μη-εύφλεκτο κάλυμμα, και τα οχήματα θα είναι έτσι κατασκευασμένα ώστε είτε η ύλη δεν θα μπορεί να έλθει σε επαφή με το ξύλο ή οιοδήποτε άλλο εύφλεκτο υλικό είτε η ολική επιφάνεια του δαπέδου και των τοιχωμάτων, εάν εύφλεκτος, θα έχει εφοδιασθεί με αδιαπέραστο και μη-εύφλεκτο επίστρωμα ή θα έχει κατεργασθεί με ύλην καθιστώσα το ξύλο άκαυστον (μη-εύφλεκτον).

5Ι ΙΙ2-
5Ι ΙΙ7
5Ι ΙΙ8

Μεταφορά σε CONTAINERS

(Ι) Εύθραυστα κόλα εντός της εννοίας του περιθωρίου Ι0 Ι02(Ι) και κόλα περιέχοντα υπεροξείδιο του υδρογόνου ή διαλύματα υπεροξειδίου του υδρογόνου (Ι°) ή τετρανιτρομεθάνην (2°) δεν επιτρέπεται να μεταφέρωνται σε μικρά CONTAINERS.

(2) CONTAINERS προοριζόμενα δια την μεταφοράν υλών των 4° και 5° θα είναι κατασκευασμένα από μέταλλο, θα είναι στεγανά, θα καλύπτωνται με πώμα ή αδιαπέραστο κάλυμμα ανθεκτικόν εις την καύσιν, και θα είναι κατασκευασμένα έτσι ώστε η ύλη η υπάρχουσα εις τα CONTAINERS να μη μπορεί να έλθει σε επαφή με ξύλο ή οιοδήποτε άλλο καύσιμον (εύφλεκτον) υλικόν.

(3) CONTAINERS προοριζόμενα δια την μεταφοράν υλών της 6° και 7°(α) και (β) θα καλύπτωνται με πώμα ή αδιαπέραστο

καλυμμα ανθεκτικόν εις την καύσιν, και θα είναι κατα- 5I II8
σκευασμένα έτσι ώστε η ύλη η υπάρχουσα εις τα CONTAIN- (Συνεχί-
ERS να μη μπορεί να έλθει σε επαφή με το ξύλο ή οιοδή- ζεται)
ποτε άλλο καύσιμο (εύφλεκτο) υλικό ή η ολική επιφάνεια του
δαπέδου και των τοιχωμάτων, εάν είναι κατασκευασμένα από
ξύλο, να έχει εφοδιασθεί με αδιαπέραστον επίστρωσιν ανθε-
κτικήν εις την καύσιν ή να έχει επιχρισθεί με πυριτικόν
νάτριον ή παρεμφερή ύλην.

5I II9-
5I I20

Μεταφορά σε δεξαμενές 5I I2I

(I) Ύλες των I° έως 3°· διαλύματα της 4° (επίσης κονιοποιημένο χλωριούχο νάτριο σε υγρά ή ξηρά κατάσταση)· και θερμά υδάτινα διαλύματα νιτρικού αμμωνίου της 6°(α) σε συμπύκνωση άνω του 80 τοις εκατόν αλλά όχι άνω του 93 τοις εκατόν υπό τον όρον ότι:-

(α) η τιμή pH, μετρουμένη εις 10 τοις εκατόν υδάτινον διάλυμα της μεταφερομένης ύλης, είναι μεταξύ 5 και 7, και ότι

(β) τα διαλύματα τα μη περιέχοντα οιανδήποτε καύσιμον (εύφλεκτον) ύλην σε ποσότητα μεγαλύτερα του 0.2 τοις εκατόν ή οιανδήποτε ένωσιν χλωρίου σε τοιαύτη ποσότητα ώστε το εις χλώριον περιεχόμενον να υπερβαίνει το 0.02 τοις εκατόν, μπορούν να μεταφέρονται σε σταθερές δεξαμενές και λυόμενες δεξαμενές.

(2) Αι ύλες των I° έως 3°, τα διαλύματα της 4° και το υγρόν χλωριούχον νάτριον της κλάσεως 5.I μπορούν να

μεταφέρονται σε δεξαμενο-CONTAINERS. 5I I2I

(3) Διαλύματα της 4°(α) δύνανται να μεταφέρονται σε ενισχυμένες-πλαστικές δεξαμενές συμμορφούμενες προς τις διατάξεις της Προσθήκης Β.Ιγ.

5I I22-
5I I27

Κενές δεξαμενές 5I I28

(I) Δια να γίνουν δεκτές δια μεταφοράν, κενές σταθερές δεξαμενές και κενές λυόμενες δεξαμενές που περιείχαν ύλες της Κλάσεως 5.I, θα είναι κλεισμένες κατά τον αυτόν τρόπον και θα είναι του αυτού βαθμού στεγανές ως εάν ήσαν πλήρεις.

(2) Δια δεξαμενο-CONTAINERS, βλέπε περιθώριον 2I2 I77.

(3) Κενές σταθερές δεξαμενές και κενές λυόμενες δεξαμενές που περιείχον χλωρικόν άλας, υπερχλωρικόν άλας, χλωρίτην (4° και 5°), ανόργανον αζωτούχον νιτρικόν άλας (8°) ή ύλες των 9° και I0° και έχουν υπολείμματα εκ προηγουμένου περιεχομένου αυτών προσκολλημένα εις το εξωτερικόν μέρος αυτών δεν θα γίνονται δεκτά δια μεταφοράν.

5I I29-
5I I70

Πληρώματα οχημάτων: Επίβλεψις (Εποπτεία) 5I I7I

(I) Βοηθός οδηγού θα μεταφέρεται (υπάρχει) σε κάθε μονάδα μεταφοράς μεταφέρουσα ύλες της Κλάσεως 5.I, I°, 2° και 3°.

(2) Αι διατάξεις του περιθωρίου I0 I7I (2) θα ισχύουν μόνον δια τα εξής αναφερόμενα επικίνδυνα εμπορεύματα σε ποσότητες υπερβαίνουσες τις κατωτέρω οριζόμενες:

- Ύλες των Ι° έως 3° και 9°(α) : 10.000 ΚΓ.

5Ι 172-
5Ι 199

Άρθρο 2

Ειδικοί όροι τους οποίους πρέπει να πληρούν τα οχήματα και ο εξοπλισμός των

(Ουδείς ειδικός όρος) 5Ι 200-
5Ι 215

Κουβούκλιον 5Ι 216

Αι κατωτέρω διατάξεις θα ισχύουν δια την μεταφοράν υγρών της Ι° σε σταθερές δεξαμενές ή λυόμενες δεξαμενές:-

(1) εκτός εάν το κουβούκλιο του οδηγού είναι κατασκευασμένο από πυρίμαχον ύλην, ένα προστατευτικόν μεταλλικόν κάλυμμα του αυτού πλάτους με το πλάτος της δεξαμενής θα εφαρμόζεται εις το πίσω μέρος του κουβουκλίου·

(2) οιαδήποτε παράθυρα εις το πίσω μέρος του κουβουκλίου του οδηγού ή εις το μεταλλικό προστατευτικό κάλυμμα θα είναι ερμητικώς κλεισμένα. Θα είναι κατασκευασμένα με πυρίμαχον ύαλον ασφαλείας και θα έχουν πυρίμαχα πλαίσια· και

Πήγμα (καρότσα) Οχήματος 5Ι 217

Για την μεταφοράν υγρών της Ι° εις σταθερές δεξαμενές ή εις λυόμενες δεξαμενές, ξύλο (εκτός εάν καλύπτωνται με μέταλλο ή κατάλληλη συνθετική ύλη) δεν θα χρησιμοποιείται δια την κατασκευή οιουδήποτε εξαρτήματος του οχήματος κειμένου εις το πίσω μέρος του προστατευτικού καλύμματος του προβλεπομένου υπό του περιθωρίου 5Ι 216 (1).

5Ι 218-
5Ι 230

Κινητήρας (Μηχανή) 5Ι 23Ι

Για τη μεταφορά υγρών της Ι° σε σταθερές δεξαμενές ή σε λυόμενες δεξαμενές, ο κινητήρας (μηχανή) και (εκτός οσάκις το όχημα κινείται με κινητήρα ντήζελ) η δεξαμενή καυσίμου θα είναι τοποθετημένα έμπροσθεν του πίσω τοιχώματος του κουβουκλίου του οδηγού ή του προστατευτικού καλύμματος, ή εάν είναι άλλως τοποθετημένα θα προστατεύονται ειδικώς.

5Ι 232-
5Ι 259

Ειδικός Εξοπλισμός 5Ι 260

Οχήματα μεταφέροντα υγρά της Ι° σε σταθερές δεξαμενές ή λυόμενες δεξαμενές θα φέρουν σ'αυτά δεξαμενήν έχουσα χωρητικότητα περίπου 30 λιτρών νερού. Η δεξαμενή νερού θα είναι τοποθετημένη όσο είναι δυνατόν ασφαλώς, και θα αναμιχθεί εις το νερό το οποίον περιέχει ένα αντιψυκτικό παρασκεύασμα το οποίον δεν προσβάλλει το δέρμα ή τις βλενογόνους μεμβράνες και δεν αντιδρά χημικώς με το φορτίο.

5Ι 26Ι-
5Ι 299

Άρθρο 3

Διατάξεις Γενικών Υπηρεσιών

5Ι 300-
5Ι 302

Προφυλάξεις εν σχέσει με αναλώσιμα είδη 5Ι 303

Εις οχήματα και εις τόπους φορτώσεως, εκφορτώσεως ή μεταφορτώσεως, τετρανιτρομεθάνη της 2°, χλωριούχον βάριον της 4°(α), υπερχλωριούχον βάριον της 4°(β), νι-

τριών βάριον και νιτρικός μόλυβδος της 7°(γ), ανόργανα νιτρώδη άλατα της 8°, διοξείδιον βαρίου της 9°(β) και υπερμαγγανικόν βάριον της 9°(γ) θα τηρούνται μακράν από τρόφιμα και λοιπά αναλώσιμα είδη. 5I 303 (Συνεχί-

5I 304-
5I 399

Άρθρο 4

Ειδικές Διατάξεις διέπουσες την φόρτωσιν, εκφόρτωσιν και χειρισμόν

5I 400-
5I 402

Απαγόρευση μικτής φορτώσεως επί ενός οχήματος 5I 403

(1) Ύλες της Κλάσεως 5.I πλεισμένες σε πόλα φέροντα ετικέτα ή δύο ετικέτες συμφώνως προς το μοντέλο No. 3 δεν θα φορτώνονται μαζί σε ένα όχημα με ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ πλεισμένα σε πόλα φέροντα ετικέτα ή δύο ετικέτες συμφώνως προς το μοντέλο No.I.

(2) Ύλες της Κλάσεως 5.I πλεισμένες σε πόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No. 3 δεν θα φορτώνονται μαζί σε ένα όχημα με:-

(α) ύλες των Κλάσεων 3, 4.I ή 4.2 πλεισμένες σε πόλα φέροντα δύο ετικέτες συμφώνως προς τα μοντέλα No. 2A, 2B ή 2Γ· ή με

(β) υγρά της Κλάσεως 8 πλεισμένα σε πόλα φέροντα δύο ετικέτες συμφώνως προς το μοντέλο No.5.

5I 404-
5I 4I3

Χειρισμός και στοιβασία 5I 4I4

(I) Κόλα περιέχοντα ύλες της Κλάσεως 5.I θα τοποθετούνται επίπεδα (ίσα) επί των πυθμένων τους. Επιπροσθέτως, δοχεία περιέχοντα υγρά της Κλάσεως 5.I θα σφηνώνονται κατά τέτοιον τρόπον ώστε να μη μπορούν να αναποδογυρίσουν.

(2) Η χρήσις ευχερώς ευφλέκτων υλών δια στοιβαζόμενα κόλα σε οχήματα απαγορεύεται.

Καθάρισμα μετά την εκφόρτωσιν 5I 4I5

Μετά την εκφόρτωσιν, οχήματα τα οποία μετέφεραν ύλες των 4° έως 6° και 7°(α) και (β) εις χύμα θα πλένονται με άφθονο νερό.

5I 4I6-
5I 499

Άρθρο 5

Ειδικές Διατάξεις διέπουσες την λειτουργίαν οχημάτων

Σήματα Οχημάτων 5I 500

(I) Αι διατάξεις του περιθωρίου I0 500, παράγραφοι (I) και (6) θα ισχύουν δια την μεταφοράν των υλών των I°, 2°, 3° των χλωρικών αλάτων και ζιζανιοκτόνων ανοργάνων χλωρικών αλάτων της 4°(α), υπερχλωρικού βαρίου της 4°(β), υλών των 8° και 9°(β), και υπερμαγγανικού βαρίου της 9°(γ). Αι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν επίσης δια την μεταφοράν των υλών των αναφερομένων εις την Προσθήκην B.5.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, ακαθάριστες) που περιείχαν ύλες αναγραφόμενες στην Προσθήκη

Β.5 θα φέρουν επιπροσθέτως στις δύο πλευρές 5I 500
τους και στο πίσω μέρος ετικέτα συμφώνως προς το μοντέλο (Συνεχίζε-
No. 3. ται)
5I 501-
5I 999

Άρθρο 6

Μεταβατικές Διατάξεις, αναλήσεις, και διατάξεις ειδικές για ωρισμένες χώρες

5I 600-

(Ουδεμία ειδική διάταξη) 5I 999

Κλάση 5.2

Οργανικά Υπεροξείδια

Άρθρον Ι

Γενικά

52.000-
52.103

Τύποι Οχημάτων 52.104

(1) Ύλες των 1° έως 22°, 30° και 31° θα φορτώνονται σε κλειστά ή σκεπασμένα οχήματα. Ύλες των 45° έως 55° κλεισμένες σε προστατευτικές συσκευασίες γεμάτες με ψυκτικό υγρό θα φορτώνονται σε κλειστά ή σκεπασμένα οχήματα. Εάν τα χρησιμοποιούμενα οχήματα είναι κλειστά θα έχουν καταλλήλως εξαερισθεί. Σκεπασμένα οχήματα θα είναι εφοδιασμένα με σανίδες στα πλευρά (πλαϊνά) και στο πίσω μέρος. Τα σκεπάσματα των οχημάτων αυτών θα είναι από αδιάβροχο υλικό που δεν θα είναι ευχερώς εύφλεκτο.

(2) Όσάκις, λόγω των διατάξεων του περιθωρίου 52.400, οι ύλες απαιτείται να μεταφέρονται σε μονωμένα, κατεψυγμένα (ψυκτικά) ή μηχανικής-καταψύξεως οχήματα, τα οχήματα αυτά θα ικανοποιούν τους όρους του περιθωρίου 52.248.

52.105-
52.117

Μεταφορά σε εμπορευματοκιβώτια (CONTAINERS) 52.118

Εύθραυστα υλα εντός της εννοίας του περιθωρίου 10.102(1) δεν θα μεταφέρονται σε μικρά CONTAINERS.

52.119-
52.120

Μεταφορά σε δεξαμενές 52.I2I

(I) Ύλες των I°, I0°, I4°, I5° και I8° θα μεταφέρωνται σε σταθερές δεξαμενές και δυνάμενες να αφαιρεθούν δεξαμενές.

(2) Οι ύλες αυτές μπορούν επίσης να μεταφέρωνται σε CONTAINERS δεξαμενών.

52.I22-
Κενές δεξαμενές 52.I27

(I) Για να γίνωνται δεκτές για μεταφορά, κενές σταθε- 52.I28
ρές και κενές δυνάμενες να αφαιρεθούν δεξαμενές της 99° θα κλείνουν κατά τον αυτόν τρόπον και θα είναι του αυτού βαθμού στεγανές σάν νά ήσαν γεμάτες.

(2) Για CONTAINERS δεξαμενών, βλέπε περιθώριο 2I2.I77.

52.I29
52.I70

Πληρώματα Οχημάτων: Εποπτεία (Επίβλεψη) 52.I7I

(I) Βοηθόν οδηγού θα φέρει κάθε μονάδα μεταφοράς φορτωμένη με ύλες των 46°(α), 47°(α) και 49°(α) και κάθε μονάδα μεταφοράς φορτωμένη με άνω των 2.000 KG ύλες των 45°, 46°(β) και (γ), 50°, 5I° έως 53° και 55°.

(2) Οι διατάξεις του περιθωρίου I0.I7I(2) θα ισχύουν μόνον για επικίνδυνα εμπορεύματα αναγραφόμενα παρακάτω σε ποσότητες υπερβαίνουσες τις οριζόμενες παρακάτω:-

Ομάδα Α. Ύλες των 4°, 8°(α), 9°(α), I3°(α) και I7°(α):	I.000 KG
Ομάδα Γ. Ύλες των 35°:	I.000 KG
Ομάδα Ε. Ύλες των 46°(α), 47°(α) και 49°(α):	I00 KG

Ύλες των 45°, 46°(β) και (γ), 47°(β), 48°, 49°(β), 50°-55°: 2.000 KG

52.I729
52.I99

Άρθρο 2

Ειδικές διατάξεις που πρέπει να πληρούν τα οχήματα και ο εξοπλισμός τους

52.200-
52.247
52.248

Μονωμένα, ψυκτικά και μηχανικής-καταψύξεως οχήματα χρησιμοποιούμενα ένεκεν των διατάξεων του περιθωρίου 52.400 θα πληρούν τους παρακάτω όρους:-

(α) το χρησιμοποιούμενο όχημα θα είναι τέτοιο και έτσι εφοδιασμένο αναφορικά με τη μόνωσή του και τη πηγή ψύξεως ώστε η ανώτατη θερμοκρασία η προβλεπόμενη από το περιθώριο 52.400 να μην υπερβαίνεται αδιακρίτως ατμοσφαιρικών συνθηκών.

(β) το όχημα θα είναι έτσι εφοδιασμένο ώστε οι ατμοί από τις μεταφερόμενες ύλες να μη μπορούν να εισχωρήσουν εις το κουβούκλιον·

(γ) κατάλληλος μηχανισμός θα υπάρχει που θα παρέχει τη δυνατότητα στη θερμοκρασία την ισχύουσα στον χώρο φορτώσεως να καθορίζεται οποτεδήποτε από τη θέση του οδηγού·

(δ) ο χώρος φορτώσεως θα είναι εφοδιασμένος με οπές αερισμού (αεραγωγούς) ή βαλβίδες εξαερισμού εάν υπάρχει οιοσδήποτε κίνδυνος να εγερθεί επικίνδυνος υπερβολική πίεση. Θα λαμβάνεται μέριμνα οσάκις είναι απαραίτητον να εξασφαλισθεί ότι η κατάψυξη δεν εξασθενείται από τις

οπές αερισμού ή βαλβίδες εξαερισμού·

(ε) το χρησιμοποιούμενο ψυκτικό υγρό δεν θα είναι εύφλεκτο.

(στ) η συσκευή καταψύξεως μηχανικώς-ψυχομένου οχήματος θα είναι ικανή να λειτουργεί ανεξάρτητα της μηχανής που χρησιμοποιείται για να κινεί το όχημα.

Άρθρο 3

Γενικές Διατάξεις Σέρβις

(δεν υπάρχουν ειδικές διατάξεις) 52.300-52.399

Άρθρο 4

Ειδικές διατάξεις αφορώσες την φόρτωση, εκφόρτωση και τον χειρισμόν

Μέθοδος αποστολής και περιορισμοί επί της προωθήσεως 52.400

(Ι) Οι όλες της Ομάδος Ε θα προωθούνται κατά τέτοιο τρόπο ώστε να μην υπερβαίνονται οι παρακάτω σημειούμενες θερμοκρασίες του περιβάλλοντος:

Όλες της 45°	:	ανώτατη θερμοκρασία	+ 10°C
Όλες της 46°(α)	:	" "	- 10°C
Όλες των 46°(β) και (γ)	:	" "	- 10°C
Όλες της 47°(α)	:	" "	- 10°C
Όλες της 47°(β)	:	" "	- 10°C
Όλες της 48°	:	" "	+ 2°C
Όλες της 49°(α)	:	" "	- 10°C
Όλες της 49°(β)			
Όλες της " με PHLEGMATIZER	:	" "	+ 2°C
Όλες της " με διαλυτικό	:	" "	- 5°C

Ύλες της 50°	: ανώτατη θερμοκρασία	0°C
Ύλες της 51°	: " "	0°C
Ύλες της 52°	: " "	+20°C
Ύλες της 53°	: " "	-10°C
Ύλες της 54°	: " "	+20°C
Ύλες της 55°	: " "	+10°C

(2) Οσάκις ύλες της Ομάδος Ε δεν μεταφέρονται σε μηχανικώς ψυχόμενα οχήματα, η ποσότης του φυκτικού εις την προστατευτικήν συσκευασίαν θα είναι τέτοιας αναλογίας ώστε οι θερμοκρασίες που ορίζονται στην παράγραφον (Ι) δεν υπερβαίνονται οποτεδήποτε διαρκούσης της μεταφοράς, εις τον όρον δε αυτόν περιλαμβάνονται η φόρτωσις και η εκφόρτωσις.

(3) Η χρήση υγρού αέρος ή υγρού οξυγόνου ως φυκτικού απαγορεύεται. 52.400 (Συνεχίζεται)

(4) Η θερμοκρασία της ψύξεως θα επιλέγεται κατά τρόπον ώστε να αποφεύγεται οιοσδήποτε κίνδυνος που θα ήτο δυνατόν να εγερθεί εκ του χωρισμού των φάσεων.

Όριον μεταφερομένων ποσοτήτων 52.401

Μία μονάς μεταφοράς δεν θα μεταφέρει άνω των 750 KG ύλες των 46°(α), 47°(α) και 49°(α), ούτε άνω των 5.000 KG ύλες των 45°, 46°(β) και (γ), 47°(β), 48°, 49°(β), 50° έως 53° και 55°, ούτε άνω των 10.000 KG ύλες της 54°.

52.402

Απαγόρευση μικτής φορτώσεως σ'ένα όχημα 52.403

Ύλες της Κλάσεως 5.2 δεν θα φορτώνονται μαζί σ' ένα όχημα με:

(α) ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ πλεισμένες σε

κόλα φέροντα ετικέττα ή δύο ετικέτττες σύμφωνα προς το μοντέλο No.I· με 52.403 (Συνεχίζεται)

(β) όλες των Κλάσεων 3, 4.I ή 4.2 κλεισμένες σε κόλα φέροντα δύο ετικέττες σύμφωνα προς τα μοντέλα 2A, 2B ή 2C: ή με

(γ) υγρά της Κλάσεως 8 κλεισμένα σε κόλα φέροντα δύο ετικέττες σύμφωνα προς το μοντέλο No.5.

52.404-52.4I2

Καθάρισμα προ της φορτώσεως 52.4I3

Οχήματα για τη μεταφορά κόλων περιεχόντων όλες της Κλάσεως 5.2 θα καθαρίζωνται προσεκτικά.

Χειρισμός και στοίβασία 52.4I4

(I) Κόλα περιέχοντα όλες της Κλάσεως 5.2 θα φορτώνωνται κατά τέτοιο τρόπο ώστε να μπορούν να ξεφορτώνωνται ένα ένα εις το σημείο του προορισμού χωρίς να είναι απαραίτητο να τακτοποιηθεί εκ νέου το φορτίο.

(2) Κόλα περιέχοντα όλες της Κλάσεως 5.2 θα κρατούνται όρθια και θα είναι έτσι ασφαλισμένα και στερεωμένα ώστε να μη μπορούν να αναποδογυρίσουν ή πέσουν. Θα προστατεύωνται κατά οιασδήποτε ζημίας που θα ήταν δυνατόν να προκληθεί από άλλα κόλα.

(3)Η χρήση ευχερώς ευφλέκτων υλικών για τη στοίβασία των κόλων σε οχήματα απαγορεύεται.

(4) Κόλα περιέχοντα όλες της Ομάδος Ε δεν θα τοποθετούνται πάνω από άλλα εμπορεύματα· επιπροσθέτως, θα είναι έτσι στοιβαγμένα ώστε να είναι ευχερώς προσιτά (ευκολοπλήσιαστα).

(5) Ύλες της Ομάδας Ε θα φορτώνωνται και εκφορτώνωνται χωρίς ενδοιάμεση αποθήκευση, και σε περίπτωση μεταφορτώσεως θα μεταφέρωνται απ'ευθείας από το ένα όχημα στο άλλο. Οι προβλεπόμενες ανώτατες θερμοκρασίες δεν θα υπερβαίνωνται διαρκούντος του τοιούτου χειρισμού (βλέπε περιθώριο 52.400 (I)). 52.414 (Συνεχίζεται)

52.415-
52.499

Άρθρο 5

Ειδικές διατάξεις διέπουσες τη λειτουργία των οχημάτων

Σήματα Οχημάτων 52.500

(I) Οι διατάξεις του περιθωρίου 10.500, παράγραφοι (I) και (6), θα ισχύουν για τη μεταφορά επικινδύνων υλών της Κλάσεως 5.2. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν για τις ύλες που αναγράφονται στη Προσθήκη Β.5.

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, ακαθάριστες) που περιείχαν ύλες που αναγράφονται στη Προσθήκη Β.5 θα φέρουν επιπροσθέτως στις δυό πλευρές τους και πίσω ετικέττα σύμφωνη προς το μοντέλο Νο.3.

52.501-
52.508

Διακοπές (μεταφοράς) περιωρισμένης διαρκείας διά ανάγκες σέρβις 52.509

Διαρκούσης της μεταφοράς των υλών 46°(α), 47°(α) και 49°(α), διακοπές διά ανάγκες σέρβις δεν θα πρέπει να γίνωνται καθόσον είναι δυνατόν πλησίον καταπημένων τόπων ή τόπων διαμονής. Μία διακοπή πλησίον ενός τέτοιου τόπου δεν θα

παρατείνεται εκτός κατόπιν συμφωνίας με τις αρμόδιες αρχές. Ο αυτός κανόνας θα ισχύει οσάκις μία μονάδα μεταφοράς φορτώνεται με ύλες των 45°, 46°(β) και (γ), 48°, 49° (β) και 50° έως 55° άνω των 2.000 KG. 52.509 (Συνεχίζεται)

52.5IO-
52.599

Άρθρο 6

Μεταβατικές διατάξεις, ανακλήσεις και διατάξεις ειδικές για ωρισμένες χώρες

(Καμμία ειδική διάταξις) 52.600-
60.999

Κλάσις 6.I

Τοξικές Ύλες

Άρθρο I

Γενικά

6I.000-
6I.II0

Μεταφορά εις χύμα· 6I.III

(I) Ύλες των 4I° και 73° μπορούν να μεταφέρωνται εις χύμα ως πλήρης φόρτωσις.

(2) Ύλες της 4I° θα μεταφέρωνται σε κλειστά ή σκεπασμένα οχήματα και ύλες της 73° σε ανοικτά, σκεπασμένα ή με κινητή σκεπή οχήματα.

6I.II2-
6I.II7

Μεταφορά σε CONTAINERS 6I.II8

Εύθραυστα κόλα εντός της εννοίας του περιθωρίου

10.102(1) δεν μπορούν να μεταφέρονται σε μικρά CONTAINERS.

6Ι.ΙΙ9-
6Ι.Ι20

Μεταφορά σε δεξαμενές 6Ι.Ι2Ι

(Ι) Οι παρακάτω ύλες μπορούν να μεταφέρονται σε σταθερές δεξαμενές ή δυνάμενες να αφαιρεθούν δεξαμενές:

(α) οι άκρως τοξικές ύλες οι κατ'ονομασίαν αναγραφόμενες εις Ι°(β) έως 5°·

(β) οι τοξικές ύλες, οι μεταφερόμενες σε υγρά κατάσταση, των ΙΙ°(α)· Ι2°, (β) έως (ε)· Ι3°(β)· Ι4°· 52°· 8Ι°(α)· και 82°(α)· και ύλες εφάμιλλες με αυτές·

(γ) οι λοιπές τοξικές και επιβλαβείς ύλες οι μεταφερόμενες σε υγρά κατάσταση, των ΙΙ° έως Ι3°· 2Ι° έως 23· 3Ι°, (β) και (γ)· 32°(β)· 6Ι°· 62°· 8Ι° έως 83°· και ύλες εφάμιλλες με αυτές· και

(δ) οι σε κόνη ή κόκκους τοξικές και επιβλαβείς ύλες των 2Ι° έως 23°· 3Ι°(α)· 4Ι°· 62°· 7Ι° έως 75°· 82° έως 84°· και ύλες εφάμιλλες με αυτές.

(2) Οι παρακάτω ύλες του περιθωρίου 260Ι μπορούν να μεταφέρονται σε δεξαμενο-CONTAINERS:

Ακρυλονιτρίλιο (2°(α)), ακετρονιτρίλιο (μεθυλοκυανίδιο) (2°(β)), υδάτινα διαλύματα αιθυλένιομίνης (3°), αλλυλικό χλωρίδιο (4°(α)), χλωρομυρμηκικό μεθύλιο (4°(β)), χλωρομυρμηκικό αιθύλιο (4°(γ)), 2-κυανοπροπάνιο-2-ΟΙ (ακετόνη κυανο-

λδρίνη) (II°(α)), ανιλίνη (II°(β)), I-χλωρο-2, 3-εποξυπροπάνιο (επιχλωροϊδρίνη) (I2°(α)), 2,2-διχλωροδιαιθυλαιθέρας (χλωροαιθυλαιθέρας) 2-χλωροαιθυλαιθέρας) (I2°(στ)), αλλυλική αλκοόλη (I3°(α)), διμεθυλοθειϊκό άλας (DIMETHYL SULPHATE) (I3°(β)), φαινόλη (I3°(γ), αλκύλια μολύβδου (I4°), 2-βρωμοφαινυλακετονιτρίλιο (βρωμοβενζυλιοκυανίδιο)(2I°(α)), χλωριούχος φαινυλκαρβυλαμίνη (PHENYLCARBYLAMINE CHLORIDE) (2I°(β)), 2,4-διισοκυανατοτολουόλη (2I°(γ)), και ταμίγματα αυτής με 2,6-διισοκυανατοτολουόλη τα οποία αφομοιώνονται με αυτήν), αλλυλικό ισοθειοκυανικό άλας (2I°(δ)), χλωροανιλίνες (2I°(ε), μονονιτροανιλίνες και δινιτροανιλίνες (2I°(στ)), ναφθηλαμίνες (2I°(ζ)), 2,4-διαμινοτολουόλη (2I°(η)), δινιτροβενζόλια (2I°(ι)), χλωρονιτροβενζόλια (2I°(κ)), μονονιτροτολουόλαι (2I°(λ)), δινιτροτολουόλαι (2I°(μ)), νιτροξυλένια (2I°(ν)), τολουϊδίνες (2I°(ο)), ξυλιδίνες (2I°(π)), κρεζόλια (22°(α)), ξυλένια (XYLENOLS) (22°(β)), βρωμιούχο ξυλύλιο (23°(α)), χλωριούχο φαινακύλιο (W-χλωροακετοφαινόνη) (23°(β)), βρωμιούχο φαινακύλιο (W-βρωμοακετοφαινόνη) (23°(γ)), 4-χλωροακετοφαινόνη (μεθυλο P-χλωροφαινυλκετόνη) (23°(δ)), συμμετρική διχλωροακετόνη (23°(ε)), διαλύματα ανοργάνων κυανιδίων (3I°(β)), διβρωμιούχο αιθυλένιο (συμμετρικοδιβρωμοαιθάνιο) (6I°(α) και τετραχλωριούχος άνθραξ, χλωροφόρμιο και χλωριούχο μεθυλένιο (τα οποία αφομοιούνται με αυτό), μεθυλο-χλωρο-οξικό άλας (METHYL CHLOROACETATE) (6I°(ε)), αιθυλο-χλωρο-οξικό άλας (6I°(στ))

χλωριούχο βενζύλιο (6Ι°(κ), τριχλωριούχο βενζόλιο το οποίον αφομοιούται με τις ύλες της 62°, και ύλες και παρασκευάσματα χρησιμοποιούμενα ως παρασιτοκτόνα (80°-83°). 6Ι.Ι2Ι (Συνεχίζεται)

6Ι.Ι22-6Ι.Ι26

Δεξαμενές 6Ι.Ι27

Το εξωτερικόν των δεξαμενών δεν πρέπει να έχει μολυνθεί με τοξικές ύλες.

Κενές Δεξαμενές 6Ι.Ι28

(Ι) Για να γίνωνται δεκτές για μεταφορά, κενές σταθερές δεξαμενές και κενές δυνάμενες να αφαιρεθούν δεξαμενές δεν πρέπει να έχουν μολυνθεί εξωτερικώς από τοξικές ύλες· θα είναι κλεισμένες κατά τον ίδιο τρόπο και θα είναι του αυτού βαθμού στεγανές ως εάν ήσαν πλήρεις (γεμάτες).

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριο 2Ι2.Ι77.

(3) Κενές δυνάμενες να αφαιρεθούν (αποσυνδεθούν) δεξαμενές και κενά δεξαμενο-CONTAINERS της 9Ι°, εάν προωθηθούν όχι ως πλήρες φορτίο, θα φέρουν ετικέττες σύμφωνες προς το μοντέλο No.4 (βλέπε Παράρτημα Α, Προσθήκη Α.9).

6Ι.Ι29-6Ι.Ι70

Πληρώματα οχημάτων· Εποπτεία (Επίβλεψις) 6Ι.Ι7Ι

(Ι) Βοηθόν οδηγού θα φέρει κάθε μονάδα μεταφοράς μεταφέρουσα άνω του ενός μετρικού τόννου υλών της Κλάσεως 6.Ι Ι° έως 5° και Ι4°, ή άνω των 250 KG ευθραύστων κόλων περιεχόντων τις ύλες αυτές.

(2) Οι διατάξεις της παραγράφου Ι0.Ι7Ι(2) θα ισχύουν

μονον επί των επικινδύνων εμπορευμάτων των αναγραφομέ- 6Ι.Ι7Ι
νων κατωτέρω σε ποσότητες υπερβαίνουσες τις οριζόμενες (Συνεχίζε-
παρακάτω:- ται)

- Οι ύλες των Ι° - 5° : Ι.000 KG
- Οι ύλες των ΙΙ°(α), Ι2°(α), (β) και (δ),
  Ι3°(α) και (β), Ι4° και 8Ι° : 5.000 KG

6Ι.Ι72-
6Ι.Ι84

Γραπτές Οδηγίες 6Ι.Ι85

Οσάκις μεταφέρονται ύλες της Ι4°, ή δοχεία που περιείχαν αυτές, το κείμενο των γραπτών οδηγιών θα καθορίζει, μεταξύ άλλων, τα κάτωθι:-

"(Α) Προφυλάξεις που πρέπει να λαμβάνονται

Η μεταφερομένη ύλη είναι άκρως τοξική. Σε περίπτωση διαρροής εξ ενός των δοχείων πρέπει να λαμβάνονται οι παρακάτω προφυλάξεις:-

Ι.- αποφεύγετε:
   (α) την επαφή με το δέρμα·
   (β) την εισπνοή ατμών
   (γ) την εισαγωγήν του υγρού εις το στόμα·
2.- οσάκις χειρίζεσθε βαρέλια ανοιγμένα ή καταστραμένα ή βρεγμένα με υγρό, η χρήση των παρακάτω είναι υποχρεωτική:-
   (α) αναπνευστικές συσκευές (αναπνευστήρες)·
   (β) χειρόκτια (γάντια) λαστιχένια ή από κάποια κατάλληλη πλαστική ύλη,
   (γ) υποδήματα λαστιχένια ή από κάποια κατάλληλη πλαστική ύλη.

Σε περιπτωση σοβαρού ατυχήματος συνεπαγομένου 6Ι.185 παρεμπόδιση της κυκλοφορίας εθνικής οδού, είναι ουσιώδες όπως τα αφινούμενα να καθαρίσουν το εμπόδιον πρόσωπα ειδοποιούνται περί του δυνατού κινδύνου. (Συνεχίζεται)

(Β) Ενέργεια που πρέπει να παρθεί

Όλα τα πρακτικώς δυνατά μέτρα, συμπεριλαμβανομένης της χρήσεως των ειδοποιήσεων των αναφερομένων εις το περιθώριον 6Ι.260, θα παίρνωνται ώστε να κρατούνται τα πρόσωπα σε απόσταση όχι μικρότερη των Ι5 μέτρων από τον τόπον του ατυχήματος· οι ειδοποιήσεις που περιέχονται στο κιβώτιο εξαρτημάτων θα τοποθετούνται γύρω του κλείσματος και οι θεατές θα κρατούνται μακρυά.

Οι αναπνευστικές συσκευές, γάντια και υποδήματα θα παρέχουν την δυνατότητα σε ένα πρόσωπο να πλησιάσει το φορτίο και επαληθεύσει τη κατάστασή του.

Εάν οποιοδήποτε από τα βαρέλια ανοίξει, θα πρέπει να γίνουν τα παρακάτω:-

(α) πρόσθετες αναπνευστικές συσκευές, γάντια και υποδήματα με τα οποία θα εφοδιασθούν οι εργάτες πρέπει να προμηθευθούν επειγόντως·

(β) βαρέλια που εξακολουθούν να είναι άθικτα πρέπει να τίθενται κατά μέρος·

(γ) το υγρό το χυμένο στο όχημα ή στο έδαφος πρέπει να εξουδετερώνεται με άφθονο πλύσιμο με υδάτινο διάλυμα υπερμαγγανικού καλίου (άγοντος εξουδετερώσεως, φιάλη του οποίου τηρείται εις το κιβώτιο εξαρτημάτων)· το διάλυμα παρασκευάζεται ευχερώς ανακατεύοντες 0.5 KG υπερμαγγανικού με Ι5 λίτρες νερού σ'ένα κάδο· το πλύσιμο θα πρέπει

να γίνεται πολλές φορές, διότι χρειάζονται 2 KG υπερ- 6I.I85
μαγγανικού καλίου για να εξουδετερώσουν εξ ολοκλήρου (Συνε-
I KG της μεταφερομένης ύλης. χίζε-
ται)

Οσάκις είναι πρακτικώς δυνατόν, ο καλλίτερος τρόπος απολυμάνσεως της περιοχής είναι να χύσει κανείς στο χυμένο υγρό βενζίνη και το αναφλέξει.

(Γ) Σημαντική παρατήρηση

Εν περιπτώσει ατυχήματος, ένα από τα πρώτα μέτρα που πρέπει να παρθούν είναι η γνωστοποίησή του δια τηλεγραφήματος ή τηλεφωνικώς ... (παραθέσετε ενταύθα τις διευθύνσεις και τους τηλεφωνικούς αριθμούς των ιδρυμάτων που πρέπει να ειδοποιηθούν σε κάθε χώρα στην εδαφική περιοχή της οποίας πρόκειται να λάβει χώρα η μεταφορά).

Όχημα το οποίο έχει μολυνθεί από τη μεταφερομένη ύλη δεν θα τίθεται και πάλιν σε υπηρεσία μέχρις απολυμάνσεώς του υπό την επίβλεψη του αρμοδίου προσώπου. Οιαδήποτε ξύλινα εξαρτήματα του οχήματος τα οποία προσεβλήθησαν από τη μεταφερόμενη ύλη θα αφαιρούνται και καίονται.".

6I.I86-
6I.I99

Άρθρο 2

Ειδικοί όροι τους οποίους πρέπει να πληρούν τα οχήματα και ο εξοπλισμός τους

6I.200-
6I.239

Πυροσβεστικές συσκευές 6I.240

Οι διατάξεις του περιθωρίου I0.240(I)(β) και (3) δεν θα ισχύουν για τη μεταφορά επικινδύνων υλών της Κλάσεως 6.I.

6Ι.241-
6Ι.250

Ηλεκτρικός Εξοπλισμός 6Ι.251

(Ι) Οι διατάξεις της Προσθήκης Β.2, περιθώριο 220.000, δεν θα ισχύουν για τη μεταφορά επικινδύνων υλών της Κλάσεως 6.Ι.

(2) Εν τούτοις, οχήματα μεταφέροντα υγρά της Ι4° σε σταθερές δεξαμενές ή δυνάμενες να αφαιρεθούν δεξαμενές θα είναι εφοδιασμένα με διακόπτην ο οποίος παρέχει την δυνατότητα ολόκληρο το ηλεκτρικό κύκλωμα να ανοιγεί. Ο διακόπτης θα ευρίσκεται πλησίον των συσσωρευτών. Ο ηλεκτρικός εξοπλισμός θα ικανοποιεί τις διατάξεις του περιθωρίου 220.000(2)(γ) 2.

6Ι.252-
6Ι.259

Ειδικός εξοπλισμός 6Ι.260

Οσάκις μεταφέρονται ύλες της Ι4° ή δοχεία που περιείχαν αυτές, ο οδηγός οφείλει, όταν του δίδουν το έγγραφο μεταφοράς, να του δίδουν ταυτοχρόνως φορητόν νιπτήρα εξαρτημάτων εφοδιασμένον με χειρολαβήν και περιέχον:-

- τρία αντίγραφα των γραπτών οδηγιών των ορίζουσών την ενέργειαν που πρέπει να παρθεί σε περίπτωση ατυχήματος ή περιστατικού λαμβάνοντος χώραν διαρκούσης της μεταφοράς (βλέπε περιθώριο 6Ι.Ι85)·
- δύο ζεύγη γάντια και δύο ζεύγη υποδήματα πλαστιχένια ή από κάποια κατάλληλη πλαστική ύλη·

- δύο αναπνευστικές συσκευές με φυσίγγιον ενεργού ξυλάνθρακος χωρητικότητας 500 CM^3. 6I.260 (Συνεχίζεται)
- μία φιάλη (κατασκευασμένη από βακελίτην, χπ.χ.) περιέχουσα 2 KG υπερμαγγανικού καλίου και φέρουσα την επιγραφήν "διαλύσατε δε . προ της χρήσεως".
- έξη ειδοποιήσεις επί ινοσανίδας φερούσας την επιγραφή "ΚΙΝΔΥΝΟΣ - χυμένο πτητικό δηλητήριο. Μη πλησιάζετε χωρίς αναπνευστική συσκευή" στη γλώσσα ή στις γλώσσες εκάστης των χωρών στην εδαφική περιοχή της οποίας λαμβάνει χώραν η μεταφορά.

Το κιβώτιο τούτο των εξαρτημάτων πρέπει να τηρείται στη θέση του οδηγού σε χώρο όπου εύκολα μπορεί να ευρεθεί από την ομάδα απολυμάνσεως.

6I.26I-
6I.299

Άρθρο 3

Γενικές Διατάξεις Σέρβις

6I.300-
6I.30I

Ενέργεια που πρέπει να παρθεί σε περίπτωση ατυχήματος 6I.302

(Βλέπε περιθώριο 6I.I85)

Προφυλάξεις σε σχέση με αναλώσιμα είδη 6I.303

Σε οχήματα και τόπους φορτώσεως, εκφορτώσεως ή μεταφορτώσεως, επικίνδυνες ύλες της Κλάσεως 6.I θα τηρούνται μακρυά από τρόφιμα και λοιπά αναλώσιμα είδη.

6I.304-
6I.352

Φορητή φωτιστική συσκευή 6I.353

Οι διατάξεις του περιθωρίου I0.353 δεν θα έχουν ισχύν.

6I.354-
6I.373

Απαγόρευση καπνίσματος 6I.374

Οι διατάξεις του περιθωρίου I0.374 δεν θα έχουν ισχύν.

6I.375-
6I.399

Άρθρο 4

Ειδικαί Διατάξεις διέπουσαι την φόρτωσιν, εκφόρτωσιν και χειρισμόν

Μέθοδος αποστολής και περιορισμοί προωθήσεως 6I.400

Οι ύλες οι αναφερόμενες εις 2°(α) (ακρυλονιτρίλιο) και 6I°(I) (I-χλωρο-I-νιτροπροπάνιο) μπορούν να μεταφέρωνται σε μη-επιστρεπτέα μεταλικά βαρέλια (βλέπε περιθώριο 2604(I)(β)2 και 2623(2)(δ) μόνον ως πλήρες φορτίον σε ανοικτά οχήματα.

6I.40I-
6I.402

Απαγόρευση μικτής φορτώσεως σε ένα όχημα 6I.403

Ύλες της Κλάσεως 6.I κλεισμένες σε κόλα φέροντα ετικέτα σύμφωνα με τα μοντέλα 2A, 4 ή 4A δεν θα φορτώνονται μαζί σε ένα όχημα με ύλες ή είδη των Κλάσεων Ια, Ιβ ή Ιγ κλεισμένα σε κόλα φέροντα ετικέττα ή δύο ετικέττες σύμφωνα προς το μοντέλο No.I.

6I.404-
6I.406

Τόποι φορτώσεως και εκφορτώσεως 6I.407

(I) Αι κατωτέρω εργασίαι απαγορεύονται:-

(α) φόρτωσις ή εκφόρτωσις υλών των I° έως 5°, I3°(β), I4° και 8I° εις δημόσιον χώρον εις κατωκημένην περιοχήν χωρίς ειδική άδεια από τις αρμόδιες αρχές·

(β) φόρτωσις ή εκφόρτωσις των παραπάνω υλών σε δημόσιο χώρο εκτός κατωκημένης περιοχής χωρίς να προειδοποιηθεί η αρμοδία αρχή, εκτός εάν οι παραπάνω εργασίες δικαιολογούνται για σοβαρούς λόγους ασφαλείας.

(2) Εάν, για οποιοδήποτε λόγο, οι εργασίες χειρισμού πρέπει να διεξαχθούν σε δημόσιο χώρο, τότε οι ύλες και είδη διαφόρων ειδών θα χωρισθούν ανάλογα με τις ετικέττες.

6I.408-
6I.4I4

Καθάρισμα μετά την εκφόρτωση 6I.4I5

(I) Μετά την εκφόρτωση, οχήματα τα οποία μετέφεραν ύλες των 4I° και 73° εις χύμα θα πλένωνται με άφθονο νερό.

(2) Όχημα το οποίον εμολύνθη από ύλες της I4° ή μίγμα αυτών δεν θα τίθεται και πάλιν σε υπηρεσία μέχρις ότου απολυμανθεί υπό την επίβλεψη αρμοδίου προσώπου. Οποιαδήποτε ξύλινα εξαρτήματα του οχήματος τα οποία προσεβλήθησαν από ύλες της I4° θα αφαιρούνται και καίγωνται.

6I.4I6-
6I.499

Άρθρο 5

Ειδικαί διατάξεις διέπουσαι την λειτουργίαν των οχημάτων

Σήματα Οχημάτων 6Ι.500

(Ι) Οι διατάξεις του περιθωρίου Ι0.500, παράγραφοι (Ι) και (6), θα ισχύουν για τη μεταφορά των υλών Ι° έως 5°, ΙΙ° έως Ι4°, 2Ι° έως 23°, 3Ι° έως 33°, 4Ι°, 5Ι° έως 54°, 6Ι°, 62°, 8Ι° και 82°. Οι διατάξεις των παραγράφων (2) έως (5) θα ισχύουν επίσης για τη μεταφορά των υλών των αναγραφομένων στη Προσθήκη Β.5.

(2) Οσάκις μεταφέρονται ύλες της Ι4°, το όχημα θα φέρει σε κάθε πλευρά του προειδοποίησιν αναφέρουσα ότι, εάν οιοδήποτε υγρό διαφύγει, πρέπει να ασκηθεί η μεγαλυτέρα προφύλαξις και το όχημα δεν θα πρέπει να πλησιάζει κανείς χωρίς αναπνευστική συσκευή (μάσκα-αερίου), γάντια και υποδήματα από λάστιχο ή κάποια κατάλληλη πλαστική ύλη.

(3) Σταθερές δεξαμενές περιέχουσες ύλες αναγραφόμενες στη Προσθήκη Β.5 θα φέρουν επιπροσθέτως σε αμφότερες τις πλευρές τους και πίσω ετικέττα σύμφωνον προς το μοντέλο Νο.4. Οι δεξαμενές που περιέχουν ή (κενές δεξαμενές, ακαθάριστες) που περιείχαν ακετονιτρίλιον, 2-κυανοπροπάνιο-2-ΟΙ (ακετόνη κυανοϊδρίνη), αλλυλικό χλωρίδιο ή ακρυλονιτρίλιο θα φέρουν επιπροσθέτως ετικέττες σύμφωνες προς το μοντέλο Νο. 2Α.

6Ι.50Ι-
6Ι.508

Διακοπαί (ταξιδίου) περιωρισμένης διαρκείας για ανάγκες σέρβις 6Ι.509

Διακοπαί (ταξιδίου) για ανάγκες σέρβις, δεν θα

γίνωντας, όσον είναι δυνατόν, πλησίον κατωκημένων τόπων ή τόπων διαμονής. Μία διακοπή (ταξιδίου) πρέπει σε τέτοιο τόπο δεν θα πρέπει να παρατείνεται εκτός κατόπιν συμφωνίας με τις αρμόδιες αρχές. 6Ι.509 (Συνεχίζεται)

6Ι.5Ι0-
6Ι.5Ι4

Προστασία κατά της ηλιακής ενεργείας 6Ι.5Ι5

Διαρκούσης της περιόδου Απριλίου - Οκτωβρίου συμπεριλαμβανομένων, όταν ένα όχημα μεταφέρον υδρογονάνθρακα οξύ (Ι°(α)) είναι σταθμευμένο, τα κόλα πρέπει, εάν η νομοθεσία της χώρας εις την οποίαν το όχημα είναι σταθμευμένο το επιβάλλει, να προστατεύωνται αποτελεσματικά κατά της ηλιακής ενεργείας, π.χ. δια σκεπασμάτων τοποθετημένων όχι λιγώτερο των 20 CM άνωθι του φορτίου.

6Ι.5Ι6-
6Ι.599

Άρθρο 6

Μεταβατικαί διατάξεις, ανακλήσεις και διατάξεις ειδικές για συγκεκριμένες χώρες

6Ι.600-
6Ι.604

Μεταβατικαί διατάξεις 6Ι.605

Συμφώνως προς την τελευταία πρόταση του άρθρου 4, παράγραφος 2, της Συμφωνίας, οχήματα τα οποία ήσαν σε υπηρεσία στην εδαφική περιοχή Συμβαλλομένου Μέρους κατά τον χρόνον θέσεως σε ισχύν της Συμφωνίας κατά το άρθρον 7, παράγραφος Ι, ή ετέθησαν σε υπηρεσία εντός δύο μηνών από τότε που τέθηκε σε ισχύ, μπορούν να χρησιμοποιηθούν για τη διεθνή μεταφορά

υλών της $14^{ο}$ μόνον διαρκούσης περιόδου δύο ετών από της θέσεως εν ισχύι εάν το σχέδιόν των και ο εξοπλισμός δεν πληρούν πλήρως τους όρους του παρόντος Παραρτήματος για τέτοια μεταφορά. 61.605

61.606-
61.999

Κλάσις 6.2

Απεχθείς ύλες και ύλες δυνάμενες να προκαλέσουν μόλυνσιν

Άρθρο I

Γενικά

62.000-
62.099

Εφαρμογή του Κεφαλαίου I του παρόντος Παραρτήματος 62.100

Αι μόναι διατάξεις του παρόντος Παραρτήματος, πλην εκείναι των Άρθρων I έως 6 κατωτέρω, αι οποίαι ισχύουν για τη μεταφορά επικινδύνων υλών της Κλάσεως 6.2 είναι εκείναι των περιθωρίων 10.001, 10.100, 10.102, 10.111, 10.118, 10.181(1)(α), 10.404, 10.405, 10.413, 10.414, 10.415 και 10.419.

62.101-
62.110

Μεταφορά εις χύμα 62.111

(1) Αι ύλες των $1^{ο}$, $2^{ο}$, $3^{ο}$ και $5^{ο}$ μπορούν να μεταφέρωνται εις χύμα. Αι ύλες της $9^{ο}$ δεν μπορούν να μεταφερθούν άλλως παρά μόνον εις χύμα.

(2) Όταν είναι εις χύμα

(α) αι ύλες των $1^{ο}$(α) και (γ) και $2^{ο}$ θα φορτώνων-

62.III (Συνεχίζεται)

ται σε ειδικά καλυμμένα (σκεπασμένα) οχήματα εφοδιασμένα με εγκαταστάσεις εξαερισμού. Κατά τη διάρκεια των μηνών Νοεμβρίου - Φεβρουαρίου οι ύλες αυτές μπορούν επίσης να φορτώνωνται σε ανοικτά οχήματα υπό τον όρον ότι θα έχουν ψεκασθεί με κατάλληλο απολυμαντικό προς αφαίρεσιν της κακής οσμής·

(β) οι κατωτέρω ύλες θα φορτώνωται σε ανοικτά οχήματα·

ύλες της Ι°(β), αφού ψεκασθούν με κατάλληλα απολυπαντικά προς αφαίρεσιν της κακοσμίας·

ύλες της 3°·

ύλες της 5°, αφού ψεκασθούν με ασβεστόνερο για να μην είναι αισθητή η βρώμικη (χαλασμένη) οσμή· και

ύλες της 9°.

(3) Επιπροσθέτως, όταν φορτωθούν σε ανοικτά οχήματα, πρέπει να καλύπτωνται με:

(α) σκέπασμα βουτυγμένο σε κατάλληλα απολυμαντικά και να είναι καλυμμένο με δεύτερο σκέπασμα: ύλες των Ι°(α) και (γ) και 2°·

(β) σκέπασμα ή πισσόχαρτο (και ψεκασμένα με κατάλληλα απολυμαντικά): νωπά κέρατα, νύχια, οπλές ή κόκκαλα (Ι°(β))·

(γ) σκέπασμα: ύλες της 3°, εκτός εάν ψεκασθούν με κατάλληλα απολυμαντικά προς αποφυγήν οιασδήποτε κακοσμίας· και

(δ) σκέπασμα: ύλες της 9°.

62.II2-
62.II7

Μεταφορά σε CONTAINERS 62.II8

Η μεταφορά των υλών της 9° σε μικρά CONTAINERS απα-

γυρεύεται.

62.II9-
62.I70

Πληρώματα Οχημάτων· Εποπτεία (Επίβλεψις) 62.I7I

Οι διατάξεις του περιθωρίου I0.I7I(2) δεν θα έχουν εφαρμογή.

62.I72-
62.I99

Άρθρο 2

Ειδικές διατάξεις που πρέπει να πληρούν τα οχήματα και ο εξοπλισμός τους

62.200-
(Ουδεμία ειδική διάταξις) 62.299

Άρθρο 3

Γενικές διατάξεις σέρβις

62.300-
62.302

Προφυλάξεις σε σχέση με αναλώσιμα είδη 62.303

Σε οχήματα και τόπους φορτώσεως, εκφορτώσεως και μεταφορτώσεως, επικίνδυνες ύλες της Κλάσεως 6.2 πλην των υλών της 7° και πλήν των υλών της 8° συσκευασμένων συμφώνως προς τις διατάξεις του Παραρτήματος Α. περιθωρίου 2659 (2) (α) ή (β), θα τηρούνται μακρυά από τρόφιμα και αναλώσιμα είδη.

62.304-
62.399

Άρθρο 4

Ειδικές Διατάξεις διέπουσαι την φόρτωση, εκφόρτωση και χειρισμόν

62.400-
62.402

Απαγόρευση μιπτής φορτώσεως σε ένα όχημα 62.403

Ύλες των 9° και 10° δεν θα φορτώνονται μαζί σε ένα όχημα με επικίνδυνες ύλες της Κλάσεως 5.2.

62.404-
62.414

Καθάρισμα μετά την εκφόρτωσιν 62.415

Μετά από εκφόρτωση, οχήματα τα οποία έχουν μεταφέρει ύλες της Κλάσεως 6.2 εις χύμα θα πλένωνται με άφθονο νερό και θα απολυμαίνωνται με κατάλληλα απολυμαντικά.

62.416-
62.499

Άρθρο 5

Ειδικές Διατάξεις διέπουσαι τη λειτουργία των οχημάτων

(Ουδεμία ειδική διάταξη) 62.500-
62.599

Άρθρο 6

Μεταβατικές Διατάξεις, αναπλήσεις και διατάξεις ειδικές για συγκεκριμένες χώρες

(Ουδεμία ειδική διάταξη) 62.600-
70.999

Κλάσις 7

Ραδιενεργές Ύλες

Άρθρο 1

Γενικά

Μεταφορά 7Ι.000

Για λεπτομέρειες βλέπε σχετική κατάσταση στο περιθώριο 2703.

7Ι.001-
7Ι.170

Πληρώματα οχημάτων: εποπτεία 7Ι.171

Οι διατάξεις του περιθωρίου 10.171(2) θα έχουν εφαρμογή για όλες τις ύλες, οποιασδήποτε ποσότητας. Εν τούτοις, οι διατάξεις του περιθωρίου 10.171(2) δεν χρειάζεται να εφαρμόζωνται οσάκις:

(α) το φορτωμένο διαμέρισμα είναι κλειδωμένο και τα μεταφερόμενα κόλα προστατεύονται κατά οιασδήποτε παρανόμου εκφορτώσεως, και

(β) η τιμή της δόσεως δεν υπερβαίνει τα 0.5 MR/ωριαίως σε οποιοδήποτε προσιτό σημείο επί της επιφανείας του οχήματος.

7Ι.172-
7Ι.199

Άρθρο 2

Ειδικές Διατάξεις που πρέπει να πληρούν τα οχήματα και ο εξοπλισμός τους

Διατάξεις 7Ι.200

Για λεπτομέρειες βλέπε τη σχετική κατάσταση του περιθωρίου 2703.

7I.20I-
7I.299

Άρθρο 3

Γενικές Διατάξεις Σέρβις

Διατάξεις 7I.300

Για λεπτομέρειες βλέπε το οικείο παράρτημα/πίνακα του περιθωρίου 2703.

7I.30I
7I.373

Απαγόρευση καπνίσματος 7I.374

Οι διατάξεις του περιθωρίου I0.374 δεν θα έχουν εφαρμογήν.

Άρθρο 4

Ειδικές διατάξεις διέπουσαι την φόρτωσιν, εκφόρτωσιν και χειρισμόν

Διατάξεις 7I.400

Για λεπτομέρειες βλέπε το οικείο παράρτημα/πίνακα του περιθωρίου 2703.

7I.40I
7I.499

Άρθρο 5

Ειδικές διατάξεις διέπουσαι την λειτουργίαν των οχημάτων

Σήματα Οχημάτων 7I.500

(I) Το περιθώριο I0.500 δεν θα έχει εφαρμογήν.

(2) Κάθε όχημα οδού μεταφέρον ραδιενεργείς ύλες θα φέρει εις το εξωτερικόν των πλαϊνών και πίσω ετικέττα σύμφωνον προς το μοντέλο το εικονιζόμενο εις την Προσθήκην Β.4, περι-

θώριο 240.010. Εάν η φόρτωση γίνεται από τον αποστολέα, καθήκον του θα είναι να θέσει τις ετικέττες αυτές στα οχήματα. 7Ι.500 (Συνεχίζεται)

7Ι.501-7Ι.506

Στάθμευση οχήματος αποτελούντος ειδικόν κίνδυνον 7Ι.507

(Βλέπε, επιπροσθέτως του περιθωρίου Ι0.507, περιθώριον 3695 της Προσθήκης Α.6.)

7Ι.508-7Ι.599

Άρθρο 6

Μεταβατικές Διατάξεις, ανακλήσεις, και διατάξεις ειδικές δια συγκεκριμένες χώρες

7Ι.600-80.999

Κλάσις 8

Διαβρωτικές Ύλες

Άρθρο Ι

Γενικά

8Ι.000-8Ι.ΙΙ0

Μεταφορά εις χύμα 8Ι.ΙΙΙ

(Ι) Ιλύς μολύβδου περιέχουσα θειϊκόν δξύ (I^{o}(ε)) και διθειϊκά ($I3^{o}$) μπορεί να μεταφερθεί σε χύμα ως πλήρες φορτίο.

(2) Για τέτοια μεταφορά, το αμάξωμα του οχήματος θα επενδύεται με μόλυβδο ή με επαρκούς πάχους ηρό παραφί-

νης ή πισσόχαρτο και εάν το όχημα είναι σκεπασμένο το σκέπασμα θα τοποθετείται κατά τρόπο που να μη μπορεί να ακουμπά στο φορτίο. 8Ι.ΙΙΙ (Συνεχίζεται)

8Ι.ΙΙ2-8Ι.ΙΙ7

Μεταφορά σε CONTAINERS (εμπορευματοκιβώτια) 8Ι.ΙΙ8

(Ι) Εύθραυστα ιόλα εντός της εννοίας του περιθωρίου ΙΟ.Ι02(Ι) και τα περιέχοντα επικίνδυνες ύλες των Ι° έως 7°, 9°, Ι4°, 33° και 4Ι° δεν θα μεταφέρωνται σε μικρά CONTAINERS.

(2) Μικρά CONTAINERS χρησιμοποιούμενα για τη μεταφορά διθειϊκών (Ι3°) εις χύμα θα έχουν επενδυθεί με μόλυβδο ή με επαρκούς πάχους κηρό παραφίνης ή πισσόχαρτο.

(3) Η μεταφορά εις χύμα μικρών CONTAINERS με ιλύν μολύβδου περιέχουσαν θειϊκόν οξύ της Ι°(ε) απαγορεύεται.

8Ι.ΙΙ9-8Ι.Ι20

Μεταφορά σε δεξαμενές 8Ι.Ι2Ι

(Ι) Όλες οι ύλες του περιθωρίου 280Ι ή καλυπτόμενες υπό συλλογικού τίτλου μπορούν, εάν η φυσική τους κατάσταση το επιτρέπει, να μεταφέρωνται σε στερεωμένες (σταθερές) δεξαμενές ή σε δυνάμενες να αποσυναρμολογηθούν δεξαμενές.

(2) Αυτές οι ίδιες ύλες μπορούν επίσης να μεταφέρωνται σε δεξαμενο-CONTAINERS. Εν τούτοις, το υδροφθόριο (άνυδρο υδροφθορικό οξύ) (6°(α)) μπορεί να μεταφερθεί σε δεξαμενο-CONTAINERS κυβικής χωρητικότητος υπερβαινούσης το Ι M^3.

(3) Οι παρακάτω ύλες μπορούν να μεταφέρωνται σε ενισχυμένες-πλαστικές δεξαμενές συμμορφούμενες προς τις διατάξεις

της Προσθήκης Β.Ιγ:- όλες των Ι°(β), (γ) και (δ) και 2° (β) και (γ), διαλύμματα υδροχλωρικού οξέως της 5°, και όλες των 32°, 37° και 4Ι°. 8Ι.Ι2Ι (Συνεχίζεται)

8Ι.Ι22-8Ι.Ι27

Κενές δεξαμενές 8Ι.Ι28

(Ι) Κενές σταθερές δεξαμενές και κενές αποσυναρμολογούμενες δεξαμενές της 5Ι° θα κλείνωνται κατά τον αυτόν τρόπον και θα είναι του αυτού βαθμού στεγανές σάν νάσαν πλήρεις. Σταθερές δεξαμενές που περιείχαν βρώμιο (Ι4°) θα είναι ερμητικά κλεισμένες.

(2) Για δεξαμενο-CONTAINERS, βλέπε περιθώριο 222.Ι77.

(3) Τα δεξαμενο-CONTAINERS και οι αποσυναρμολογούμενες δεξαμενές που περιείχαν υδροφθορικόν οξύ (6°) ή βρώμιο (Ι4°) θα φέρουν ετικέττα σύμφωνον προς το μοντέλο No.5 (Προσθήκη Α.9). Δεν θα έχουν ίχνη οξέως ή βρωμίου εις το εξωτερικόν.

8Ι.Ι29-8Ι.Ι70

Πληρώματα Οχημάτων· Επίβλεψις (Εποπτεία) 8Ι.Ι7Ι

(Ι) Βοηθός οδηγού θα φέρει κάθε μονάς μεταφοράς μεταφέρουσα άνω των 250 KG επικινδύνων υλών της Κλάσεως 8 σε εύθραυστα κόλα, ή άνω των τριών μετρικών τόννων υλών των 6°, 7°, ΙΙ°, Ι4°, 22°, 3Ι°, 32° και 37°.

(2) Οι διατάξεις του περιθωρίου Ι0.Ι7Ι(2) θα έχουν εφαρμογήν μόνον επί επικινδύνων εμπορευμάτων αναφερομένων κατωτέρω σε ποσότητες υπερβαίνουσες τις κατωτέρω ειδικώς ορι ζόμενες.-

χλωροσουλφονικό οξύ, χλωρίδια και οξυχλωρίδια του θείου, τετραχλωροπυρίτιο, της II°(α), πενταφθοριούχο αντιμόνιο της I5°(β), τριφθοριούχο βρώμιο και πενταφθοριούχο βρώμιο της I5°(δ), ακετυλοχλωρίδιο, ακετυλοβρωμίδιο και βενζυλοχλωρίδιο της 22°, και υδραζίνη σε υδάτινα διαλύματα περιέχοντα όχι άνω του 72°/ο υδραζίνης, της 34°: I0.000 KG.

Βρώμιον της I4° : I.000 KG. 8I.I7I (Συνέχίζεται)

8I.I72-
8I.I99

Άρθρο 2

Ειδικές διατάξεις τις οποίες πρέπει να πληρούν τα οχήματα και ο εξοπλισμός τους

8I.200-
8I.239

Πυροσβεστικές συσκευές 8I.240

Οι διατάξεις του περιθωρίου I0.240(I)(β) και (3) δεν θα έχουν εφαρμογήν για τη μεταφορά επικινδύνων υλών της Κλάσεως 8 πλην εκείνων της 2°(α) και 3°(α).

8I.24I-
8I.250

Ηλεκτρικός εξοπλισμός 8I.25I

Οι διατάξεις της Προσθήκης Β.2, περιθώριο 220.000, δεν θα έχουν εφαρμογήν γιά τη μεταφορά επικινδύνων υλών της Κλάσεως 8 πλην εκείνων των 2°(α) και 3°(α).

8I.252-
8I.299

Άρθρο 3

Γενικές διατάξεις σέρβις

8Ι.300-
8Ι.352

Φορητή συσκευή φωτισμού 8Ι.353

Η διάταξις του περιθωρίου ΙΟ.353 δεν θα έχει εφαρμογήν.

8Ι.354-
8Ι.373

Απαγόρευση καπνίσματος 8Ι.374

Οι διατάξεις του περιθωρίου ΙΟ.374 δεν θα έχουν εφαρμογήν.

8Ι.375-
8Ι.399

Άρθρο 4

Ειδικαί διατάξεις διέπουσαι την φόρτωσιν, εκφόρτωσιν και χειρισμόν

8Ι.400-
8Ι.402

Απαγόρευση μικτής φορτώσεως σε ένα όχημα 8Ι.403

(Ι) Οι ύλες της Κλάσεως 8 οι πλεισμένες σε πόλα φέροντα ετικέττα ή δύο ετικέττες σύμφωνες προς το μοντέλο Νο.5 δεν θα φορτώνωνται μαζί σε ένα όχημα με ύλες ή είδη των Κάσεων Ια, Ιβ ή Ιγ πλεισμένες σε πόλα φέροντα επικέττα ή δύο ετικέττες σύμφωνες προς το μοντέλο Νο.Ι.

(2) Υγρά της Κλάσεως 8 πλεισμένα σε πόλα φέροντα δύο ετικέττες σύμφωνες προς το μοντέλο Νο. 5 δεν θα φορτώνωνται μαζί σε ένα όχημα με:-

(α) ὕλες των Κλάσεων 3, 4.Ι ἡ 4.2 πλεισμένες σε πόλα φέροντα δύο ετικέττες σύμφωνες προς τα μοντέλα No. 2Α, 2Β ἡ 2Γ· ἡ με 8Ι.403 (Συνεχίζεται)

(β) ὕλες των Κλάσεων 5.Ι ἡ 5.2 πλεισμένες σε πόλα φέροντα δύο ετικέττες σύμφωνες προς το μοντέλο No.3.

8Ι.404-
8Ι.412

Καθάρισμα προ της φορτώσεως 8Ι.413

Οχήματα για τη μεταφορά πόλων περιεχόντων ὕλες της 2°(α) και 3°(α) θα καθαρίζωνται προσεκτικά και, ειδικώτερον, από οιαδήποτε εύκαυστα υπολείμματα (άχυρο, χαρτί, πλπ.).

Χειρισμός και στοιβασία 8Ι.414

(Ι) Όλα τα πόλα τα περιέχοντα ὕλες των 2°(α) και 3°(α) θα τοποθετούνται σε γερό δάπεδο, με τα ανοίγματά τους προς τα άνω, και καλά σφηνωμένα για να μη μπορούν να αναποδογυρίσουν.

(2) Η χρήση ευχερώς ευφλέκτων υλών για τη στοιβασία τοιούτων πόλων σε οχήματα απαγορεύεται.

(3) Εύθραυστα πόλα θα σφηνώνωνται κατά τοιούτον τρόπον ώστε να εμποδίζεται οιαδήποτε μετατόπισίς των και οιονδήποτε χύσιμον του περιεχομένου.

8Ι.415-
8Ι.499

Άρθρο 5

Ειδικές διατάξεις διέπουσαι την λειτουργίαν των οχημάτων

Σήματα Οχημάτων 8Ι.500

(Ι) Οι διατάξεις του περιθωρίου Ι0.500, φωτογραφίαι (Ι)

και (6), θα έχουν εφαρμογή για τη μεταφορά υλών των I° έως 7°, 9°, II°, I2°, I4°, I5°, 2I°(β), (γ) και (ε), 22°, 3I° έως 35°, 37° και 4I°. Οι διατάξεις των παραγράφων (2) έως (5) θα έχουν επίσης εφαρμογήν στις ύλες τις αναγραφόμενες στη Προσθήκη B.R. 8I.500 (Συνεχίζεται)

(2) Σταθερές δεξαμενές περιέχουσες ή (κενές δεξαμενές, ακαθάριστες) που περιείχαν ύλες αναγραφόμενες στη Προσθήκη B.5 θα φέρουν επιπροσθέτως στα πλαϊνά (αμφότερες τις πλευρές) και στο πίσω μέρος ετικέττα σύμφωνον προς το μοντέλο No.5.

8I.50I-
8I.599

Άρθρο 6

Μεταβατικές διατάξεις, αναλήσεις, και διατάξεις ειδικές για συγκεκριμένες χώρες

(Ουδεμία ειδική διάταξις)

8I.600-
I99.999

ΠΡΟΣΘΗΚΑΙ

ΔΙΑΤΑΞΕΙΣ ΚΟΙΝΕΣ ΓΙΑ ΤΙΣ ΠΡΟΣΘΗΚΕΣ Β.Ι.-

(1) Το αντικείμενον εφαρμογής των διαφόρων Προσθηκών έχει ως κάτωθι:- 200.000

(α) Προσθήκη Β.Ια, έχει εφαρμογήν εις δεξαμενές πλην των δεξαμενο-CONTAINERS·

(β) Προσθήκη Β.Ιβ, έχει εφαρμογήν εις δεξαμενο-CONTAINERS·

(γ) Προσθήκη Β.Ιγ, έχει εφαρμογήν εις δεξαμενές, πλην των συσσωρευτών δοχείων και δεξαμενο-CONTAINERS, κατασκευασμένες από ενισχυμένην πλαστικήν ύλην·

(δ) Για δοχεία, βλέπε τις οικείες διατάξεις του Παραρτήματος Α (Κδλα)· και

(ε) Η Προσθήκη Β.Ιδ αφορά τα υλικά και την κατασκευήν των σταθερών δεξαμενών, των αποσυναρμολογουμένων δεξαμενών, και κελυφών των δεξαμενο-CONTAINERS, των προοριζομένων για τη μεταφορά των πολύ-κατεψυγμένων υγροποιημένων αερίων της Κλάσεως 2.

(2) Δι'ανακλήσεως του ορισμού του διδομένου εις περιθώριον 10.102(1), ο όρος "δεξαμενή" χρησιμοποιούμενος μόνος εις την Προσθήκην Β.Ια και την Προσθήκην Β.Ιγ δεν καλύπτει τις δεξαμενο-CONTAINERS. Εν τούτοις, μερικαί των διατάξεων της Προσθήκης Β.Ια μπορούν να έχουν εφαρμογήν επί δεξαμενο-CONTAINERS δια των διατάξεων του Παραρτήματος Β και της Προσθήκης Β.Ιβ.

(3) Υπενθυμίζομεν ότι το περιθώριον Ι0.Ι2Ι(Ι) απαγορεύει τη μεταφορά επικινδύνων υλών σε δεξαμενές χρησιμοποιούμενες για επιχειρήσεις μεταφοράς αι οποίαι απαγορεύονται ρητώς. 200.000 (Συνεχίζεται)

200.00Ι-2ΙΙ.099

Προσθήκη Β.Ια

ΔΙΑΤΑΞΕΙΣ ΔΙΕΠΟΥΣΑΙ ΣΤΑΘΕΡΕΣ ΔΕΞΑΜΕΝΕΣ (ΒΥΤΙΟΦΟΡΑ), ΑΠΟΣΥΝΑΡΜΟΛΟΓΟΥΜΕΝΕΣ ΔΕΞΑΜΕΝΕΣ ΚΑΙ ΣΥΣΣΩΡΕΥΤΕΣ ΔΟΧΕΙΩΝ

Σημείωσις:- Το Κεφάλαιον Ι εκθέτει τις διατάξεις που έχουν εφαρμογήν επί σταθερών δεξαμενών (βυτιο-φόρων), αποσυναρμολογουμένων δεξαμενών και συσσωρευτών δοχείων προοριζομένων για τη μεταφορά υλών οιασδήποτε Κλάσεως. Το Κεφάλαιον ΙΙ περιέχει ειδικές διατάξεις που συμπληρώνουν ή τροποποιούν τις διατάξεις του Κεφαλαίου Ι.

Κεφάλαιο Ι

ΔΙΑΤΑΞΕΙΣ ΠΟΥ ΕΧΟΥΝ ΕΦΑΡΜΟΓΗΝ ΣΕ ΟΛΕΣ ΤΙΣ ΚΛΑΣΕΙΣ

Άρθρο Ι

Γενικά αντικείμενον ορισμοί

Οι διατάξεις αυτές θα έχουν εφαρμογήν σε σταθερές δεξαμενές (βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συσσωρευτές δοχείων που χρησιμοποιούνται για τη μεταφορά υγρών, αεριωδών, εις κόνιν ή κόκκους υλών. 2ΙΙ.Ι00

(Ι) Επιπροσθέτως του κανονικού οχήματος, ή των μονάδων του μηχανισμού λειτουργίας των χρησιμοποιουμέ- 2ΙΙ.Ι0Ι

νων ἀντ αὐτού, το βυτιοφόρον αποτελείται από ένα ή περισ- 2ΙΙ.ΙΟΙ
σότερα κελύφη, τα ανταλλακτικά των και εξαρτήματα της (Συνεχίζε-
συνδέσεώς των με το όχημα ή τας μονάδας μηχανισμού-λει- ται)
τουργίας.

(2) Όταν συνδέεται με το όχημα-μεταφορέα, η απο-
συναρμολογούμενη δεξαμενή ή ο συσσωρευτής δοχείων θα πλη-
ρούν τις διατάξεις τις προβλεπόμενες για τα βυτιοφόρα.

Στις παρακάτω διατάξεις:- 2ΙΙ.ΙΟ2

(Ι) (α) Δια του όρου "κέλυφος" νοείται η κανονική δεξαμενή (συμπεριλαμβανομένων του στομίου και πώματος αυτών)·

(β) Δια του όρου "εξοπλισμός εξυπηρετήσεως του κελύφους" νοούνται η πλήρωσις, εκκένωσις, εξαερισμός, ασφάλεια, μηχανισμοί (συσκευαί) θερμάνσεως και θερμο-μονώσεως και τα όργανα μετρήσεως·

(γ) Δια του όρου "εξοπλισμός κατασκευής" νοούνται τα εξωτερικά και εσωτερικά μέλη ενισχύσεως, προσδέσεως, προστασίας και σταθεροποιήσεως του κελύφους·

(2) (α) Δια του όρου "πίεσις υπολογισμού" νοείται μία θεωρητική πίεσις η οποία χρησιμοποιείται προς υπολογισμόν του πάχους των τοιχωμάτων του κελύφους. Ισοδυναμεί με την πίεσιν δοκιμής εκτός εν σχέσει με ωρισμένα επικίνδυνα εμπορεύματα δια τα οποία ειδική, ανωτέρου υπολογισμού πίεσις καθορίζεται.

Εξωτερικοί ή εσωτερικοί μηχανισμοί ενισχύσεως δεν θα λαμβάνωνται υπόψη κατά τον υπολογισμό αυτόν. 211.102 (Συνεχίζεται)

(β) Δια του όρου "ανωτάτη πίεσις λειτουργίας" νοείται η ανωτάτη των κατωτέρω τριών πιέσεων:

1.- της ανωτάτης δραστικής πιέσεως της επιτρεπομένης εις το κέλυφος διαρκούσης της πληρώσεως (επιτρεπομένη ανωτάτη πίεσις πληρώσεως)·

2.- της ανωτάτης δραστικής πιέσεως της επιτρεπομένης εις το κέλυφος διαρκούσης της εκκενώσεως (επιτρεπομένη ανωτάτη πίεσις εκκενώσεως)·

3.- της δραστικής πιέσεως εις την οποίαν το κέλυφος υποβάλλεται εκ του περιεχομένου του (συμπεριλαμβανομένων τοιούτων ξένων αερίων τα οποία ενδέχεται να περιέχει) εις την ανωτάτην θερμοκρασίαν λειτουργίας·

(γ) Δια του όρου "πίεση δοκιμής" νοείται η ανωτάτη ουσιαστική πίεση που εφαρμόζεται κατά τη δοκιμή πιέσεως του κελύφους.

(δ) Δια του όρου "πίεση πληρώσεως" νοείται η ανωτάτη πίεση η πραγματικώς δημιουργουμένη εις το κέλυφος όταν τούτο πληρούται υπό πίεση.

(ε) Δια του όρου "πίεση εκκενώσεως" νοείται η ανωτάτη πίεση η πραγματικώς δημιουργουμένη εις το κέλυφος όταν τούτο εκκενούται υπό πίεση.

(3) Δια του όρου "δοκιμή διαρροής" ή "δοκιμή στεγανότητος" νοείται η δοκιμή η οποία συνίσταται εις την υποβολήν του κελύφους εις δραστικήν εσωτερικήν πίεσιν ίσην προς την ανωτάτην πίεσιν λειτουργίας, αλλά όχι κάτω των 0.2 KG/CM^2

(πίεσις θλιβομέτρου), διά τινος μεθόδου εγκριθείσης υπό της αρμοδίου αρχής. 2II.I02 (Συνεχίζεται) 2II.I03-2II.II9

Άρθρο 2

Κατασκευή

Τα χρησιμοποιούμενα υλικά πρέπει να πληρούν τις παρακάτω διατάξεις:- 2II.I20

(I) Τα κελύφη θα είναι κατασκευασμένα από κατάλληλα μεταλλικά υλικά τα οποία, εκτός εάν άλλαι τιμαί θερμοκρασίας προβλέπονται για διάφορες Κλάσεις, θα αντέχουν εις το εύθραυστο ρήγμα και εις το ρήγμα εκ διαβρώσεως υπό πίεσιν εφελκυσμού μεταξύ των -20°C και +50°C.

(2) Για συγκολλημένα κελύφη μόνο υλικά μη-ελαττωματικής συγκολλητικότητος, και των οποίων η κατάλληλος αντοχή εις κρούσιν εις θερμοκρασίαν περιβάλλοντος των -20°C μπορεί να εγγυηθεί, ειδικώτερον στα σημεία συγκολλήσεως και τις παρακείμενες αυτών ζώνες, θα χρησιμοποιούνται.

(3) Αι συγκολλήσεις θα γίνωνται επιδέξια και θα παρέχουν την πλήρεστέραν ασφάλειαν.

Αναφορικώς με την εκτέλεσιν και τον έλεγχον των λωρίδων συγκολλήσεως, βλέπε επίσης περιθώριον 2II.I27(7).

Κελύφη των οποίων το κατώτατον πάχος του τοιχώματος έχει καθορισθεί συμφώνως προς το περιθώριον 2II.I27 (3) έως (6) θα ελέγχωνται δια των μεθόδων των περιγραφομένων εις τον ορισμόν του συντελεστού συγκολλήσεως 0.8.

(4) Η προστατευτική επένδυσις θα έχει έτσι σχεδια-

σθεί ώστε η στεγανότης της να μην εξασθενείται ανεξαρτή- 2ΙΙ.Ι20
τως της παραμορφώσεως που ενδέχεται να προκύψει κατά (Συνεχί-
την συνήθη μεταφοράν (2ΙΙ.Ι27(Ι)). ζεται)

(5) Τα υλικά των κελυφών, ή των προστατευτικών των επενδύσεων των ερχομένων εις επαφήν με το περιεχόμενον, δεν θα περιέχουν ύλες υποκείμενες εις επικίνδυνον αντίδρασιν με το περιεχόμενον, εις τον σχηματισμόν επικινδύνων ενώσεων, ή ουσιαστικώς εξασθενήσουν το υλικόν.

(6) Εάν η επαφή μεταξύ της μεταφερομένης ύλης και του χρησιμοποιηθέντος διά την κατασκευήν του κελύφους υλικού συνεπάγεται προοδευτικήν μείωσιν του πάχους των τοιχωμάτων, το πάχος τούτο θα αυξηθεί κατά την κατασκευήν κατά κάποιο ενδεδειγμένο ποσόν. Το πρόσθετον τούτο πάχος το αφορών την διάβρωσιν δεν θα λαμβάνεται υπόψη κατά τον υπολογισμόν του πάχους των τοιχωμάτων του κελύφους.

(Ι) Τα κελύφη, αι συνδέσεις των και ο εξοπλισμός 2ΙΙ.Ι2Ι
των εξυπηρετήσεως και κατασκευής θα είναι σχεδιασμένα κατά τρόπον ώστε να ανθίστανται άνευ απωλείας του περιεχομένου (πλην των ποσοτήτων αερίου που διαφεύγουν εκ των οπών απαερώσεως):

- εις την στατικήν και δυναμικήν πίεσιν συνήθους μεταφοράς·
- εις τις προβλεπόμενες κατώτατες πιέσεις ως ορίζονται εις τα περιθώρια 2ΙΙ.Ι25 και 2ΙΙ.Ι27.

(2) Εις την περίπτωσιν οχημάτων εις τα οποία το κέλυφος αποτελεί πιεζόμενον αυτο-υποστηριζόμενον μέλος, το κέλυφος θα είναι σχεδιασμένον να ανθίσταται κατά των ούτω

επιβαλλομένων πιέσεων επιπροσθέτως των εξ ετέρων πηγών πιέσεων.

Η πίεσις επί της οποίας το πάχος του τοιχώματος του κελύφους βασίζεται δεν θα είναι μικροτέρα της πιέσεως υπολογισμού, αλλά αι πιέσεις αι αναφερόμεναι εις το περιθώριον 2II.I22 θα λαμβάνωνται επίσης υπόψη. 2II.I22

Εκτός εάν άλλως ειδικώς προβλέπεται εις τις διάφορες Κλάσεις, τα κάτωθι στοιχεία θα λαμβάνωνται υπόψη κατά την σχεδίασιν των κελυφών:- 2II.I23

(I) τα κελύφη εκπενώσεως δια βαρύτητος τα προοριζόμενα για τη μεταφορά υλών που έχουν εις τους $50^{o}C$ ολική πίεσιν (τ.έ. πίεσις ατμού πλέον, τυχόν, μερικής πιέσεως αδρανών αερίων) όχι άνω των I.I KG/CM^2 (απόλυτον) θα σχεδιάζονται δια πίεσιν υπολογισμού διπλασίαν της στατικής πιέσεως της υπό μεταφοράν ύλης, αλλά όχι κάτω της διπλασίας στατικής πιέσεως του ύδατος·

(2) πληρούμενα δια πιέσεως ή εκπενούμενα δια πιέσεως κελύφη προοριζόμενα για τη μεταφορά υλών εχουσών εις τους $50^{o}C$ ολικήν πίεσιν (τ.έ. πίεσιν ατμού πλέον μερικής πιέσεως, τυχόν, αδρανών αερίων) όχι μεγαλυτέραν των I.I KG/CM^2 (απόλυτον) θα σχεδιάζονται δια πίεσιν υπολογισμού ίσην προς I.3 φορές την πίεσιν πληρώσεως ή εκπενώσεως·

(3) κελύφη - ανεξαρτήτως του συστήματος πληρώσεως ή εκπενώσεώς των - προοριζόμενα για την μεταφοράν υλών εχουσών εις τους $50^{o}C$ ολικήν πίεσιν (τ.έ. πίεσιν ατμού πλέον μερικής πιέσεως, τυχόν, αδρανών αερίων) όχι μικροτέραν των I.I και όχι μεγαλυτέραν των I.75 KG/CM^2 (απόλυτον) θα σχε-

διάζονται για πίεσιν υπολογισμού τουλάχιστον I.5 KG/CM^2 2II.I23
(πίεσιν θλιβομέτρου), ή I.3 φορές την πίεσιν πληρώσε- (Συνεχίζε-
ως ή εκκενώσεως, οιασδήποτε τούτων ούσης υψηλοτέρας· ται)

(4) κελύφη - ανεξαρτήτως του συστήματος πληρώσε-
ως ή εκκενώσεώς των - προοριζόμενα για τη μεταφορά υλών
εχουσών εις τους 50°C ολικήν πίεσιν (τ.έ. πίεσιν ατμού
πέον μερικής πιέσεως, τυχόν, αδρανών αερίων) άνω των
I.75 KG/CM^2 (απόλυτον) θα σχεδιάζονται για πίεσιν υπο-
λογισμού ίσην πρός την ανωτέραν των κάτωθι δύο πιέσεων:-

- I.5 φορές την **ολικήν** πίεσιν εις τους 50°C,
  μείον I KG/CM^2, υπό την επιφύλαξιν κατω-
  τάτης εκ 4 KG/CM^2 (θλιβομέτρου)·
- I.3 φορές την πίεσιν πληρώσεως ή εκκενώσεως.

Δεξαμενές προοριζόμενες να περιέχουν ωρισμέ- 2II.I24
νες επικίνδυνες ύλες θα είναι εφοδιασμένες με ειδικήν
προστασίαν η οποία θα καθορίζεται για τις διάφορες κλάσεις.

Κατά την πίεσιν υπολογισμού, η τάσις (πίεσις) σ 2II.I25
(σίγμα) εις το περισσότερον πιεζόμενον σημείον του κελύφους
δεν θα υπερβαίνει τα εκ του υλικού εξαρτώμενα όρια τα προ-
βλεπόμενα κατωτέρω. Ανοχή θα υπάρχει για κάθε εξασθένησιν
οφειλομένην στις συγκολλήσεις. Επιπροσθέτως, κατά την επι-
λογήν του υλικού και τον καθορισμόν του πάχους του τοιχώ-
ματος, θα λαμβάνωνται υπόψη αι ανώταται και κατώταται θερ-
μοκρασίαι πληρώσεως και λειτουργίας.

(I) Για μέταλλα και κράματα που παρουσιάζουν
σαφώς-οριζόμενον σημείον υποχωρήσεως ή χαρακτηριζόμενα
από ένα εγγυημένον συμβατικόν κρίσιμον σημείον ελαστικό-

τητος (Rε) (γενικώς 0.2 στα εκατό της υπολειμματικής 2II.I25
(παραμενούσης) επιμηκύνσεως και, προκειμένου περί (Συνεχίζεται)
ωστενίτου χάλυβος, I στα εκατό της ανωτάτης επιμηκύνσεως):

(α) όπου ο λόγος Rε/Rμ) δεν είναι άνω των 0.66:

(Rε = εμφανές κρίσιμον σημείον ελαστικότητος, ή 0.2 στα εκατό πίεσις δοκιμής ή I στα εκατό πίεσις δοκιμής προκειμένου περί ωστενίτου χάλυβος·

Rμ = εγγυημένη κατωτάτη αντοχή εις εφελκυσμόν):

$$\sigma \leqslant 0.75\ R\varepsilon$$

(β) όπου ο λόγος Rε/Rμ υπερβαίνει τα 0.66:

$$\sigma \leqslant 0.5\ R\mu$$

(2) Για μέταλλα και κράματα που παρουσιάζουν όχι σαφώς ορισμένον κρίσιμον σημείον ελαστικότητος και χαρακτηριζόμενα από εγγυημένην κατωτάτην αντοχήν εις εφελκυσμόν Rμ:

$$\sigma \leqslant 0.43\ R\mu$$

(3) Για χάλυβα, η επιμήκυνσις εις το ρήγμα δεν θα είναι μικροτέρα του

$$\frac{I.000}{\text{ορισμένη αντοχή εις εφελκυσμόν εις } KG/MM^2}$$

αλλά εν πάση περιπτώσει δεν θα είναι μικροτέρα του I6 στα εκατό για λεπτόκοκκον χάλυβα και όχι μικροτέρα του 20 στα εκατό για άλλους χάλυβες. Για κράματα αλουμινίου η επιμήκυνσις του ρήγματος δεν θα είναι μικροτέρα του I2 στα εκατό.

(Προκειμένου περί ελάσματος ο άξων του τεμαχίου δοκιμής της αντοχής εις εφελκυσμόν θα είναι αι δεξιαί γωνίαι προς την κατεύθυνσιν του κυλίσματος. Η μόνιμος επιμήκυνσις εις ρήγμα ($I = 5\delta$) θα μετράται επί τεμαχίου δοκιμής κυκλικής διατομής εις την οποίαν το μήκος βαθμίσεως I είναι ίσον προς πέντε φοράς την διάμετρον δ· εάν χρησιμοποιηθούν τεμάχια-δοκιμής ορθογωνίου τομής, το μήκος της βαθμίσεως θα υπολογίζεται διά του τύπου $I = 5.65 \sqrt{F_o}$, όπου F_o είναι η αρχική επιφάνεια διατομής του τεμαχίου δοκιμής.) 2ΙΙ.Ι25 (Συνεχίζεται)

Αέξαμενές προοριζόμενες για τη μεταφορά υγρών εχόντων σημείον αναφλέξεως 55°C ή κάτω των 55°C και για τη μεταφορά ευφλέκτων αερίων θα συνδέονται με όλα τα εξαρτήματα του οχήματος με ισοδυναμικήν σύνδεσιν και θα είναι ικανές να γειωθούν ηλεκτρικώς. Κάθε μεταλλική επαφή ικαμή να προκαλέσει ηλεκτροχημικήν διάβρωσιν θα αποφεύγεται. 2ΙΙ.Ι26

Τα κελύφη και αι προσδέσεις των θα ανθίστανται στις τάσεις (πιέσεις) τις οριζόμενες στην παράγραφο (I), και το πάχος του τοιχώματος των κελυφων θα είναι τουλάχιστον ως καθωρίσθη συμφώνως προς τας κατωτέρω παραγράφους (2) έως (6). 2ΙΙ.Ι27

(I) Τα κελύφη και αι προσδέσεις των θα είναι ικανά να απορροούν, υπό το ανώτατον επιτρεπτόν φορτίον, τις κάτωθι τάσεις (πιέσεις):-

- προς την κατεύθυνσιν του ταξιδίου:

δύο φορές το ολικόν βάρος·

- σε ορθές γωνίες προς την κατεύθυνσιν του τα-

ξιδίου: το ολικόν βάρος· 2ΙΙ.Ι27
(Συνεχίζεται)

- καθέτως προς τα άνω: το ολικόν βάρος·
- καθέτως προς τα κάτω: δύο φορές το ολικόν βάρος.

Υπό τις τάσεις (πιέσεις) τις οριζόμενες ανωτέρω, η τάσις (πίεσις) εις το περισσότερον πιεζόμενον σημείον του κελύφους και τις προσδέσεις του δεν θα υπερβαίνει την τιμήν σ την οριζομένην εις το περιθώριον 2ΙΙ.Ι25.

(2) Το πάχος του κυλινδρικού τοιχώματος του κελύφους θα είναι τουλάχιστον ίσον προς το λαμβανόμενον δια του κατωτέρω τύπου:

$$\varepsilon = \frac{P \times D}{200 \times \sigma \times \lambda} \text{ ΜΜ},$$

όπου P = πίεσις υπολογισμού εις KG/CM^2·

D = εσωτερική διάμετρος του κελύφους εις ΜΜ·

σ = επιτρεπτή τάσις (πίεσις), ως ορίζεται εις το περιθώριον 2ΙΙ.Ι25(Ι), (α) και (β), και (2), εις KG/ΜΜ^2· και

λ = συντελεστής, μη υπερβαίνων το Ι, επιτρέπων οιανδήποτε εξασθένησιν οφειλομένην εις τις συγκολλήσεις.

Το πάχος εν ουδεμιά περιπτώσει θα είναι μικρότερον του οριζομένου στις παραγράφους (3) έως (6) κατωτέρω.

(3) Τα τοιχώματα και άκρα των κελυφων κυκλικής διατομής όχι μεγαλυτέρας των Ι.80 μ εις διάμετρον, 2/ πλην των αναφερομένων εις την παράγραφον (6), δεν θα είναι πάχους μικροτέρου των 5 ΜΜ (χιλ.) προκειμένου περί μαλακού χάλυβος, 3/ ή ισοδυνάμου πάχους προκειμένου περί ετέρου μετάλλου. Εάν η διάμετρος υπερβαίνει τα Ι.80 μ, 2/ το πάχος τούτο θα αυξά-

νεται εις 6 ΜΜ (χιλ.) εάν το κέλυφος είναι από μαλακόν χάλυβα, 3/ ή ισοδυνάμου πάχους εάν το κέλυφος είναι από έτερον μέταλλον. Δια του όρου "ισοδύναμον πάχος" νοείται το πάχος το λαμβανόμενον εκ του κατωτέρω τύπου: 2ΙΙ.Ι27 (Συνεχίζεται)

$$\varepsilon_I = \frac{I0 \times \varepsilon_o}{\sqrt[3]{R\mu_I \times A_I}}$$

2/ Για κελύφη όχι κυκλικής διατομής, π.χ. κελύφη σχήματος κυτίου ή ελλειπτικά κελύφη, αι σημειούμεναι διάμετροι θα αντιστοιχούν προς τας υπολογιζομένας βάσει κυκλικής διατομής της αυτής επιφανείας. Για τέτοια μεγέθη διατομής η ακτίς κυρτότητος (RADIUS OF CONVEXITY) του τοιχώματος του κελύφους δεν θα υπερβαίνει τα 2,000 ΜΜ (χιλ.) εις τα πλευρά ή τα 3,000 ΜΜ (χιλ.) εις το άνω και κάτω μέρος.

3/ Δια του όρου "μαλακός χάλυψ" νοείται ο χάλυψ ο έχων κατωτάτην αντοχήν θραύσεως μεταξύ 37 και 44 KG/MM^2.

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(4) Οσάκις παρέχεται προστασία του κελύφους κατά ζημίας δια πλευρικής προσκρούσεως ή αναποδογυρίσματος, η αρμοδία αρχή μπορεί να επιτρέψει το προρρηθέν κατώτατον πάχος να μειωθεί κατ'αναλογίαν με την παρεχομένην προστασίαν· εν τούτοις, το ρηθέν πάχος δεν θα είναι μικρότερον των 3 ΜΜ (χιλ.) προκειμένου περί μαλακού χάλυβος, 3/, ή του ισοδυνάμου πάχους προκειμένου περί άλλων μετάλλων, για κελύφη διαμέτρου όχι μεγαλυτέρας των Ι.80 μ. 2/ Για κελύφη με διάμετρον υπερβαίνουσαν τα Ι.80 μ 2/ το προρρηθέν κατώτατον πάχος

θα αυξάνεται μέχρι 4 ΜΜ (χιλ.) προκειμένου περί μαλακού χάλυβος 3/ και μέχρι ισοδυνάμου πάχους προκειμένου περί άλλου μετάλλου. Δια του όρου "Ισοδύναμον πάχος" νοείται το πάχος το λαμβανόμενον δια του κάτωθι τύπου:- 2ΙΙ.Ι27 (Συνεχίζεται)

$$\varepsilon_I = \frac{10 \times \varepsilon_o}{\sqrt[3]{R\mu_I \times A_I}} \quad 4/$$

4/ Ο ανωτέρω τύπος προέρχεται από τον γενικόν τύπον

$$\varepsilon_I = \varepsilon_o \sqrt[3]{\frac{R\mu_o \times A_o}{R\mu_I \times A_I}}$$

όπου $R\mu_o = 37$•

$A_o = 27$ για τον χάλυβα παραπομπής•

$R\mu_I =$ κατωτάτη αντοχή εις εφελκυσμόν του επιλεγέντος μετάλλου, εις KG/MM^2• και

$A_I =$ κατωτάτη επιμήκυνσις του επιλεγέντος μετάλλου επί ρήγματος υπό πίεσιν (τάσιν) εφελκυσμού, εις ποσοστόν στα εκατόν.

Σημείωσις:- Τα παρακάτω μέτρα ή ισοδύναμα μέτρα μπορούν να υιοθετηθούν για τη προστασία του κελύφους κατά ζημιών:

(α) Στο κέλυφος μπορεί να παρασχεθεί σε αμφότερες τις πλευρές, σε ύψος κείμενο μεταξύ της κεντρικής γραμμής του και του κάτω ημίσεώς του, προστασία κατά της πλευρικής προσβολής αποτελουμένη εκ κυλινδρωμένης μεταλλικής δοκού

εκτεινομένης τουλάχιστον 25 ΜΜ (χιλ.) πέραν του με- 2ΙΙ.Ι27
γίστου εξωτερικού άκρου του πελύφους. Η δοκός αυτή θα είναι τέτοιας διατομής ώστε εάν είναι από μαλακόν χάλυβα 3/ ή από ισχυρότερο υλικό να έχει ροπήν αντιστάσεως τουλάχιστον 5 CM^3, της δυνάμεως κατευθυνομένης οριζοντίως και σε ορθές γωνίες προς την κατεύθυνσιν του ταξιδίου. Εάν πιό αδαύνατα υλικά χρησιμοποιηθούν, η ροπή αντιστάσεως θα αυξάνεται αναλογικώς προς τα όρια της επιμηκύνσεως. Η προστασία κατά του αναποδογυρίσματος μπορεί να πάρει τη μορφή ενισχυτικών δακτυλίων, προστατευτικών προφυλακτικών καλυμμάτων (CANOPIES), ή εγκαρσίων ή επιμήκων μελών τοιούτου σχήματος που εν περιπτώσει αναποδογυρίσματος ουδεμία ζημία να προκληθεί εις τα εξαρτήματα και παρελκόμενα τα συναρμολογημένα στο άνω μέρος του πελύφους.

(β) Υπάρχει επίσης προστασία:

Ι.- οσάκις τα πελύφη είναι κατασκευασμένα με διπλά τοιχώματα, του χώρου μεταξύ των τελευταίων έχοντος εκκενωθεί από τον αέρα. Το ολικόν πάχος του εξωτερικού μεταλλικού τοιχώματος και του τοιχώματος του πελύφους θα αντιστοιχούν προς το κατώτατον πάχος τοιχώματος το προβλεπόμενον στην παράγραφο (3), και το κατώτατον πάχος του τοιχώματος αυτού τούτου του πελύφους δεν θα είναι μικρότερον του κατωτάτου πάχους του προβλεπομένου στη παράγραφο (4)·

2.- οσάκις τα πελύφη είναι κατασκευασμένα με διπλά τοιχώματα με ενδοιάμεσο στρώμα στερεών υλικών πάχους

τουλάχιστον 50 ΜΜ (χιλ.), του εξωτερικού τοιχώματος έχοντος πάχος τουλάχιστον 0.5 ΜΜ εάν είναι κατασκευασμένον από μαλακόν χάλυβα 3/ και τουλάχιστον 2 ΜΜ εάν είναι κατασκευασμένον από πλαστικήν ύλην ενισχυμένην με βαλον εις ίνας (GLASS FIBRE). Στερεός αφρός (με ικανότητα απορροφήσεως της ηχούσεως, ομοίαν π.χ. του αφρού πολυουρεθάνης πυκνότητος περίπου 400 KG/M^3) μπορεί να χρησιμοποιηθεί ως το ενδιάμεσο στρώμα στερεού υλικού. 2ΙΙ.Ι27 (Συνεχίζεται)

(5) Το πάχος των πελύφων δεξαμενών το προβλεπόμενον συμφώνως προς το περιθώριον 2ΙΙ.Ι23(Ι), αι οποίαι δεξαμεναί είναι χωρητικότητος μεγαλυτέρας των 5.000 λιτρών ή είναι διηρημέναι σε στεγανά διαμερίσματα χωρητικότητος μονάδος όχι μεγαλυτέρας των 5.000 λιτρών, μπορεί να ρυθμισθεί σε επίπεδο το οποίον, εκτός εάν προεβλέφθη άλλως στις διάφορες Κλάσεις, εν τούτοις δεν θα είναι μικρότερον της καταλλήλου τιμής της εικονιζομένης στον κατωτέρω πίνακα:-

Ανωτάτη ακτίς καμπυλότητος του πελύφους (Μ)	Χωρητικότης Κελύφους ή διαμέρισμα πελύφους (M^3)	Κατώτατο Πάχος (ΜΜ) Μαλακός Χάλυψ
2	5.0	3
2 - 3	3.5	3
	3.5 αλλά 5.0	4

Οσάκις χρησιμοποιείται μέταλλο διάφορο του μαλα- 2ΙΙ.Ι27
κού χάλυβα, το πάχος θα καθορίζεται δι' ισοδυνάμου τύπου (Συνεχί-
διδομένου στη παράγραφο (3). Το πάχος των χωρισμάτων και ζεται)
των κυματοειδών ελασμάτων σε ουδεμιά περίπτωση θα είναι
μικρότερον εκείνου του κελύφους.

(6) Τα κυματοειδή ελάσματα και τα χωρίσματα θα έχουν κοιλανθεί, με βάθος του κοιλώματος όχι μικρότερον των ΙΟ CM, ή θα έχουν αυλακωθεί, υποστεί κατατομήν ή άλλως ενισχυθεί διά ισοδυνάμου αντοχής. Η επιφάνεια του κυματοειδούς ελάσματος θα είναι τουλάχιστον 70 τοις εκατόν της επιφανείας διατομής της δεξαμενής εντός της οποίας έχει εφαρμοσθεί το κυματοειδές έλασμα.

(7) Τα προσόντα του κατασκευαστού διά την εκτέλεσιν των εργασιών συγκολλήσεως θα είναι τα αναγνωριζόμενα υπό της αρμοδίας αρχής. Η συγκόλλησις θα εκτελεσθεί υπό επιδεξίων συγκολλητών χρησιμοποιούντων μέθοδον συγκολλήσεως η αποτελεσματικότης της οποίας (συμπεριλαμβανομένων οιωνδήποτε απαιτουμένων θερμικών κατεργασιών) κατεδείχθη δια δοκιμής. Μη-καταστρεπτικαί δοκιμαί θα εκτελούνται δια ραδιογραφίας ή υπερηχητικών κυμάτων, πρέπει δε να επιβεβαιούν ότι η ποιότης της συγκολλήσεως είναι η ενδεδειγμένη δια τις τάσεις (πιέσεις).

Κατά τον καθορισμόν του πάχους των τοιχωμάτων κελύφους συμφώνως προς την παράγραφον (2), αι κάτωθι τιμαί του συντελεστού λάμτα (λ) θα ψιοθετούνται διά τις συγκολλήσεις:

0.8 : οσάκις αι λωρίδες συγκολλήσεως επιθεωρούνται όσον είναι δυνατόν οπτικώς επ' αμφοτέρων των δ-

ψεών και υποβάλλονται εις μη-καταστρεπτικόν επι- 2ΙΙ.Ι27
τόπιον έλεγχον με ιδιαιτέραν προσοχήν εις τας συν- (Συνεχί-
δέσεις· ζεται)

0.9: οσάκις όλες οι επιμήκεις λωρίδες καθ'όλον το μήκος των, όλες οι ενώσεις, το 25 στα εκατό των κυκλικών λωρίδων, και συγκολλήσεις για την συγκέντρωση (συναρμολόγησιν) ειδών εξοπλισμού μεγάλης διαμέτρου υποβάλλονται εις μη-καταστρεπτικούς ελέγχους. Οι λωρίδες θα ελέγχωνται οπτικώς εις αμφότερες τις πλευρές όσον είναι δυνατόν·

Ι.0: οσάκις όλες οι λωρίδες υποβάλλονται εις μη-καταστρεπτικούς ελέγχους και επιθεωρούνται όσον είναι δυνατόν οπτικώς εις αμφότερες τις πλευρές. Τεμάχιον δοκιμής μιας συγκολλήσεως θα αφαιρείται.

Οσάκις η αρμοδία αρχή έχει αμφιβολίες αναφορικώς με την ποιότητα των λωρίδων συγκολλήσεως, ενδέχεται να απαιτήσει συμπληρωματικούς ελέγχους.

(8) Θα λαμβάνωνται μέτρα προστασίας των κελυφών κατά του κινδύνου της παραμορφώσεώς των ως αποτέλεσμα αρνητικής εσωτερικής πιέσεως.

(9) Η θερμική μόνωσις θα είναι έτσι σχεδιασμένη ώστε να εμποδίζεται η είσοδος εις, ή η λειτουργία των μηχανισμών πληρώσεως και εκκενώσεως και των βαλβίδων ασφαλείας.

Σταθερότης

Το ολικόν πλάτος της επιφανείας επιπέδου-εδάφους 2ΙΙ.Ι28
(GROUND-LEVEL BEARING SURFACE) (αποστάσεως μεταξύ των εξωτερικών σημείων επαφής με το έδαφος του δεξιού ελαστι-

κού και του αριστερού ελαστικού του ιδίου άξονος) θα εί- 2ΙΙ.Ι28
ναι τουλάχιστον ίσον προς 90 στα εκατό του ύψους του (Συνεχί-
κέντρου βαρύτητος του εμφόρτου βυτιοφόρου οχήματος. Σε ζεται)
αρθρωτό όχημα το βάρος των αξόνων της μεταφερούσης το φορ-
τίο μονάδος του εμφόρτου ημι-ρυμουλκουμένου οχήματος (SEMI-
TRAILER) δεν θα υπερβαίνει το 60 στα εκατό του ονομαστι-
κού ολικού εμφόρτου βάρους ολοκλήρου του αρθρωτού οχήματος.

Άρθρο 3

Είδη Εξοπλισμού

Τα είδη εξοπλισμού, οπουδήποτε ευρισκόμενα, 2ΙΙ.Ι30
θα είναι έτσι τακτοποιημένα (διατεταγμένα) ώστε να προ-
φυλάσσωνται από του κινδύνου να αποσπασθούν ή καταστρα-
φούν διαρκούσης της μεταφοράς ή του χειρισμού. Θα κατέχουν
τον βαθμόν ασφαλείας τον εφαρμοζόμενον και συγκρινόμενον
με τον βαθμόν ασφαλείας αυτών τούτων των κελυφων, και ει-
δικώτερα:

- θα είναι σύμφωνα με τις μεταφερόμενες ύλες· και
- θα πληρούν τις διατάξεις του περιθωρίου 2ΙΙ.Ι2Ι.

Όσο το δυνατόν περισσότερα τμήματα (εξαρτήματα)
λειτουργίας θα εξυπηρετούνται από τον μικρότερον δυνατόν
αριθμόν οπών (ανοιγμάτων, θυρίδων) του τοιχώματος του κε-
λύφους.

Η στεγανότης των ειδών εξοπλισμού θα εξασφαλίζε-
ται ακόμη και εις την περίπτωσιν αναποδογυρίσματος του ο-
χήματος.

Τα παρεμβάσματα θα είναι κατασκευασμένα από υλι-

κον σύμφωνον προς την μεταφερομένην ύλην και θα αντι- 2II.I30
καθίστανται ευθύς ως η αποτελεσματικότης των εξασθενή- (Συνεχίζε-
σει, π.χ. λόγω ηλικίας. ται)

Παρεμβάσματα εξασφαλίζοντα την στεγανότητα των εξαρτημάτων λειτουργίας, αναγναιούντα χειρισμόν διαρκούσης της κανονικής χρήσεως του οχήματος, θα είναι έτσι σχεδιασμένα και διατεταγμένα ώστε ο χειρισμός του εξαρτήματος λειτουργίας εις τον οποίον είναι ενσωματωμένα να μη τα καταστρέψει.

Κάθε κέλυφος πυθμενο-εκκενώσεως (BOTTOM- 2II.I3I
DISCHARGE SHELL), και στη περίπτωση διαμερισματοποιημένων πυθμενο-εκκενώσεως κελυφων κάθε διαμέρισμα, θα είναι εφωδιασμένον με δύο αμοιβαίως ανεξαρτήτους μηχανισμούς κλεισίματος (SHUT-OFF DEVICES) συναρμολογημένους εν σειρά, του πρώτου λαμβάνοντος την μορφήν εσωτερικού ατμοφράκτου 5/ συναρμολογημένου, με την έδραν του, εσωτερικώς του κελύφους και του δευτέρου την μορφήν βαλβίδος εκροής (SLUICE-VALVE) ή ετέρου ισοδυνάμου μηχανισμού, εις έκαστον άκρον του φέροντος στορέα σωλήνος εκκενώσεως. Ο εσωτερικός ατμοφράκτης θα είναι σε θέση να λειτουργεί από επάνω ή από κάτω. Εάν είναι δυνατόν, η ρύθμισις -ανοικτός ή κλειστός - του εσωτερικού ατμοφράκτου θα είναι σε θέση να επαληθεύεται εκ του εδάφους σε αμφότερες τις περιπτώσεις. Οι μοχλοί ελέγχου του εσωτερικού ατμοφράκτου θα είναι έτσι σχεδιασμένοι ώστε να αποφεύγεται οιονδήποτε εξ απροσεξίας άνοιγμα λόγω προσκρούσεως ή εξ απερισκέπτου ενεργείας. Ο εσωτερικός μηχανισμός κλεισίματος πρέπει να εξακολουθεί να λειτουρ-

γεί εν περιπτώσει βλάβης (ζημίας) του εξωτερικού μοχλού ελέγχου. 2ΙΙ.131 (Συνεχίζεται)

Η θέσις ή και η κατεύθυνσις του κλεισίματος των βαλβίδων εκροής (υδατοφρακτών) πρέπει να είναι σαφώς εμφανής.

Δια να αποφευχθεί οιαδήποτε απώλεια του περιεχομένου εν περιπτώσει ζημίας (βλάβης) των εξωτερικών εξαρτημάτων πληρώσεως και εκκενώσεως (σωλήνων, πλευρικών μηχανισμών κλεισίματος), ο εσωτερικός ατμοφράκτης και η έδρα του θα προστατεύωνται κατά του κινδύνου να αποσπασθούν υπό εξωτερικών πιέσεων ή θα είναι έτσι σχεδιασμένος ο εσωτερικός ατμοφράκτης και η έδρα του ώστε να ανθίστανται κατ'αυτών. Οι μηχανισμοί πληρώσεως και εκκενώσεως (συμπεριλαμβανομένων των φλαντζών ή ελικοτετμημένων πωμάτων) και αι (τυχόν) προστατευτικαί καλύπτραι θα έχουν την δυνατότητα ασφαλίσεως των κατά οιουδήποτε απροσέκτου ανοίγματος.

Το κέλυφος ή έκαστον των διαμερισμάτων του θα είναι εφωδιασμένον με θυρίδα (άνοιγμα) αρκετά μεγάλην ώστε να επιτρέπεται η επιθεώρησίς των.

Κελύφη προοριζόμενα δια την μεταφοράν υλών 2ΙΙ.132
όλαι αι οπαί (θυρίδες) των οποίων είναι άνω του επιπέδου επιφανείας του υγρού μπορούν να είναι εφωδιασμένα, εις το κάτω μέρος του κορμού των, με θυρίδα καθαρισμού (σχήματος γροθιάς οπή/θυρίς). Η οπή (θυρίς) αυτή πρέπει να είναι σε θέση να ασφαλίζεται με φλάντζα έτσι κλεισμένη ώστε να υπάρχει στεγανότης, το σχέδιό της δε πρέπει να έχει εγκριθεί υπό

της αρμοδίας αρχής ή υπό υπηρεσίας ορισθείσης υπό της εν λόγω αρχής. 2ΙΙ.Ι32 (Συνεχίζεται)

Κελύφη προοριζόμενα δια την μεταφοράν υγρών εχόντων πίεσιν ατμού όχι μεγαλυτέραν των Ι.Ι KG/CM^2 (απόλυτον) εις 50°C θα έχουν σύστημα εξαερισμού και μηχανισμόν ασφαλείας δια να αποφεύγεται το χύσιμον του περιεχομένου εάν το κέλυφος αναποδογυρίσει· άλλως πρέπει να συμμορφούνται προς τας διατάξεις των περιθωρίων 2ΙΙ.Ι34 ή 2ΙΙ.Ι35. 2ΙΙ.Ι33

Κελύφη προοριζόμενα δια την μεταφοράν υγρών εχόντων πίεσιν ατμού όχι μικροτέραν των Ι.Ι και όχι μεγαλυτέραν των Ι.75 KG/CM^2 (απόλυτον) εις 50°C θα έχουν βαλβίδα ασφαλείας ρυθμισμένην εις πίεσιν θλιβομέτρου όχι μικροτέραν των Ι.5 KG/CM^2 και η οποία βαλβίς πρέπει να είναι ολωσδιόλου ανοικτή εις πίεσιν μη υπερβαινούσαν την πίεσιν δοκιμής· άλλως πρέπει να συμμορφούνται προς τις διατάξεις του περιθωρίου 2ΙΙ.Ι35. 2ΙΙ.Ι34

5/ Εκτός ως ενδέχεται να προβλέπεται άλλως στη περίπτωση κελυφων προοριζομένων δια την μεταφοράν ωρισμένων κρυσταλλοποιουμένων ή υψηλώς ιξωδών ουσιών, ή λίαν κατεψυγμένων υγροποιημένων αερίων, ή κονιοποιημένων ή κοκκωδών υλών.

Κελύφη προοριζόμενα δια την μεταφοράν υγρών εχόντων πίεσιν ατμού όχι μικροτέραν των Ι.75 και όχι μεγαλυτέραν των 3 KG/CM^2 (απόλυτον) εις 50°C θα έχουν βαλβίδα ασφαλείας ρυθμισμένην εις πίεσιν θλιβομέτρου όχι μικροτέραν των 3 KG/CM^2 και η οποία (βαλβίδα) πρέπει να είναι πλήρως ανοικτή εις πίεσιν μη υπερβαίνουσαν την πίεσιν δοκιμής· άλλως πρέπει να είναι ερμητικώς κλεισμένη. 6/ 2ΙΙ.Ι35

Μη κινούμενα εξαρτήματα όπως καλύμματα, κλεισίματα, κλπ. τα οποία είναι δυνατόν να έλθουν εις επαφήν τριβής ή επικρούσεως με κελύφη εξ αλουμινίου προοριζόμενα δια την μεταφοράν ευφλέκτων υγρών εχόντων σημείον αναφλέξεως 55°C και κάτω ή δια την μεταφοράν ευφλέκτων αερίων μπορούν να κατασκευασθούν εκ μη προστατευομένου δυναμένου να διαβρωθεί (CORRODIBLE) χάλυβος. 2ΙΙ.Ι36

2ΙΙ.Ι37-
2ΙΙ.Ι39

Άρθρο 4

Έγκρισις Τύπου

Η αρμοδία αρχή ή υπηρεσία ορισθείσα υπό της αρχής αυτής θα εκδίδει εις σχέσιν με κάθε νέον τύπον δεξαμενής πιστοποιητικόν βεβαιούν ότι, η πρωτότυπος δεξαμενή συμπεριλαμβανομένων των στερεώσεων του κελύφους τα οποία έχει επιθεωρήσει, είναι κατάλληλος δια τον σκοπόν δια τον οποίον προορίζεται και πληροί τους όρους κατασκευής του Άρθρου 2, τις διατάξεις περί εξοπλισμού του Άρθρου 3 και τους ειδικούς όρους των Κλάσεων των μεταφε- 2ΙΙ.Ι40

ρομένων υλών. 2II.I40

Τα αποτελέσματα της δοκιμής, οι ύλες δια την μεταφοράν των οποίων η δεξαμενή εγκρίνεται, και ο αριθμός εγκρίσεώς της ως πρωτοτύπου θα καταχωρούνται σε έκθεσιν δοκιμής. (Συνεχίζεται)

Η έγκρισις αυτή θα είναι ισχυρή δια δεξαμενές κατασκευασμένες συμφώνως προς το πρωτότυπον τούτο άνευ τροποποιήσεως.

2II.I4I-
2II.I49

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Οι δεξαμενές και ο εξοπλισμός τους πρέπει, 2II.I50
είτε μαζί είτε χωριστά, να υφίστανται αρχικήν επιθεώρησιν προτού τεθούν εις υπηρεσίαν. Η επιθεώρησις αυτή θα περιλαμβάνει έλεγχον ότι η δεξαμενή συμμορφούται προς το εγκριθέν πρωτότυπον, έλεγχον των χαρακτηριστικών του σχεδίου, εξωτερικήν και εσωτερικήν εξέτασιν, έλεγχον υδραυλικής πιέσεως εις την πίεσιν δοκιμής την σημειουμένην εις την πλάκα στοιχείων, και έλεγχον ικανοποιητικής λειτουργίας του εξοπλισμού.

6/ Δια του όρου "Κελύφη ερμητικώς κλεισμένα" νοούνται τα κελύφη των οποίων τα ανοίγματα είναι ερμητικώς κλεισμένα και τα οποία δεν είναι εφωδιασμένα με βαλβίδες ασφαλείας, εύθραυστον δίσκον ή άλλους ομοίους μηχανισμούς ασφαλείας. Κελύφη έχοντα βαλβίδες ασφαλείας των οποίων προηγεί-

εύθραυστος δίσκος θα θεωρούνται ερμητικώς κλεισμένα.

Ο έλεγχος της υδραυλικής πιέσεως θα διεξάγεται προ της εγκαταστάσεως τοιαύτης θερμικής μονώσεως η οποία ήθελεν είναι απαραίτητος. Εάν τα κελύφη και ο εξοπλισμός των ελεγχθούν χωριστά, θα υποβάλωνται από κοινού εις έλεγχον στεγανότητος μετά την συναρμολόγησιν. 2ΙΙ.Ι50 (Συνεχίζεται)

Οι δεξαμενές θα υφίστανται περιοδικές επιθεωρήσεις εις τακτά χρονικά διαστήματα. 2ΙΙ.Ι5Ι

Αι περιοδικαί επιθεωρήσεις θα περιλαμβάνουν εξωτερικόν και εσωτερικόν έλεγχον και, ως γενικόν κανόνα, έλεγχον υδραυλικής πιέσεως. 7/ Η επικάλυψις (επένδυσις) δια θερμικήν μόνωσιν και τα παρεμφερή θα αφαιρείται μόνον καθ' ό μέτρον απαιτείται δι' αξιόπιστον εκτίμησιν των χαρακτηριστικών του κελύφους.

Το ανώτατον χρονικόν διάστημα το μεσολαβούν μεταξύ περιοδικών επιθεωρήσεων θα είναι έξ έτη.

Επιπροσθέτως, έλεγχος στεγανότητος και έλεγχος ικανοποιητικής λειτουργίας όλου του εξοπλισμού θα εκτελούνται κάθε τρία έτη.

7/ Σε ειδικές περιπτώσεις, και με την σύμφωνον γνώμην του εμπειρογνώμονος του εγκριθέντος υπό της αρμοδίας αρχής, ο έλεγχος της υδραυλικής πιέσεως μπορεί να αντικαθασταθεί με έλεγχον πιέσεως χρησιμοποιούντα έτερον υγρόν ή αέριον, οσάκις τοιαύτη επιχείρησις δεν συνεπάγεται οιονδήποτε κίνδυνον.

Αι δοκιμαί, επιθεωρήσεις και έλεγχοι συμφώνως προς τα περιθώρια 2ΙΙ.Ι50 και 2ΙΙ.Ι5Ι θα εκτελούνται υπό εμπειρογνώμονος εγκεκριμένου υπό της αρμοδίας αρχής. Πιστοποιητικά θα εκδίδωνται εικονίζοντα τα αποτελέσματα των επιχειρήσεων αυτών. 2ΙΙ.Ι52

Οσάκις η ασφάλεια του κελύφους ή του εξοπλισμού του ενδέχεται να εξασθενήσει ως αποτέλεσμα επισκευών, τροποποιήσεων ή ατυχήματος, εξαιρετικός έλεγχος θα διεξάγεται υπό της αρμοδίας αρχής ή υπό εμπειρογνώμονος εγκριθέντος υπό της αρχής αυτής. 2ΙΙ.Ι53

2ΙΙ.Ι54-
2ΙΙ.Ι59

Άρθρο 6

Μαρκάρισμα (Χάραξις)

Κάθε κέλυφος θα είναι εφωδιασμένον με μεταλλικήν πλάκα ανθεκτικήν εις την διάβρωσιν μονίμως συνδεδεμένην εις το κέλυφος εις θέσιν ευχερώς προσιτήν δι' επιθεώρησιν. Τα κατωτέρω στοιχεία τουλάχιστον θα χαράσσωνται επί της πλακός δια σφραγίσεως ή δι'οιασδήποτε ετέρας παρεμφερούς μεθόδου. Τα στοιχεία αυτά μπορούν να χαράσσωνται απ'ευθείας επί των τοιχωμάτων αυτού τούτου του κελύφους, εάν τα τοιχώματα είναι έτσι ενισχυμένα ώστε η αντοχή του κελύφους να μην εξασθενείται: 2ΙΙ.Ι60

αριθμός εγκρίσεως·

επωνυμία ή σήμα κατασκευαστού·

αύξων αριθμός κατασκευαστού·

έτος κατασκευής·

πίεση δοκιμής σε KG/CM^2 (πίεση θλιβομέτρου)· 2ΙΙ.Ι60
χωρητικότης σε λίτρες - στη περίπτωση κελύφων (Συνεχίζεται)
πολλαπλών στοιχείων, η χωρητικότης εκάστου
στοιχείου·
θερμοκρασία σχεδίου (μόνον εάν ανω των +50°C ή
κάτω των -20°C)·
ημερομηνία (μην και έτος) αρχικού ελέγχου και λίαν
προσφάτου περιοδικού ελέγχου· και
σφραγίς του εμπειρογνώμονος ο οποίος διεξήγαγε
τους ελέγχους.

Επιπροσθέτως, η επιτρεπομένη ανωτάτη πίεσις λειτουργίας θα εγγράφεται επί των δια πιέσεως πληρουμένων ή δια πιέσεως εκκενουμένων κελύφων.

Τα κατωτέρω στοιχεία θα είναι εγγεγραμμένα επ' 2ΙΙ.Ι6Ι
αυτού τούτου του βυτιοφόρου ή επί πλακός:
ονοματεπώνυμον χειριστού·
βάρος άνευ φορτίου· και
επιτρεπόμενον ανώτατον βάρος.

Επιπροσθέτως, τα βυτιοφόρα θα φέρουν τις προβλεπόμενες ετικέττες κινδύνου.

2ΙΙ.Ι62-
2ΙΙ.Ι69

Άρθρο 7
Λειτουργία

Το πάχος των τοιχωμάτων του κελύφους δεν θα πίπτει, καθ'όλην την χρήσιν του, κάτω του κατωτάτου αριθμού του προβλεπομένου εις περιθώριον 2ΙΙ.Ι27(2). 2ΙΙ.Ι70

Τα κελύφη δεν θα φορτώνωνται με οποιεσδήποτε επικίνδυνες ύλες πλην εκείνων για τις οποίες έχει εγκριθεί η μεταφορά. Τρόφιμα δεν θα μεταφέρωνται εις τα κελύφη αυτά εκτός εάν έχουν παρθεί τα απαραίτητα μέτρα για να προληφθεί οιοσδήποτε κίνδυνος για τη δημοσία υγεία. 2ΙΙ.Ι7Ι

Οι παρακάτω βαθμοί πληρώσεως δεν θα υπερβαίνωνται σε κελύφη προοριζόμενα για τη μεταφορά υγρών σε θερμοκρασίες περιβάλλοντος: 2ΙΙ.Ι72

(Ι) (α) οσάκις εύφλεκτες ύλες μη παρουσιάζουσες προσθέτους κινδύνους (π.χ. τοξικές ή διαβρωτικές ιδιότητες) φορτώνωνται σε κελύφη με σύστημα εξαερισμού, μετά ή άνευ βαλβίδων ασφαλείας:

$$\text{βαθμός πληρώσεως} = \frac{100}{1 + \alpha\,(50 - T_F)} \text{ ή } \frac{100}{1 + 35\alpha}\ \%$$

της χωρητικότητος·

(β) οσάκις τοξικές ή διαβρωτικές ύλες, ανεξαρτήτως εάν παρουσιάζουν ή δεν παρουσιάζουν κίνδυνον πυρκαϊάς, φορτώνωνται σε κελύφη με σύστημα εξαερισμού, μετά ή άνευ βαλβίδων ασφαλείας:

$$\text{βαθμός πληρώσεως} = \frac{98}{1 + \alpha\,(50 - T_F)} \text{ ή } \frac{98}{1 + 35\alpha}\ \%$$

της χωρητικότητος·

(γ) οσάκις χαμηλής συμπυκνώσεως εύφλεκτες ύλες και χαμηλής πυκνότητος οξέα ή αλκαλικά διαλύματα φορτώνονται σε κλειστά κελύφη:

$$\text{βαθμός πληρώσεως} = \frac{97}{1 + \alpha\,(50 - T_F)} \text{ ή } \frac{97}{1 + 35\alpha}\ \%$$

της χωρητικότητος· 2II.I72

(δ) οσάκις υψηλής συμπυκνώσεως τοξικές ύλες και υψηλής συμπυκνώσεως οξέα και αλκαλικά διαλύματα φορτώνονται σε κλειστά κελύφη: (Συνεχίζεται)

$$\text{βαθμός πληρώσεως} = \frac{95}{I + \alpha\,(50 - T_F)} \text{ ή } \frac{95}{I + 35\alpha}\ ^{o}/_{o}$$

της χωρητικότητος.

(2) Στους ανωτέρω τύπους, το α αντιπροσωπεύει (παριστά) τον μέσον συντελεστήν της διαστολής κατ'όγκον του υγρού μεταξύ $I5^{o}$ και $50^{o}C$, τ.έ. δι'ανωτάτην μεταβολήν θερμοκρασίας $35^{o}C$. το α υπολογίζεται δια του τύπου: $\alpha = \frac{D_{I5} - D_{50}}{35 \times D_{50}}$,

όπου D_{I5} και D_{50} είναι οι πυκνότητες του υγρού στούς $I5^{o}C$ και $50^{o}C$ αντιστοίχως και T_F είναι η μέση θερμοκρασία του υγρού κατά τον χρόνον της πληρώσεως.

(3) Οι διατάξεις της ανωτέρω παράγράφου (I) δεν θα ισχύουν για κελύφη των οποίων το περιεχόμενον συντηρείται, μέσω μηχανισμού (συσκευής) θερμάνσεως εις θερμοκρασίαν άνω των $50^{o}C$ διαρκούσης της μεταφοράς. Σε τέτοια περίπτωση, ο βαθμός πληρώσεως στην αρχή θα είναι τέτοιος, και η θερμοκρασία θα έχει έτσι ρυθμισθεί, ώστε το κέλυφος να μη πληρούται άνω του 95 τοις εκατόν της χωρητικότητός του οποτεδήποτε διαρκούσης της μεταφοράς, και η θερμοκρασία πληρώσεως να μην υπερβαίνεται.

(4) Οσάκις θερμές ύλες φορτώνονται, η θερμοκρασία της εξωτερικής επιφανείας του κελύφους ή της θερμικής μονώσεως δεν θα

υπερβαίνει τους 70°C διαρκούσης της μεταφοράς.

Οσάκις κελύφη προοριζόμενα για τη μεταφορά υγ- 2ΙΙ.Ι73
ρών 8/ δεν χωρίζονται με χωρίσματα ή κυματοειδή ελάσμα-
τα σε τμήματα χωρητικότητος όχι μεγαλυτέρας των 7.500 λι-
τρών, θα πληρούνται όχι ολιγώτερο του 80 τοις εκατόν της
χωρητικότητός των εκτός εάν είναι πρακτικώς άδεια.

Τα κελύφη θα κλείουν κατά τοιούτον τρόπον ώστε 2ΙΙ.Ι74
το περιεχόμενον να μη μπορεί να τρέξει ανεξέλεγκτον. Η
στεγανότης των κλεισιμάτων του κελύφους, ειδικώτερον εις
το άνω μέρος του βυθομετρικού-σωλήνος, θα επαληθεύεται υπό
του αποστολέως μετά την πλήρωσιν του κελύφους.

Όπου έχουν εφαρμοσθεί πολλά συστήματα κλεισίματος 2ΙΙ.Ι75
εν σειρά, το σύστημα που είναι πλησιέστερον προς την μετα-
φερομένην ύλην θα κλείεται πρώτον.

Ουδέν επικίνδυνον υπόλειμμα θα παραμένει εις το 2ΙΙ.Ι76
εξωτερικόν των κελυφων διαρκούσης της μεταφοράς, ασχέτως
εάν είναι πλήρη ή άδεια.

Για να είναι δεκτά για μεταφορά, τα άδεια κελύ- 2ΙΙ.Ι77
φη πρέπει να είναι κλεισμένα και και να έχουν τον αυτόν
βαθμόν στεγανότητος ως εάν ήσαν πλήρη.

Οι σωλήνες συνδέσεως μεταξύ ανεξαρτήτων αλλά 2ΙΙ.Ι78
διασυνδεομένων κελυφων μονάδος μεταφοράς θα είναι κενοί
διαρκούσης της μεταφοράς.

Εύκαμπτοι σωλήνες πληρώσεως και εκκενώσεως οι ο- 2ΙΙ.Ι79
ποίοι δεν είναι μονίμως συνδεδεμένοι με το κέλυφος θα εί-
ναι άδειοι (κενοί) διαρκούσης της μεταφοράς.

Άρθρο 8

Μεταβατικά Μέτρα

Μεταβατικά Μέτρα 2ΙΙ.Ι80

Σταθερές (μόνιμες δεξαμενές, βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων κατασκευής προ της Ιης Οκτωβρίου Ι978 και μη συμμορφούμεναι προς τας διατάξεις της παρούσης Προσθήκης μπορούν, εάν κατεσκευάσθησαν συμφώνως προς τας διατάξεις της ADR, να χρησιμοποιηθούν δια περίοδον έξ ετών από Ιης Οκτωβρίου Ι978. Σταθερές (μόνιμες δεξαμενές, βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων προοριζόμενες για τη μεταφορά αερίων της Κλάσεως 2 μπορούν εν τούτοις να χρησιμοποιηθούν για Ι2 έτη από της αυτής ημερομηνίας εάν ετηρήθη ο όρος της περιοδικής δοκιμής (ελέγχου).

Κατά την λήξιν της περιόδου αυτής οι προρρηθείσες 2ΙΙ.Ι8Ι μονάδες μπορούν να διατηρηθούν εν υπηρεσία εάν ο εξοπλισμός του κελύφους πληροί τους παρόντας όρους. Το πάχος του τοιχώματος του κελύφους, εκτός στη περίπτωση κελύφων προοριζομένων για τη μεταφορά αερίων της Κλάσεως 2, 7° και 8°, θα είναι κατάλληλον για πίεση υπολογισμού όχι μικροτέραν των 4 KG/CM^2 (πίεση θλιβομέτρου) προκειμένου περί μαλακού χάλυβος και και όχι μικροτέραν των 2 KG/CM^2 (πίεση θλιβομέτρου) προκειμένου περί αλουμινίου και κραμάτων αλουμινίου. Για άλλες, πλην των κυκλικής διατομής δεξαμενών, η χρησιμοποιουμένη ως βάσις υπολογισμού διάμετρος θα είναι εκείνη κύκλου του οποίου το εμβαδόν είναι ίσον προς εκείνο της πραγματικής διατομής της δεξαμενής.

8/ Για την εφαρμογή της παρούσης διατάξεως, ύλες των οποίων ο χρόνος εκροής εις τούς 20^{o}C από κύπελο DIN (DIN CUP) με οπήν εκροής 4-ΜΜ δεν υπερβαίνει τα Ι0 λεπτά)αντιστοιχούντα σε χρόνον εκροής μικρότερον των 96 δευτερολέπτων εις 20^{o}C από κύπελο FORD No. 4 ή μικρότερον των 2,680 CENTISTOKES) θα θεωρούνται ότι είναι υγρά.

Οι περιοδικοί έλεγχοι για σταθερές (μόνιμες δεξα- 2ΙΙ.Ι82
μενές, βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων/ διατηρούμενες εν υπηρεσία δυνάμει των μεταβατικών διατάξεων τούτων θα διεξάγωνται συμφώνως προς τις διατάξεις του Άρθρου 5 και τις οικείες ειδικές διατάξεις των διαφόρων Κλάσεων. Εκτός εάν αι προηγηθείσαι διατάξεις προέβλεπαν υψηλοτέραν πίεσιν δοκιμής, πίεσις δοκιμής εκ 2 KG/CM^2 (πίεσις θλιβομέτρου) θα επαρκεί για κελύφη εξ αλουμινίου ή κελύφη χάλυβος αλουμινίου.

Σταθερές (μόνιμες δεξαμενές, βυτιοφόρα), αποσυναρ- 2ΙΙ.Ι83
μολογούμενες δεξαμενές και συστοιχίες δοχείων που πληρούν τις μεταβατικές αυτές διατάξεις μπορούν να χρησιμοποιηθούν για περίοδον Ι5 ετών από Ιης Οκτωβρίου Ι978 για τη μεταφορά των επικινδύνων υλών δια τις οποίες ενεκρίθησαν. Η μεταβατική περίοδος αυτή δεν θα ισχύει για σταθερές (μόνιμες) δεξαμενές (βυτιοφόρα) , αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων προοριζόμενες για τη μεταφορά υλών της Κλάσεως 2, ή για σταθερές (μόνιμες) δεξαμενές (βυτιοφόρα), αποσυναρμολογούμενες δεξαμενές και συστοιχίες δοχείων των οποί-

ων το τοιχώματος και τα είδη εξοπλισμού πληρούν τις διατάξεις της παρούσης Προσθήκης.

2II.I84-
2II.I99

Προσθήκη Β.Ια

Κεφάλαιο ΙΙ

ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΣΥΜΠΛΗΡΟΥΣΑΙ Η ΤΡΟΠΟΠΟΙΟΥΣΑΙ ΤΙΣ ΔΙΑΤΑΞΕΙΣ ΤΟΥ ΚΕΦΑΛΑΙΟΥ Ι

Κλάσις 2

Αέρια: πεπιεσμένα, υγροποιημένα ή διαλυμένα υπό πίεσιν

2II.200-
2II.2I9

Άρθρο Ι

Γενικά· αντικείμενον· ορισμοί 2II.220

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά των υλών των Ι° έως 6° και 9° θα είναι κατασκευασμένα από χάλυβα. Δι'αποκλίσεως εκ του περιθωρίου 2II.I25(3), κατωτάτη επιμήκυνσις εις ρήγμα εκ I4 τοις εκατόν μπορεί να γίνεται δεκτή προκειμένου περι μη-συγκολλημένων κελύφων. 2II.22I

Αι διατάξεις της Προσθήκης Β.Ιδ, περιθώρια 2I4.250 έως 2I4.285, θα ισχύουν για τα υλικά και την κατασκευήν κελύφων προοριζομένων για τη μεταφορά αερίων των 7° και 8°. 2II.222

Κελύφη προοριζόμενα για τη μεταφορά χλωρίου ή φωσ-

γενίου (3° (α Τ)) θα σχεδιάζωνται για πίεση τουλάχιστον 22 ΚΓ/ΣΜ (πίεση θλιβομέτρου).

2ΙΙ.223-
2ΙΙ.229

Άρθρο 3

Είδη Εξοπλισμού

Οι σωλήνες εκκενώσεως των κελύφων θα είναι ικανές να κλείουν όχι μόνον δια των μηχανισμών (συσκευών) των προβλεπομένων εις περιθώριον 2ΙΙ.Ι3Ι αλλά επιπροσθέτως δια τυφλής φλάντζας ή κάποιου άλλου εξίσου αξιοπίστου μηχανισμού (συσκευής). 2ΙΙ.230

Κελύφη προοριζόμενα για τη μεταφορά υγροποιημένων αερίων μπορούν να είναι εφοδιασμένα, επιπροσθέτως των οπών (θυρίδων) των προβλεπομένων υπό του περιθωρίου 2ΙΙ.Ι3Ι, με οπές (θυρίδες, ανοίγματα) για την εφαρμογήν δεικτών, συμπεριλαμβανομένων θλιφομέτρων πιέσεως, και θερμομέτρων και με οπές διαφυγής, ως απαιτείται για τη λειτουργία και ασφάλειά τους. 2ΙΙ.231

Οι μηχανισμοί ασφαλείας θα πληρούν τους κάτωθι όρους:- 2ΙΙ.232

(Ι) Οπές (ανοίγματα) πληρώσεως και εκκενώσεως κελύφων προοριζομένων για τη μεταφορά υγροποιημένων ευφλέκτων ή και τοξικών αερίων θα είναι εφοδιασμένες με στιγμιαίου κλεισίματος εσωτερικού μηχανισμού ασφαλείας ο οποίος κλείνει αυτομάτως εν περιπτώσει απροσέκτου κινήσεως της δεξαμενής. Πρέπει επίσης να είναι δυνατόν να κλείνει ο μηχανισμός με τηλεχειριστήριον.

(2) Όλες οι οπές (ανοίγματα), πλην εκείνων που στε- 2ΙΙ.232
γάζουν βαλβίδες ασφαλείας και των κλειστών οπών εκροής, (Συνεχί-
των κελύφων των προοριζομένων για τη μεταφορά υγροποιη- ζεται)
μένων ευφλέκτων ή και τοξικών αερίων, εάν η ονομαστική
των διάμετρος είναι μεγαλυτέρα των I.5 ΜΜ, θα είναι εφοδια-
σμένες με εσωτερικόν μηχανισμόν κλεισίματος.

(3) Δι'αποκλίσεως εκ των διατάξεων των παραγράφων (I) και (2), κελύφη προοριζόμενα για τη μεταφορά πολύ-κατεψυγμένων (DEEPLY-REFRIGERATED) ευφλέκτων ή και τοξικών υγροποιημένων αερίων μπορούν να είναι εφοδιασμένα με εξωτερικούς μηχανισμούς αντί εσωτερικών μηχανισμών εάν οι εξωτερικοί μηχανισμοί παρέχουν προστασίαν τουλάχιστον ισοδύναμον της παρεχομένης υπό του τοιχώματος του κελύφους.

(4) Εάν τα κελύφη είναι εφοδιασμένα με δείκτες (θλιβόμετρα), οι τελευταίοι δεν θα κατασκευάζωνται από διαφανές υλικόν έρχόμενον εις άμεσον επαφήν με την μεταφερομένην ύλην. Εάν υπάρχουν θερμόμετρα δεν θα προεξέχουν απ'ευθείας εις το αέριον ή το υγρόν μέσω του τοιχώματος του κελύφους.

(5) Κελύφη προοριζόμενα για τη μεταφορά χλωρίου ή/θείου (3^{o} (α Τ)) ή μεθυλο-μερκαπτάνης ή υδροθείου (3^{o}(β Τ)) δεν θα έχουν οπήν κάτωθι της στάθμης επιφανείας του υγρού. Επιπροσθέτως, οπές καθαρισμού (οπές σχήματος γροθιάς) ως αναφέρονται εις το περιθώριον 2ΙΙ.I32 δεν θα επιτρέπωνται.

(6) Οπές πληρώσεως και εκκενώσεως κείμεναι εις το άνω μέρος των κελυφων θα είναι εφοδιασμέναι όχι μόνον με ό,τι προβλέπεται εις την παράγραφον (I), αλλά επιπροσθέτως με δεύτερον, εξωτερικόν, μηχανισμόν κλεισίματος. Ο μηχανισμός

αὐτός θα εἶναι ικανός να κλείει δια τυφλῆς φλάντζας καποιου ἄλλου εξ ἴσου αξιοπίστου μηχανισμού. 2ΙΙ.232 (Συνεχίζεται)

Οι βαλβίδες ασφαλείας θα πληροῦν τους κάτωθι 2ΙΙ.233 δρους:-

(Ι) Κελύφη προοριζόμενα για τη μεταφορά αερίων των Ι° έως 6° και 9° μπορεί να είναι εφοδιασμένα με όχι περισσότερες των δύο βαλβίδων ασφαλείας των οποίων η συνολική καθαρή επιφάνεια διατομῆς της διελεύσεως εις την έδραν ή τις έδρες δεν θα είναι μικρότερη των 20 CM^2 ανά 30 M^3 ή μέρους αυτῶν της χωρητικότητος του δοχείου. Οι βαλβίδες αυτές θα είναι ικανές να ανοίγουν αυτομάτως με πίεσιν μεταξύ 0.9 και Ι.0 φορές την πίεσιν δοκιμῆς του κελύφους εις το οποίον έχουν εφαρμοσθεί. Θα είναι τοιούτου τύπου ώστε να ανθίστανται κατά των δυναμικῶν τάσεων (πιέσεων) συμπεριλαμβανομένης της υγρᾶς αποτόμου ροῆς. Η χρῆσις βαλβίδων νεκρού-βάρους ή αντιβάρου απαγορεύεται.

Κελύφη προοριζόμενα για τη μεταφορά αερίων των Ι° έως 9°, επικινδύνων δια τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηριάσεως 9/ δεν θα έχουν βαλβίδες ασφαλείας εκτός εάν των βαλβίδων ασφαλείας προηγείται εύθραυστος δίσκος. Εις την τελευταίαν περίπτωσιν η διάταξις του ευθραύστου δίσκου και της βαλβίδος ασφαλείας θα απαιτείται να είναι ικανοποιητική δια την αρμοδίαν αρχήν.

9/ Αέρια χαρακτηριζόμενα με το γράμμα "Τ" εις την Κατάστασιν των υλῶν θεωρούνται ως αέρια βλαβερά δια τα αναπνευστικά όργανα ή συνεπαγόμενα κίνδυνον δηλητηριάσεως.

Οσάκις βυτιοφόρα προορίζονται για μεταφορά δια θαλάσσης, οι διατάξεις της παρούσης παραγράφου δεν θα απαγορεύουν την εφαρμογήν βαλβίδων ασφαλείας συμφώνως προς τας διατάξεις τας διεπούσας τον τρόπον μεταφοράς. 2ΙΙ.233 (Συνεχίζεται)

(2) Κελύφη προοριζόμενα για τη μεταφορά αερίων των 7° και 8° θα είναι εφοδιασμένα με δύο ανεξαρτήτους βαλβίδες ασφαλείας, εκάστη των οποίων έτσι σχεδιασμένη ώστε να επιτρέπουν τα αέρια τα σχηματιζόμενα δι' εξατμίσεως διαρκούσης της κανονικής λειτουργίας να διαφεύγουν εκ του κελύφους κατά τοιούτον τρόπον ώστε η πίεσις να μην υπερβαίνεται οποτεδήποτε περισσότερον του 10 στα εκατό της πιέσεως λειτουργίας της οριζομένης επί του κελύφους. Μία των δύο βαλβίδων ασφαλείας μπορεί να αντικατασταθεί με ένα εύθραυστο δίσκο ο οποίος θα είναι τέτοιος ώστε να εκρήγνυται εις την πίεσιν δοκιμής. Σε περίπτωσιν απωλείας του κενού κελύφους διπλού-τοιχώματος, ή καταστροφής του 20 στα εκατό της μονώσεως του κελύφους ενός-τοιχώματος, η βαλβίς ασφαλείας και ο εύθραυστος δίσκος θα επιτρέπουν μία τέτοια εκροή ώστε η πίεση εντός του κελύφους να μη μπορεί να υπερβεί την πίεση δοκιμής.

(3) Αι βαλβίδες ασφαλείας των κελύφων των προοριζομένων για την μεταφοράν αερίων των 7° και 8° θα είναι ικανές να ανοίγουν εις την πίεσιν λειτουργίας την οριζομένην επί του κελύφους. Θα είναι έτσι σχεδιασμένες ώστε να λειτουργούν χωρίς βλάβην (ελάττωμα) ακόμη και εις την χαμηλωτέραν των θερμοκρασίαν λειτουργίας. Η αξιοπιστία της

λειτουργίας των εις την θερμοκρασίαν αυτήν θα διαπιστούται και ελέγχεται είδε με έλεγχο κάθε βαλβίδας είτε με έλεγχο δείγματος βαλβίδος κάθε τύπου σχεδίου. 2II.233 (Συνεχίζεται)

Θερμική Μόνωσις 2II.234

(I) Εάν κελύφη προοριζόμενα δια την μεταφοράν υγροποιημένων αερίων των 3° και 4° είναι εφοδιασμένα με θερμικήν μόνωσιν, η τοιαύτη μόνωσις θα αποτελείται είτε:-

- από προστατευτικόν κάλυμμα κατά του ηλίου καλύπτον όχι ολιγώτερον του άνω τρίτου αλλά όχι περισσότερον του άνω ημίσεως της επιφανείας του κελύφους και χωριζόμενον από το κέλυφος με διάστημα αέρος τουλάχιστον 4 CM εγκαρσίως· ή
- από πλήρη επένδυσιν, καταλλήλου πάχους, μονωτικών υλικών.

(2) Κελύφη προοριζόμενα για την μεταφοράν αερίων των 7° και 8° θα είναι θερμικώς μονωμένα. Η θερμική μόνωσις θα εξασφαλίζεται με συνεχή επικάλυψιν. Εάν το διάστημα μεταξύ του κελύφους και της επικαλύψεως έχει εξαντληθεί από αέρα (μόνωσις κενού), η προστατευτική επικάλυψις θα είναι έτσι σχεδιασμένη ώστε να αντέχει άνευ παραμορφώσεως εις μίαν εξωτερικήν πίεσιν εκ τουλάχιστον I KG/CM^2 (πίεσιν θλιβομέτρου). Δι'αποκλίσεως εκ του περιθωρίου 2II.I02(2), εξωτερικοί και εσωτερικοί ενισχυτικοί μηχανισμοί μπορούν να λαμβάνωνται υπόψη κατά τους υπολογισμούς. Εάν η επικάλυψις είναι έτσι κλεισμένη ώστε να είαι αεριο-

στεγανή, θα προμηθεύεται μηχανισμός ο οποίος θα προ- 2ΙΙ.234
λαμβάνει οιανδήποτε επικίνδυνον πίεσιν να αναπτυχθεί (Συνεχίζε-
εις το απομονωτικόν στρώμα σε περίπτωσιν μη-καταλλήλου ται)
αεριο-στεγανότητας του κελύφους ή των ειδών εξοπλισμού
αυτού. Ο μηχανισμός θα εμποδίζει την διείσδυσιν της
υγρασίας εις την θερμο-μονωτικήν επικάλυψιν.

(3) Κελύφη προοριζόμενα για την μεταφοράν υγρο-
ποιημένων αερίων εχόντων σημείον βρασμού κάτω των -182°C
εις ατμοσφαιρικήν πίεσιν δεν θα περιλαμβάνουν οιονδήποτε
καύσιμον υλικόν είτε εις την θερμικήν μόνωσιν είτε εις
το μέσον συνδέσεως (στερεώσεως) με το πλαίσιον.

Το μέσον συνδέσεως (στερεώσεως) των κελυφων
των προοριζομένων για την μεταφοράν αργού, αζώτου, ηλίου
ή νέου της 7°(α) ή υδρογόνου της 7°(β) μπορεί, με την
συναίνεσιν της αρμοδίας αρχής, να περιέχει πλαστικήν ύ-
λην μεταξύ της εσωτερικής και της εξωτερικής επικαλύψεως.

Για συστοιχίες δοχείων (βλέπε περιθώριον 2ΙΙ.235
2212(Ι)(γ)) ΙΟ/ θα τηρούνται οι κάτωθι όροι:-

(Ι) Εάν ένα των στοιχείων κελύφους πολλαπλών
στοιχείων είναι εφοδιασμένον με βαλβίδα ασφαλείας και
μηχανισμοί κλεισίματος έχουν προμηθευθεί μεταξύ των
στοιχείων, κάθε στοιχείον θα είναι έτσι εφοδιασμένον.

(2) Οι μηχανισμοί πληρώσεως και εκκενώσεως μπο-
ρούν να στερεωθούν σε σωλήνωσιν.

(3) Κάθε στοιχείον κελύφους πολλαπλών-
στοιχείων προοριζομένου δια την μεταφοράν πεπιεσμένων
αερίων των Ι° και 2° τα οποία είναι επιβλαβή για τα ανα-

πνευστικά όργανα ή σωληνώσεις κινδύνου δηλητηριάσεως 2ΙΙ.235
9/ ή είναι εύφλεκτα, θα είναι ικανά να μονωθούν με (Συνεχίζε-
βαλβίδα (κρουνόν διπλίδος). ται)

(4) Τα στοιχεία κελύφους πολλαπλών στοιχείων προορι-
ζομένου για την μεταφοράν υγροποιημένων αερίων των 3° έως 6° θα είναι έτσι σχεδιασμένα ώστε να μπορούν να πλη-
ρούνται χωριστά και να μπορούν να τηρούνται μονωμένα με βαλβίδας ικανή να στεγανοποιηθεί.

(5) Οι όροι θα έχουν εφαρμογήν για δεξαμενές αποσυναρμολογούμενες (λυόμενες):-

(α) θα διασυνδέωνται με σωλήνωσιν· και

(β) εάν οι αποσυναρμολογούμενες (λυόμενες) δε-
ξαμενές μπορεί να κυλινδροσυμπιεσθούν, οι
βαλβίδες θα είναι εφοδιασμένας με προστα-
τευτικά πώματα.

Με απόκλισιν από τας διατάξεις του περιθωρίου 2ΙΙ.236
2ΙΙ.23Ι, κελύφη προοριζόμενα για την μεταφοράν λίαν-
κατεψυγμένων υγροποιημένων αερίων δεν χρειάζεται να έχουν
θυρίδα επιθεωρήσεως.

2ΙΙ.237-
2ΙΙ.239

ΙΟ/ Αι διατάξεις της παρούσης Προσθήκης δεν έχουν εφαρμογήν επί πλαισίων κυλίνδρων.

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις) 2II.240

2II.249

Άρθρο 5

Δοκιμαί/ Έλεγχοι

Τα υλικά των κελυφων των προοριζομένων δια την μεταφοράν αερίων των 7° και 8° θα ελέγχωνται δια της μεθόδου της περιγραφομένης εις την Προσθήκην V.Ιδ, περιθώρια 2I4.275 έως 2I4.285. 2II.250

Τα επίπεδα της πιέσεως-δοκιμής θα έχουν ως κάτωθι:- 2II.25I

(I) Δια κελύφη προοριζόμενα δια την μεταφοράν αερίων των I° έως και 2°: τα επίπεδα τα οριζόμενα εις περιθώριον 22I9 (I) και (3).

(2). Δια κελύφη προοριζόμενα δια την μεταφοράν αερίων των 3° και 4°:

(α) εάν τα κελύφη δεν είναι διαμέτρου άνω των I.5 M, τα επίπεδα τα οριζόμενα εις περιθώριον 2220(2)·

(β) εάν τα κελύφη είναι διαμέτρου μεγαλυτέρας των I.5 M, τα επίπεδα II/ τα οριζόμενα κατωτέρω:

II/ I.- Αι προβλεπόμεναι πιέσεις δοκιμής είναι:-

(α) εάν το κέλυφος είναι εφοδιασμένον με θερμικήν μόνωσιν, τουλάχιστον ίσην προς την πίεσιν ατμού, ελαττωμένην κατά I KG/CM^2, του υγρού εις 60°C, και όχι μικροτέραν των IO KG/CM^2.

(β) εάν το κέλυφος δεν είναι εφοδιασμένον με θερμικήν μόνωσιν, τουχάχιστον ίση προς την πίεσιν ατμού, ελαττωμένη κατά I KG/CM^2, του υγρού εις 65°C, και όχι μικροτέρα των IO KG/CM^2.

2.- Εν όψει της υψηλής τοξικότητος του φωσγενίου (3° (α Τ)), η κατωτάτη πίεσις δοκιμής του αερίου τούτου ορίζεται εις I5 KG/CM^2 εάν το κέλυφος είναι εφοδιασμένον με θερμικήν μόνωσιν και εις I7 KG/CM^2 εάν δεν είναι έτσι εφοδιασμένον.

3.- Αι ανώτατες τιμές εις KG/λίτρον αι προβλεπόμεναι διά τον βαθμόν της πληρώσεως υπολογίζονται ως κάτωθι: ανώτατον βάρος του περιεχομένου ανά λίτρον χωρητικότητος = 0.95 Χ ειδικόν βάρος της υγράς φάσεως εις 50°C.

2II.25I (Συνεχ.)

Περιγραφή ύλης	Αριθμός Είδους	Κατωτάτη Πίεσις Δοκιμής δια Κελύφη μετά - άνευ θερμικής μονώσεως		Ανώτατον Βάρος Περιεχομένου ανά λίτρον χωρητικότητος
		KG/CM^2	KG/CM^2	KG
Βρωμοχλωροδιφθορομεθάνιο (R I2 BI), Αριθμός Είδους	3°(α)	IO	IO	I.6I
Χλωροδιφθορομεθάνιο (R 22)	3°(α)	24	26	I.03
Χλωροπενταφθοροαιθάνιο (R II5)	3°(α)	20	23	I.08
I-Χλωρο-2,2,2-τριφθοροαιθάνιο (R I33 α)	3°(α)	IO	IO	I.I8
Διχλωροδιφθορομεθάνιο (R I2)	3°(α)	I5	I6	I.I5

2II.25I (Συνεχίζεται)

Περιγραφή ύλης	Αριθμός Είδους	Κατωτάτη Πίεσις Δοκιμής μετά θερμικής μονώσεως δια Κελύφη - άνευ		Ανώτατον Βάρος Περιεχομένου ανά λίτρον χωρητικότητος
		KG/CM^2	KG/CM^2	KG
(Σ υ ν έ χ ε ι α)				
Διχλωροφθορομεθάνιο (R 2I)	3°(α)	I0	I0	I.23
I,2-Διχλωρο-I,2,2-τετραφθοροαιθάνιο (R II4)	3°(α)	I0	I0	I.30
Οκτωφθοροκυκλοβουτάνιο (RC 3I8)	3°(α)	I0	I0	I.34
Αμμωνία	3°(α T)	26	29	0.53
Μεθυλοβρωμίδιο	3°(α T)	I0	I0	I.5I
Χλώριο	3°(α T)	I7	I9	I.25
Εξαφθοροπροπυλένιο (R 2I6)	3°(α T)	I7	I9	I.II
Υδροβρωμίδιο	3°(α T)	50	55	I.20
Διοξείδιον Αζώτου NO_2	3°(α T)	I0	I0	I.30
Φωσγένιο	3°(α T)	I5	I7	I.23
Διοξείδιο Θείου	3°(α T)	I0	I2	I.23
Βουτάνιο	3°(β)	I0	I0	0.5I
I-Βουτένιο	3°(β)	I0	I0	0.53
I-Χλωρο-I,I-διφθοροαιθάνιο (R I42β)	3°(β)	I0	I0	0.99
CIS-2-βουτένιο	3°(β)	I0	I0	0.55
Κυκλοπροπάνιο	3°(β)	I6	I8	0.53
I,I-διφθοροαιθάνιο (R I52α)	3°(β)	I4	I6	0.79

2ΙΙ.25Ι (Συνεχίζεται)

Περιγραφή ύλης	Αριθμός Είδους	Κατωτάτη Πίεσις Δοκιμής διά Κελύφη μετά - άνευ θερμικής μονώσεως		Ανώτατον Βάρος Περιεχομένου ανά λίτρον χωρητικότητος
		KG:/CM^2	KG/CM^2	KG
(Σ υ νέ χ ε ι α)				
Ισοβουτάνιο	3°(β)	IO	IO	0.49
Ισοβουτένιο	3°(β)	IO	IO	0.52
Προπάνιο	3°(β)	2I	23	0.42
Προπυλένιο	3°(β)	25	27	0.43
Τράνς-2-βουτένιο	3°(β)	IO	IO	0.54
I,I,I-Τριφθοροαιθάνιο	3°(β)	28	32	0.79
Διμεθυλαμίνη	3°(β Τ)	IO	IO	0.59
Διμεθυλαιθέρας	3°(β Τ)	I4	I6	0.58
Αιθυλαμίνη	3°(β Τ)	IO	IO	0.6I
Αιθυλοχλωρίδιο	3°(β Τ)	IO	IO	0.80
Υδρόθειο	3°(β Τ)	45	50	0.67
Μεθυλαμίνη	3°(β Τ)	IO	II	0.58
Μεθυλοχλωρίδιο	3°(β Τ)	I3	I5	0.8I
Μεθυλομερκαπτάνη	3°(β Τ)	IO	IO	0.78
Τριμεθυλαμίνη	3°(β Τ)	IO	IO	0.56
I,3-Βουταδιένιο	3°(β Τ)	IO	IO	0.55
Βινυλοχλωρίδιο	3°(γ)	IO	II	0.8I
Μεθυλοβινυλαιθέρας	3°(γ Τ)	IO	IO	0.67
Τριφθοροχλωραιθυλένιο (R.III3)	3°(γ Τ)	I5	I7	I.I3

2II.25I (Συνεχίζεται)

Περιγραφή ύλης	Αριθμός Είδους	Κατωτάτη Πίεσις Δοκιμής δια Κελύφη μετά - άνευ θερμικής μονώσεως		Ανώτατον Βάρος Περιεχομένου ανά λίτρον χωρητικότητος
		KG/CM^2	KG/CM^2	KG
(Σ υ ν έ χ ε ι α)				
Βινυλοβρωμίδιο	3^o(γ T)	I0	I0	I.37
Μίγμα F I	4^o(α)	I0	II	I.23
Μίγμα F2	4^o(α)	I5	I6	I.I5
Μίγμα F 3	4^o(α)	24	27	I.03
Μίγμα αερίων R 500	4^o(α)	I8	20	I.0I
Μίγμα αερίων R 502	4^o(α)	25	28	I.05
Μίγματα των I9 έως 2I τοις εκατόν κατά βάρος διχλωροδοφθορομεθανίου (R I2) και 79 έως 8I τοις εκατόν κατά βάρος βρωμοχλωροδιφθορομεθανίου (R I2 BI)	4^o(α)	I0	II	I.50
Μίγματα μεθυλοβρωμιδίου και χλωροπικρίνης	4^o(α T)	I0	I0	I.5I
Μίγμα A (εμπορικό όνομα: βουτάνιο)	4^o(β)	I0	I0	0.50
Μίγμα A O (εμπορικό όνομα: βουτάνιο)	4^o(β)	I2	I4	0.47
Μίγμα A I	4^o(β)	I6	I8	0.46
Μίγμα B	4^o(β)	20	23	0.43
Μίγμα Γ (εμπορικό όνομα: προπάνιο)	4^o(β)	25	27	0.42

ΣΙΙ.25Ι (Συνεχίζεται)

Περιγραφή ύλης	Αριθμός Είδους	Κατωτάτη Πίεσις Δοκιμής δια μετά - θερμικής μονώσεως	Κελύφη άνευ	Ανώτατον Βάρος Περιεχομένου ανά λίτρον χωρητικότητος
		KG/CM^2	KG/CM^2	KG
	(Σ υ ν έ χ ε ι α)			
Μίγματα υδρογονανθράκων περιεχόντων μεθάνιον	4°(β)	-	225	0.187
		-	300	0.244
Μίγματα μεθυλοχλωριδίου και μεθυλενοχλωριδίου	4°(β T)	13	15	0.81
Μίγματα μεθυλοχλωριδίου και χλωροπικρίνης	4°(β T)	13	15	0.81
Μίγματα μεθυλοβρωμιδίου και αιθυλενοβρωμιδίου	4°(β T)	10	10	1.51
Μεθυλακετυλένιο/προπαδιένιο και μίγματα υδρογονανθράκων				
Μίγμα P_1	4°(γ)	25	28	0.49
Μίγμα P_2	4°(γ)	22	23	0.47
Αιθυλενοξείδιο περιέχον όχι άνω του 10°/ο διοξειδίου του άνθρακος κατά βάρος	4°(γ T)	24	26	0.73
Αιθυλενοξείδιο με άζωτον ολικής πιέσεως μέχρι 10 KG/CM^2 εις 50°C	4°(γ T)	15	15	0.78
Διχλωροδιφθορομεθάνιο περιέχον 12 τοις εκατόν αιθυλενοξείδιο κατά βάρος	4°(γ T)	15	16	1.09

(3) Δια κελύφη προοριζόμενα δια την μεταφοράν αερίων των 5^{o} και 6^{o}: 2II.25I (Συνεχίζεται)

(α) εάν τα κελύφη δεν έχουν επενδυθεί με θερμικήν μόνωσιν: τα επίπεδα τα οριζόμενα εις το περιθώριον 2220 (3) και (4)·

(β) εάν τα κελύφη έχουν επενδυθεί με θερμικήν μόνωσιν: τα κατωτέρω οριζόμενα επίπεδα:

Περιγραφή ύλης	Αριθμός Είδους	Κατωτάτη Πίεσις Δοκιμής KG/CM^2	Ανώτατον Βάρος περιεχομένου ανά λίτρον χωρητικότητος KG
Βρωμοτριφθοριομεθάνιο (R I3 B I)	5^{o}(α)	I20	I.50
Διοξείδιο του άνθρακος	5^{o}(α)	I90	0.73
		225	0.78
Χλωροτριφθοριομεθάνιο (R I3)	5^{o}(α)	I20	0.96
		225	I.I2
Εξαφθοροαιθάνιο (R II6)	5^{o}(α)	I60	I.28
		200	I.34
Υποξείδιο του αζώτου N_2O	5^{o}(α)	225	0.78
Εξαφθοριούχο θείο	5^{o}(α)	I20	I.34
Τριφθοριομεθάνιο (R 23)	5^{o}(α)	I90	0.92
		250	0.99
Ξένον	5^{o}(α)	I20	I.30
Υδροχλώριο	5^{o}(α Τ)	I20	0.69
Αιθάνιο	5^{o}(β)	I20	0.32
Αιθυλένιο	5^{o}(β)	I20	0.25
		225	0.36

2II.25I (Συνεχίζεται)

Περιγραφή ύλης	Αριθμός Είδους	Κατωτάτη Πίεσις Δοκιμής KG/CM^2	Ανώτατον Βάρος περιεχομένου ανά λίτρον χωρητικότητος - KG
(Σ υ ν έ χ ε ι α)			
I,I-Διφθοροαιθυλένιο	5°(γ)	I20	0.66
		225	0.78
Βινυλοφθορίδιο	5°(γ)	I20	0.58
		225	0.65
Μίγματα αερίων R 503	6°(α)	3I	0.II
		42	0.2I
		I00	0.76
Διοξείδιο του άνθρακος περιέχον όχι άνω του 35 τοις εκατόν αιθυλενοξειδίου κατά βάρος	6°(γ)	I90	0.73
		225	0.78
Αιθυλενοξείδιο περιέχον άνω του I0 τοις εκατόν αλλά όχι άνω του 50 τοις εκατόν διοξειδίου του άνθρακος κατά βάρος·	6°(γ T)	I90	0.66
		250	0.75

Οσάκις χρησιμοποιούνται κελύφη επενδεδυμένα με θερμικήν μόνωσιν, υποβληθέντα εις πίεσιν δοκιμής κατωτέραν της εικονιζομένης εις τον πίνακα, το ανώτατον βάρος περιεχομένου ανά λίτρον χωρητικότητος θα είναι τέτοιο ώστε η εις το κέλυφος πίεσις υπό της περί ής πρόκειται ύλης εις τους 55°C να μην υπερβαίνει την πίεσιν δοκιμής την σφραγισθείσαν επί του κελύφους.

Εν τοιαύτη περιπτώσει το επιτρεπόμενον ανώτατον φορτίον θα προβλέπεται υπό του εμπειρογνώμονος του εγκριθέντος υπό της αρμοδίας αρχής. 2ΙΙ.25Ι (Συνεχίζεται)

(4) Για κελύφη προοριζόμενα για την μεταφοράν αμμωνίας διαλυθείσης υπό πίεσιν (9°(α Τ)):

Περιγραφή ύλης	Αριθμός Είδους	Κατωτάτη Πίεσις Δοκιμής KG/CM^2	Ανώτατον Βάρος περιεχομένου ανά λίτρον χωρητικότητος KG
(Συνέχεια)			
Αμμωνία διαλυθείσα υπό πίεσιν εντός σωλήνος με άνω του 35 τοις εκατόν αλλά όχι άνω του 40 τοις εκατόν κατά βάρος	9°(α Τ)	ΙΟ	0.80
με άνω του 40 τοις εκατόν αλλά όχι άνω του 50 τοις εκατόν αμμωνίας κατά βάρος	9°(α Τ)	ΙΟ	0.77

(5) Για κελύφη προοριζόμενα για την μεταφοράν αερίων των 7° και 8°: όχι ολιγώτερον των Ι.3 φορών την ανωτάτην επιτρεπομένην πίεσιν λειτουργίας, ως αύτη ορίζεται εις το κέλυφος, αλλά όχι ολιγώτερον των 4 KG/CM^2 (πίεσις θλιβομέτρου) για κελύφη με μόνωσιν κενού η πίεσις δοκιμής δεν θα είναι μικροτέρα των Ι.3 φορών της ανωτάτης επιτρεπομένης πιέσεως αυξήσεως κατά Ι KG/CM^2.

Η πρώτη δοκιμή υδραυλικής πιέσεως θα εκτελεσθεί 2ΙΙ.252
πρότου τεθεί εις θέσιν η θερμική μόνωσις.

Η χωρητικότης εκάστου κελύφους που προορίζεται 2ΙΙ.253
για τη μεταφορά αερίων των 3° έως 6° και 9° θα καθορίζεται,
υπό την επίβλεψιν εμπειρογνώμονος της εγκρίσεως της αρμοδίας
αρχής, δια ζυγίσεως ή ογκομετρικής μετρήσεως της ποσότητος
του ύδατος η οποία γεμίζει το κέλυφος· οποιοδήποτε σφάλμα
κατά την μέτρησιν της χωρητικότητας του κελύφους θα είναι
μικρότερο ν του ενός τοις εκατόν. Καθορισμός (της χωρητικό-
τητος) βασιζόμενος εις τας διαστάσεις του κελύφους δεν επι-
τρέπεται. Τα ανώτατα βάρη πληρώσεως τα επιτρεπόμενα συμφώνως
προς τα περιθώρια 2220 (4) και 2ΙΙ.25Ι (3) θα καθορίζωνται
υπό εγκεκριμένου εμπειρογνώμονος.

Ο έλεγχος των συγκολλήσεων θα διεξάγεται συμφώνως 2ΙΙ.254
προς τας περί συντελεστού-λάμτα Ι.Ο διατάξεις του περιθωρί-
ου 2ΙΙ.Ι27 (7).

Δι'αναλήσεως (τροποποιήσεως) των διατάξεων του 2ΙΙ.255
περιθωρίου 2ΙΙ.Ι5Ι, οι περιοδικές δοκιμές θα λαμβάνουν χώ-
ραν:-

(Ι) κάθε τρία έτη

προκειμένου περί κελυφών προοριζομένων για την μεταφοράν
τριφθοριούχου βορίου (Ι° (α Τ)), αερίου πόλεως (2° (β Τ)),
υδροβρωμίου, χλωρίου, διοξειδίου του αζώτου, διοξειδίου
του θείου ή φωσγενίου (3° (α Τ)), υδροθείου (3° (β Τ)), ή
υδροχλωρίου (5° (α Τ))·

(2) κάθε έξη έτη

προκειμένου περί κελυφών προοριζομένων για την μεταφοράν

άλλων πεπιεσμένων και υγροποιημένων αερίων ή αμμωνίας διαλελυμένης υπό πίεσιν (9° (α Τ))· και 2ΙΙ.255 (Συνεχίζεται)

(3) μετά από υπηρεσίαν έξι ετών και εις συνέχεια κάθε δώδεκα χρόνια

προκειμένου περί κελυφών προοριζομένων δια την μεταφοράν αερίων των 7° ή 8°. Ο έλεγχος στεγανότητος θα εκτελείται υπό εγκριθέντος εμπειρογνώμονος έξι χρόνια μετά από κάθε μίαν περιοδικήν δοκιμήν.

Αι δοκιμαί στεγανότητος κελυφών προοριζομένων δια την μεταφοράν αερίων των Ι° έως 6° και 9° θα εκτελούνται εις πίεσιν όχι μικροτέραν των 4 KG/CM^2 (πίεσις θλιβομέτρου).

Προκειμένου περί κελυφών θερμο-μονωθέντων δια κενού, η δοκιμή υδραυλικής πιέσεως και ο έλεγχος της εσωτερικής καταστάσεως μπορούν, με την συναίνεσιν του εγκριθέντος εμπειρογνώμονος, να αντικατασταθούν δια δοκιμής στεγανότητος και μετρήσεως του κενού. 2ΙΙ.256

Εάν οπαί έχουν γίνει, κατά τας περιοδικάς επιθεωρήσεις, εις κελύφη προοριζόμενα δια την μεταφοράν αερίων των 7° ή 8°, η μέθοδος δια της οποίας θα κλεισθούν ερμητικώς προτού τα κελύφη τεθούν εκ νέου εις υπηρεσίαν θα εγκρίνεται υπό του εγκριθέντος εμπειρογνώμονος και θα διασφαλίζει την ακεραιότητα του κελύφους. 2ΙΙ.257

2ΙΙ.258-
2ΙΙ.259

Άρθρο 6

Μαρκάρισμα (Σήμανσις)

Τα κατωτέρω πρόσθετα στοιχεία θα μαρκάρωνται 2ΙΙ.260

δια σφραγίσεως ή δι'οιασδήποτε άλλης μεθόδου επί της πλα- 2ΙΙ.260
κός της προβλεπομένης υπό του περιθωρίου 2ΙΙ.160, ή απ' (Συνεχίζε-
ευθείας επί των τοιχωμάτων αυτού τούτου του κελύφους εάν ται)
τα τοιχώματα είναι έτσι ενισχυμένα ώστε να μην εξασθενεί-
ται η αντοχή του κελύφους:

(1) επί κελυφων προοριζομένων δια την μεταφοράν μιάς μόνον ύλης: η πλήρης ονομασία του αερίου.

Η ένδειξη αυτή θα συμπληρώνεται στη περίπτωση κελυφων προοριζομένων για τή μεταφορά πεπιεσμένων αερίων των 1° και 2° με ένδειξη της ανωτάτης πιέσεως πληρώσεως εις 15°C της επιτρεπομένης για το κέλυφος, και στή περίπτωση κελυφων προοριζομένων για την μεταφοράν υγροποιημένων αερίων των 3° έως 8° ή αμμωνίας διαλυθείσης υπό πίεσιν της 9° (α Τ) με την ένδειξη του επιτρεπομένου ανωτάτου φορτίου εις KG και της θερμοκρασίας πληρώσεως εάν κάτω των -20°C.

(2) επί κελυφων πολλαπλών σκοπών:
οι πλήρεις ονομασίας των αερίων για την μεταφοράν των οποίων εγκρίνεται το κέλυφος.

Τα στοιχεία αυτά θα συμπληρώνωνται με την ένδειξη του επιτρεπομένου ανωτάτου φορτίου εις KG για κάθε αέριον.

(3) επί κελυφων προοριζομένων για την μεταφοράν αερίων των 7° ή 8°: η πίεσις λειτουργίας· και

(4) επί κελυφων εφοδιασμένων με θερμικήν μόνωσιν:
η επιγραφή "θερμικώς μονωμένα" ή "θερμικώς μονωμένα δια κενού".

Το πλαίσιον κελύφους από πολλαπλού στοιχείου θα φέ- 2ΙΙ.261
ρει πλησίον του σημείου πληρώσεως πλάκα ορίζουσα:

την πίεσιν δοκιμής των στοιχείων·

την ανωτάτην πίεσιν πληρώσεως εις 15°C την επιτρεπομένην δια στοιχεία προοριζόμενα δια πεπιεσμένα αέρια·

τον αριθμόν των στοιχείων·

την ολικήν χωρητικότητα (ικανότητα) των στοιχείων εις λίτρες·

την πλήρη ονομασίαν του αερίου·

και, στη περίπτωση υγροποιημένων αερίων:

το επιτρεπόμενον ανώτατον φορτίον ανά στοιχείον, εις KG.

Επιπροσθέτως των στοιχείων των προβλεπομένων υπό 2ΙΙ.262
του περιθωρίου 2ΙΙ.161, τα κάτωθι θα αναγράφωνται είτε εις αυτό τούτο το βυτιοφόρον είτε σε πλάκα:

(α) είτε: "επιτρεπομένη κατωτάτη θερμοκρασία πληρώσεως: -20°C"

ή : "επιτρεπομένη κατωτάτη θερμοκρασία πληρώσεως: ....."·

(β) <u>όταν το κέλυφος προορίζεται για την μεταφοράν μιάς μόνον ύλης:</u>

η πλήρης ονομασία του αερίου·

για υγροποιημένα αέρια των 3° έως 8° και για αμμωνίαν διαλυθείσαν υπό πίεσιν εντός ύδατος (9° (α Τ)), το επιτρεπόμενον ανώτατον φορτίον εις KG·

(γ) <u>όταν το κέλυφος είναι κέλυφος πολλαπλών σκοπών:</u>

η πλήρης ονομασία όλων των αερίων για την μετα-

φορᾶν των οποίων προορίζεται το κέλυφος, μαζί με την ένδειξη του επιτρεπομένου ανωτάτου φορτίου εις KG, διὰ ἑκάστην αέριον· 2II.262 (Συνεχίζεται)

(δ) <u>όταν το κέλυφος είναι εφωδιασμένον με θερμικήν μόνωσιν:</u>

η επιγραφή "θερμικῶς μονωμένον" ἢ "θερμικῶς μονωμένον δια κενού", εἰς επίσημον γλῶσσαν της αποστελούσης χώρας ως και εις την Αγγλικήν, Γαλλικήν ἢ Γερμανικήν, εκτός εάν, τυχόν, διεθνή δασμολόγια οδικής μεταφοράς, ἢ συμβάσεις συναφθείσαι μεταξύ των χωρών των ενδιαφερομένων δια την επιχείρησιν μεταφοράς, ορίζουν άλλως.

Οι πινακίδες που βρίσκονται πάνω στα οχήματα τα οποία μεταφέρουν δεξαμενές που μπορούν να αποσυναρμολογιθούν, όπως αναφέρονται στο περιθώριο 211 235 (5), δεν θα φέρουν τα στοιχεία τα οριζόμενα στα περιθώρια 211.161 και 211.262. 211263

2II.264-
2II.269

Ἄρθρο 7

Λειτουργία

Κέλυφος ορισθέν εις διαφόρους χρόνους διὰ την μεταφορᾶν διαφόρων υγροποιημένων αερίων των 3° έως 8° (κέλυφος πολλαπλῶν σκοπῶν) δεν μπορεί να μεταφέρει ύλες πλην εκείνων των αναφερομένων εις μίαν, και μόνον μίαν, των κάτωθι ομάδων: 2II.270

Ομάς I:- αλογονοποιημένοι υδρογονάνθρακες των 3°(α) και 4°(α)·

Ομάς 2: υδρογονάνθρακες των $3^{ο}(\beta)$ και $4^{ο}(\beta)$· 2ΙΙ.270
Ομάς 3: αμμωνία ($3^{ο}$ (α Τ))· διμεθυλαιθέρας, δθμεθυλαμίνη, αιθυλαμίνη, μεθυλαμίνη και τριμεθυλαμίνη ($3^{ο}$ (β Τ))· και βινυλοχλωρίδιο ($3^{ο}$ (γ))· (Συνεχίζεται)
Ομάς 4: μεθυλοβρωμίδιο ($3^{ο}$ (α Τ))· αιθυλοχλωρίδιο και μεθυλοχλωρίδιο ($3^{ο}$ (β Τ))·
Ομάς 5: μίγματα αιθυλενοξειδίου με διοξείδιον του άνθρακος και αιθυλενοξειδίου με άζωτον ($4^{ο}$(γ Τ))·
Ομάς 6: άζωτον, διοξείδιον του άνθρακος, σπάνια αέρια, υποξείδιο του αζώτου N_2O, και οξυγόνον ($7^{ο}$(α))· αήρ, μίγματα αζώτου με σπάνια αέρια, και μίγματα οξυγόνου με άζωτον, επίσης όταν περιέχουν απάνια αέρια ($8^{ο}$(α))·
Ομάς 7: αιθάνιον, αιθυλένιον, και μεθάνιον ($7^{ο}$ (β))· και μίγματα μεθανίου με αιθάνιον, επίσης όταν περιέχουν προπάνιον ή βουτάνιον ($8^{ο}$ (β)).

Κελύφη τα οποία έχουν πληρωθεί με ύλην της ομάδος 2ΙΙ.271
Ι ή της ομάδος 2 θα εκκενούνται του υγροποιημένου αερίου προτού φορτωθούν με άλλην ύλην ανήκουσαν εις την αυτήν ομάδα. Κελύφη τα οποία έχουν πληρωθεί με ύλην των ομάδων 3 έως 7 θα εκκενούνται πλήρως του υγροποιημένου αερίου και θα φυσούνται εις συνέχεια προτού φορτωθούν με άλλην ύλην ανήκουσαν εις την αυτήν ομάδα.

Η πολλαπλή χρήσις των κελυφων δια την μεταφοράν 2ΙΙ.272
υγροποιημένων αερίων της αυτής ομάδος θα επιτρέπεται εάν τηρηθούν όλαι αι διατάξεις αι προβλεπόμενας δια αέρια τα

οποια πρόκειται να μεταφερθούν σε ένα και το αυτό κέλυ- 2II.272
φος. Η τοιαύτη πολλαπλή χρήσις θα υπόκειται εις την έγ- (Συνεχίζε-
κρισιν εγκριθέντος εμπειρογνώμονος. ται)

Η πολλαπλή χρήσις κελύφων δια την μεταφοράν 2II.273
αερίων διαφόρων ομάδων θα εγκρίνεται εάν επιτραπεί υπό
του εγκριθέντος εμπειρογνώμονος.

Όταν κελύφη προορίζονται εκ νέου δι'αέρια δια-
φόρου ομάδος θα εκκενούνται πλήρως των υγροποιημένων αε-
ρίων, εν συνέχεια θα φυσούνται και, τέλος, θα απαεριούν-
ται. Η απαέρωσις κελυφων θα επαληθεύεται και πιστοποιεί-
ται υπό του εγκριθέντος εμπειρογνώμονος.

Όταν φορτωμέναι δεξαμεναί ή άδειαι αλλά ακαθά- 2II.274
ριστοι δεξαμεναί παραδίδωνται δια μεταφοράν, μόνον τα
στοιχεία τα οριζόμενα εις περιθώριον 2II.262 τα ισχύον-
τα δια το φορτωθέν ή μέλλις εκφορτωθέν αέριον θα είναι ο-
ρατά· όλα τα στοιχεία τα αφορώντα λοιπά αέρια θα καλύπτων-
ται.

Όλα τα στοιχεία κελύφους πολλαπλών στοιχείων 2II.275
θα περιέχουν μόνον ένα και το αυτό αέριο. Στη περίπτωση
κελύφους πολλαπλών στοιχείων προοριζομένου δια την μετα-
φοράν υγροποιημένων αερίων, τα στοιχεία θα πληρούνται χω-
ριστά και θα τηρούνται μονωμένα δια στεγανοποιημένης βαλ-
βίδος.

Η ανωτάτη πίεσις πληρώσεως δια πεπιεσμένα αέ- 2II.276
ρια των I° και 2° πλην φθοριούχου βορίου δεν θα υπερβαίνει
τας τιμάς τας προβλεπομένας υπό του περιθωρίου 22I9(2).

Δια φθοριούχον βόριον (I° (α Τ)) το ανώτατον βά-

ρας πληρώσεως ανά λίτρον χωρητικότητος δεν θα υπερβαί- 2ΙΙ.276
νει τα 0.86 ΚG. (Συνεχίζεται)

Το ανώτατον βάρος πληρώσεως ανά λίτρον χωρητικότητος συμφώνως προς τα περιθώρια 2220, (2), (3) και (4), και 2ΙΙ.251, (2), (3) και (4), θα τηρείται.

Ο βαθμός πληρώσεως κελυφων προοριζομένων δια 2ΙΙ.277
την μεταφοράν αερίων των 7°(β) και 8°(β) θα παραμένει κάτωθι του επιπέδου εις το οποίον, εάν το περιεχόμενον υφούτο εις την θερμοκρασίαν εις την οποίαν η πίεσις του ατμού ισούτο προς την πίεσιν ανοίγματος-βαλβίδος, ο όγκος του υγρού θα έφθανε το 95 τοις εκατόν της χωρητικότητας (ικανότητος) του κελύφους εις την θερμοκρασίαν αυτήν. Κελύφη προοριζόμενα δια την μεταφοράν αερίων των 7°(α) και 8° (α) μπορούν να πληρούνται μέχρι 98 τοις εκατόν εις την θερμοκρασίαν φορτώσεως και την πίεσιν φορτώσεως.

Επί κελυφων προοριζομένων δια την μεταφοράν υπο- 2ΙΙ.278
ξειδίου του αζώτου και οξυγόνου (7° (α)), αέρος, ή μιγμάτων περιεχόντων οξυγόνον (8°(α)), υλών περιεχόντων λίπος ή έλαιον δεν θα χρησιμοποιούνται προς εξασφάλισιν της στεγανότητος των ενώσεων ή δια την συντήρησιν των κλεισιμάτων.

Η διάταξις του περιθωρίου 2ΙΙ.175 δεν θα ισχύει 2ΙΙ.279
δια τα αέρια των 7° και 8°.

Κλάσις 3

Εύφλεκτα Υγρά

Άρθρο 1

Γενικά αντικείμενον ορισμοί

2II.300-
2II.319

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για την μεταφοράν διθειάν- 2II.320
θρακος (I° (α)) θα σχεδιάζωνται δια πίεσιν IO KG/CM^2
(πίεσις θλιβομέτρου).

2II.32I-
2II.329

Άρθρο 3

Είδη Εξοπλισμού

Κελύφη τα οποία είναι εφοδιασμένα με μηχανισμόν 2II.330
εξαερισμού μη δυνάμενον να κλεισθεί και τα οποία προορίζονται δια την μεταφοράν ευφλέκτων υγρών εχόντων σημείον αναφλέξεως μη υπερβαίνον τους 55°C θα έχουν φλογοπαγίδα εις τον μηχανισμόν εξαερισμού.

Όλα τα ανοίγματα των κελυφων των προοριζομένων 2II.33I
δια την μεταφοράν αλδεΰδης του αλκοολικού πνεύματος (ακρολεΐνης), χλωροπρενίου (χλωροβουταδιενίου) και διθειάνθρακος (I° (α)) θα είναι άνω της στάθμης της επιφανείας του υγρού. Ουδεμία σωλήνωσις ή συνδέσεις σωλήνων θα διέρχωνται δια των τοιχωμάτων του κελύφους κάτω της στάθμης επιφανείας του υγρού. Τα ανοίγματα, πλην των εφοδιασμένων με βαλβίδες, θα είναι ικανά να κλείουν με στεγανά κλεισίματα, και τα

βαλβιδα θα είναι ικανά να προστατεύωνται με σφραγι- 2ΙΙ.331
στικόν (ασφαλιστικόν) πώμα. Εάν τα κελύφη είναι εφω- (Συνεχίζε-
διασμένα με βαλβίδες ασφαλείας, θα προηγείται αυτών ται)
εύθραυστος δίσκος. Σε τέτοια περίπτωση η διάταξις του
ευθραύστου δίσκου και της βαλβίδος ασφαλείας θα επιβάλ-
λεται (χρειάζεται) να ικανοποιεί την αρμοδίαν αρχήν.

2ΙΙ.332-
2ΙΙ.339

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις) 2ΙΙ.340-
2ΙΙ.349

Άρθρο 5

Δοκιμαί/Έλεγχοι

Η κατωτάτη πίεσις δοκιμής εις την οποίαν κελύ- 2ΙΙ.350
φη προοριζόμενα δια την μεταφοράν διθειούχου άνθρακος
(I^{o} (α)) θα υποβάλωνται θα είναι 4 KG/CM^{2} (πίεσις θλι-
βομέτρου). Η κατωτάτη πίεσις δοκιμής εις την οποίαν κε-
λύφη προοριζόμενα δια την μεταφοράν άλλων υλών της Κλά-
σεως θα υποβάλωνται θα είναι ίση με εκείνην, όπως ορίζε-
ται υπό του περιθωρίου $2I^{1}$.I23, που χρησιμοποιείται δια
τον σχεδιασμόν των.

2ΙΙ.351-
2ΙΙ.359

Άρθρο 6

Μαρκάρισμα/Σήμανσις)

(Ουδεμία ειδική διάταξις) 2ΙΙ.360-
$2I^{1}$.369

Άρθρο 7

Λειτουργία

Οι παρακάτω βαθμοί πληρώσεως δεν θα υπερβαίνωνται 2II.370
δια κελύφη γεμισμένα με υγρά έχοντα πίεσιν ατμού άνω των I.75 KG/CM^2 (απόλυτον) εις 50°C είναι ερμητικώς κλεισμένα κελύφη:

στη περίπτωση μυρμηκικού μεθυλεστέρος (I° (α)) και άλλων υγρών εχόντων συντελεστήν κυβικής διαστολής άνω των I50 X I0^{-5} αλλά όχι άνω των I80 X I0^{-5}: .....
9I τοις εκατόν της χωρητικότητος·

στη περίπτωση αλδεΰδης του αλκοολικού πνεύματος (5°) και άλλων υγρών εχόντων συντελεστήν κυβικής διαστολής άνω των I80 X I0^{-5} αλλά όχι άνω των 230 X I0^{-5}: .....
90 τοις εκατόν της χωρητικότητος·

Κέλυφος κράματος αλουμινίου δεν θα χρησιμοποιείται 2II.37I
για την μεταφοράν αλδεΰδης του αλκοολικού πνεύματος (5°) εκτός εάν το κέλυφος προορίζεται αποκλειστικώς δια τοιαύτα μεταφοράς και η αλδεΰδη του αλκοολικού πνεύματος είναι ελευθέρα οξέως.

Κατά την ψυχράν σαιζόν (Οκτώβριος - Μάρτιος), 2II.372
ελαφρά αποστάγματα δια ρωγμάς και λοιπούς υγρούς υδρογονάνθρακες έχοντες πίεσιν ατμού μη υπερβαίνουσαν το I.5KG/CM^2 (απόλυτον) εις 50°C μπορούν να μεταφέρωνται σε κελύφη του τύπου του προβλεπομένου υπό του περιθωρίου 2II.I33.

2II.373-
2II.399

Κλάσις 4.1

Εύφλεκτα Στερεά

Κλάσις 4.2

Ύλες υποκείμενες σε στιγμιαία καύσιν

Κλάσις 4.3

Ύλες αναδύουσες εύφλεκτα αέρια σε επαφή με το νερό

Άρθρο 1

Γενικά· αντικείμενον· ορισμοί

2ΙΙ.400-
2ΙΙ.419

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά λευκού ή κιτρίνου φωσφόρου του περιθωρίου 243Ι, Ι°, ή τριχλωροσιλανίου (σιλικοχλωροφορμίου) του περιθωρίου 247Ι, 4°, θα σχεδιάζωνται για πίεσιν τουλάχιστον ΙΟ KG/CM^2 (πίεσιν θλιβομέτρου). 2ΙΙ.420

2ΙΙ.421-
2ΙΙ.429

Άρθρο 3

Είδη εξοπλισμού

Κελύφη προοριζόμενα για τη μεταφορά θείου (2° (β)) ή ναφθαλινίου (ΙΙ° (γ)) του περιθωρίου 240Ι θα εφοδιάζωνται με θερμικήν μόνωσιν κατασκευασμένην εξ υλικών τα οποία δεν είναι ευχερώς εύφλεκτα. Μπορούν να είναι εφοδιασμένα με βαλβίδες ανοίγουσες αυτομάτως προς τα μέσα ή 2ΙΙ.430

προς τα έξω υπό την επίδρασιν διαφοράς πιέσεως εκ 0.2 2II.430
έως 0.3 KG/CM^2. Οι μηχανισμοί εκκενώσεως θα είναι ικα- (Συνεχίζε-
νοί να προστατεύωνται υπό ασφαλιστικού μεταλλικού πώμα- ται)
τος.

Κελύφη προοριζόμενα για τη μεταφορά λευκού ή 2II.43I
κιτρίνου φωσφόρου του περιθωρίου 243I, I°, θα πληρούν τις
παρακάτω διατάξεις:-

(I) Ο μηχανισμός θερμάνσεως δεν θα εισχωρεί εις, αλλά θα είναι εξωτερικά, του κορμού του κελύφους. Εν τούτοις, ο σωλήν ο χρησιμοποιούμενος για την εξαγωγή του φωσφόρου μπορεί να είναι εφοδιασμένος με χιτώνιο θερμάνσεως. Ο μηχανισμός (συσκευή) που θερμαίνει το χιτώνιο θα είναι έτσι ρυθμισμένο ώστε να εμποδίζει την θερμοκρασία του φωσφόρου να υπερβεί τη θερμοκρασία πληρώσεως του κελύφους. Άλλη σωλήνωσις θα εισέρχεται εις το κέλυφος εις το άνω μέρος του· τα ανοίγματα θα ευρίσκωνται υπεράνω της ανωτάτης επιτρεπτής στάθμης του φωσφόρου και θα είναι ικανά να κλείουν πλήρως με ασφαλιστικά πώματα. Επιπροσθέτως, αι οπαί καθαρισμού (οπαί είδους γροθιάς) αι αναφερόμεναι εις το περιθώριον 2II.I32 δεν θα επιτρέπωνται.

(2) Το κέλυφος θα είναι εξοπλισμένο με σύστημα μετρήσεως (μετρητήν) δια την επαλήθευσιν της στάθμης του φωσφόρου και, εάν ύδωρ χρησιμοποιείται ως ο προστατευτικός άγων, με σταθερόν σημείον μετρήσεως εικονίζον την ανωτάτην επιτρεπτήν στάθμην του ύδατος.

Τα ανοίγματα και αι οπαί (βαλβίδες, χιτώνια, 2II.432
ανθρωποθυρίδες, κλπ.) κελυφων προοριζομένων για τη μεταφο-

ρα υλών του περιθωρίου 247Ι, Ι° (α), θα προστατεύωνται με στεγανά ασφαλιστικά πώματα, και τα τέτοια κελύφη θα είναι εξοπλισμένα με θερμική μόνωση κατασκευασμένη από υλικά τα οποία δεν είναι ευχερώς εύφλεκτα. 2ΙΙ.432

2ΙΙ.433-
2ΙΙ.439

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις) 2ΙΙ.440-
2ΙΙ.449

Άρθρο 5

Δοκιμαί/Έλεγχοι

Κελύφη προοριζόμενα για τη μεταφορά θείου (2° (β)) ή ναφθαλενίου (ΙΙ° (γ)) του περιθωρίου 240Ι ή λευκού ή κιτρίνου φωσφόρου του περιθωρίου 243Ι, Ι°, και τα προοριζόμενα για τη μεταφορά τριχλωροσιλανίου (σιλικοχλωροφορμίου) του περιθωρίου 247Ι, 4°, θα ελέγχωνται σε πίεση 4 KG/CM^2 (πίεσις θλιβομέτρου). 2ΙΙ.450

2ΙΙ.45Ι-
2ΙΙ.459

Άρθρο 6

Μαρκάρισμα (Σήμανσις)

(Ουδεμία ειδική διάταξις) 2ΙΙ.460-
2ΙΙ.469

Άρθρο 7

Λειτουργία

Κελύφη προοριζόμενα για τη μεταφορά θείου (2° (β)) ή ναφθαλινενίου (ΙΙ° (γ)) του περιθωρίου θα πληρούν- 2ΙΙ.470

ται μέχρις όχι άνω του 98 τοις εκατόν της χωρητικότητάς των. 2ΙΙ.470 (Συνεχίζεται)

Ο λευκός ή κίτρινος φωσφόρος του περιθωρίου 243Ι, Ι°, εάν το πυρ χρησιμοποιηθεί ως προστατευτικός άγων, θα καλυφθεί με βάθος όχι μικρότερον των 12 CM ύδατος κατά τον χρόνον της πληρώσεως· ο βαθμός πληρώσεως σε θερμοκρασία 60°C δεν θα υπερβαίνει το 98 τοις εκατόν. Εάν το άζωτον χρησιμοποιηθεί ως προστατευτικός άγων, ο βαθμός πληρώσεως σε θερμοκρασία 60°C δεν θα υπερβαίνει το 96 τοις εκατόν. 2ΙΙ.471

Ο απομένων χώρος θα πληρούται με άζωτον κατά τοιούτον τρόπον ώστε, ακόμη μετά ψύξιν, η πίεσις ουδέποτε θα πίπτει κάτω της ατμοσφαιρικής πιέσεως. Το κέλυφος θα κλείει ερμητικώς κατά τρόπον ώστε ουδεμία διαρροή αερίου να προκύπτει.

Για τη μεταφορά υλών του περιθωρίου 247Ι, Ι° (α), τα πώματα θα ασφαλίζωνται συμφώνως προς το περιθώριο 2ΙΙ.432. 2ΙΙ.472

Στη περίπτωση του τριχλωροσιλανίου (σιλικοχλωροφορμίου) του περιθωρίου 247Ι, 4°, ο βαθμός πληρώσεως δεν θα υπερβαίνει τα 1.14 KG ανά λίτρον χωρητικότητος εάν η πλήρωσις είναι κατά βάρος ή το 85 τοις εκατόν εάν η πλήρωσις είναι κατ' όγκον. 2ΙΙ.473

Κελύφη τα οποία περιείχον φωσφόρον του περιθωρίου 243Ι, Ι°, όταν παραδίδωνται για μεταφορά, θα: 2ΙΙ.474

- πληρούνται είτε με άζωτον· ο αποστολεύς θα πιστοποιεί εις το έγγραφον μεταφοράς ότι το κέλυφος, μετά το κλείσιμον είναι αεριοστεγανόν· είτε

με νερό όχι κάτω του 96 εκατό και όχι άνω του 98 στα εκατό της χωρητικότητάς των· μεταξύ Ιης Οκτωβρίου και 3Ιης Μαρτίου το νερό τούτο θα περιέχει έναν ή πλείονας αντι-ψυκτικούς άγοντας απηλλαγμένους διαβρωτικής ενεργείας, μη δυναμένους να αντιδράσουν με φωσφόρον, και τέτοιας συμπυκνώσεως ώστε να είναι αδύνατον το νερό να ψυχθεί διαρκούσης της μεταφοράς. 2ΙΙ.474 (Συνεχίζεται)

2ΙΙ.475-
2ΙΙ.499

Κλάσις 5.Ι
Ύλες Οξειδώσεως
Κλάσις 5.2
Οργανικά Υπεροξείδια
Άρθρο Ι
Γενικά· αντικείμενον· ορισμοί

2ΙΙ.500-
2ΙΙ.5Ι9

Άρθρο 2
Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά εν υγρά καταστάσει ύλες αναφερόμενες εις το περιθώριο 5Ι.Ι2Ι(Ι) θα σχεδιάζωνται δια πίεσιν τουλάχιστον 4 KG/CM^2 (πίεσιν θλιβομέτρου). 2ΙΙ.520

Κελύφη, και τα είδη εξοπλισμού των, προοριζόμενα για τη μεταφορά υπεροξειδίου του υδρογόνου ή υδατίνων διαλυμάτων υπεροξειδίου του υδρογόνου του περιθωρίου 250Ι, Ι°, ή υγρών οργανικών υπεροξειδίων του περιθωρίου 255Ι, Ι°, Ιο°, 2ΙΙ.52Ι

14°, 15° και 18° θα κατασκευάζωνται από αλουμίνιο όχι 2II.521
λιγωτερο του 99.5 τοις εκατόν καθαρού ή κατάλληλου χά- (Συνεχίζε-
λυβα μη δυνάμενου να προκαλέσει την αποσύνθεση του υπερο- ται)
ξειδίου του υδρογόνου ή των οργανικών υπεροξειδίων.

Κελύφη προοριζόμενα για τη μεταφορά συμπεπυκνω- 2II.522
μένων και θερμών υδάτινων διαλυμάτων νιτρικού αμμωνίου
του περιθωρίου 250I, 6°(α), θα κατασκευάζωνται από ωστε-
νιτικό χάλυβα.

2II.523-
2II.529

Άρθρο 3

Είδη Εξοπλισμού

Κελύφη προοριζόμενα για τη μεταφορά υπεροξει- 2II.530
δίου του υδρογόνου και υδάτινων διαλυμάτων υπεροξειδί-
ου του υδρογόνου περιεχόντων άνω του 70 τοις εκατόν
υπεροξειδίου του υδρογόνου, του περιθωρίου 250I, I°, θα
έχουν τα ανοίγματά τους πάνω από το επίπεδο της επιφανεί-
ας του υγρού. Επιπροσθέτως, οπές καθαρισμού (οπαί-σχήματος
γροθιάς) ως αναφέρονται εις περιθώριον 2II.I32 δεν θα επι-
τρέπωνται. Εις την περίπτωση διαλυμάτων περιεχόντων άνω
του 60 τοις εκατόν αλλά όχι άνω του 70 τοις εκατό υπερο-
ξειδίου του υδρογόνου, ανοίγματα κάτω από το επίπεδο επι-
φανείας του υγρού θα επιτρέπωνται. Εις την περίπτωση αυτή
το σύστημα εκκενώσεως του κελύφους θα είναι εξοπλισμένο
με δύο αμοιβαία ανεξάρτητους μηχανισμούς κλεισίματος συναρ-
μολογημένους σε σειρά, του πρώτου λαμβάνοντος την μορφήν
μιάς ταχέος-κλεισίματος εσωτερικής βαλβίδας διακοπής
(ατμοφράκτου) εγκεκριμένου τύπου και του δευτέρου την μορ-

φης βαλβίδος εκροής (υδατοφράκτου), εκάστης άκρο του σωλήνα-εκκενώσεως-με-στορέα (PIPE-SOCKET). Μία φλάτζα τυφλή, ή άλλος μηχανισμός παρέχων τον αυτόν βαθμόν ασφαλείας, θα τοποθετείται επίσης εις την έξοδον εκάστης εξωτερικής βαλβίδος εκροής (υδατοφράκτου). Η εσωτερική βαλβίδα διακοπής (ατμοφράκτης) θα είναι τέτοια ώστε εάν ο σωλήνας περιστραφεί η βαλβίδα διακοπής (ο ατμοφράκτης) θα παραμείνει συμπαγής με το κέλυφος και στη θέση κλειστή. 2ΙΙ.530 (Συνεχίζεται)

Οι συνδέσεις με τους εξωτερικούς σωλήνες-μεστορέα των κελύφων θα γίνωνται με υλικά μη δυνάμενα να προκαλέσουν αποσύνθεση του υπεροξειδίου του υδρογόνου. 2ΙΙ.531

Κελύφη προοριζόμενα για τη μεταφορά υπεροξειδίου του υδρογόνου ή υδάτινων διαλυμάτων υπεροξειδίου του υδρογόνου της I^{o}, ή συμπεπυκνωμένων και θερμών υδάτινων διαλυμάτων νιτρικού αμμωνίου της $6^{o}(α)$, του περιθωρίου 250Ι θα είναι εφοδιασμένα εις τα άνω μέρος αυτών με μηχανισμόν κλεισίματος (SHUT-OFF DEVICE) εμποδίζοντα οιανδήποτε δημιουργίαν υπερβαλλούσης πιέσεως εις το εσωτερικόν του δοχείου, οιανδήποτε διαρροήν του υγρού, και οιανδήποτε είσοδον ξένης ύλης εις το δοχείο. Οι μηχανισμοί κλεισίματος (δικλείδες) κελύφων προοριζομένων για τη μεταφορά συμπεπυκνωμένων και θερμών υδάτινων διαλυμάτων νιτρικού αμμωνίου θα έχουν έτσι σχεδιασθεί ώστε να αποκλείεται ή έμφραξις των μηχανισμών (δικλείδων) από στερεοποιημένο νιτρικό αμμώνιο διαρκούσης της μεταφοράς. 2ΙΙ.532

Οσάκις κελύφη προοριζόμενα για τη μεταφορά 2ΙΙ.533

συμπεπυκνωμένων και θερμών διαλυμάτων νιτρικού αμμωνίου του περιθωρίου 250Ι, 6° (α), οπλίζονται (επενδύονται) με θερμικώς-μονωτικόν υλικόν, το υλικόν θα είναι ανοργάνου φύσεως και εξ ολοκλήρου απηλλαγμένον από καύσιμον ύλην. 2ΙΙ.533 (Συνεχίζεται)

Κελύφη προοριζόμενα για τη μεταφορά οργανικών υπεροξειδίων του περιθωρίου 255Ι, Ι°, Ι0°, Ι4°, Ι5° και Ι8°, θα είναι εξοπλισμένα με μηχανισμόν εξαερισμού εφοδιασμένον με φλογοπαγίδα και ακολουθούμενον εν σειρά υπό ανοίγματος βαλβίδος ασφαλείας (ασφαλιστικού επιστομίου) σε πίεση θλιβομέτρου Ι.8 έως 2.2 KG/CM^2. 2ΙΙ.534

Κελύφη προοριζόμενα για τη μεταφορά υγρών οργανικών υπεροξειδίων του περιθωρίου 255Ι, Ι°, Ι0°, Ι4°, Ι5° και Ι8°, θα είναι εξοπλισμένα με θερμικήν μόνωσιν συμφώνως προς τις διατάξεις του περιθωρίου 2ΙΙ.234(Ι). Το κάλυμμα και οιονδήποτε ακάλυπτον τμήμα του κελύφους, ή η εξωτερική επένδυσις πλήρους περιβλήματος, θα βάφωνται λευκά και το χρώμα θα καθαρίζεται πριν από κάθε ταξείδι μεταφοράς και ανανεούται σε περίπτωση νιτρινίσματος ή φθοράς. Η θερμομόνωσις θα είναι απηλλαγμένη από καύσιμο (εύφλεκτον) ύλη. 2ΙΙ.535

2ΙΙ.536-
2ΙΙ.539

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις) 2ΙΙ.540-
2ΙΙ.549

Άρθρο 5

Δοκιμές (Έλεγχοι)

Κελύφη προοριζόμενα για τη μεταφορά υπεροξει- 2ΙΙ.550

δίου του υδρογόνου ή υδάτινων διαλυμάτων υπεροξειδίου του υδρογόνου της I°, ή συμπεπυκνωμένων και θερμών διαλυμάτων νιτρικού αμμωνίου της 6°(α), του περιθωρίου 250I, ή υγρών οργανικών υπεροξειδίων του περιθωρίου 255I, I°, I0°, I4°, I5° και I8°, θα δοκιμάζωνται (ελέγχωνται) σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου). 2II.550 (Συνεχίζεται)

2II.55I-
2II.559

Άρθρο 6

Μαρκάρισμα (Σήμανσις)

(Ουδεμία ειδική διάταξις) 2II.560-
2II.569

Άρθρο 7

Λειτουργία

Το εσωτερικό του κελύφους, και όλα τα μέρη που είναι δυνατόν να έλθουν σε επαφή με όλες αναφερόμενες στο περιθώριο 5I.I2I θα διατηρούνται καθαρά. Κανένα λιπαντικό ικανό να συνδυασθεί επικίνδυνα με μεταφερομένην ύλην θα χρησιμοποιείται για αντλίες, βαλβίδες ή άλλους μηχανισμούς. 2II.570

Κελύφη προοριζόμενα για τη μεταφορά υγρών του περιθωρίου 250I, I° έως 3°, θα πληρούνται (γεμίζωνται) όχι άνω του 95 τοις εκατό της χωρητικότητάς των σε θερμοκρασία συσχετισμού (REFERENCE TEMPERATURE) I5°C. 2II.57I

Κελύφη προοριζόμενα για τη μεταφορά θερμών υδάτινων διαλυμάτων νιτρικού αμμωνίου του περιθωρίου 250I, 6° (α), θα πληρούνται (γεμίζωνται) όχι άνω του 97 τοις εκατό της

χωρητικότητός των, και η ανωτάτη θερμοκρασία μετά το γεμισμα δεν θα υπερβαίνει τους 140°C. 2ΙΙ.571 (συνεχίζεται)

Δεξαμενές (βυτία) χρησιμοποιούμενες για τη μεταφορά υδάτινων διαλυμάτων νιτρικού αμμωνίου του περιθωρίου 2501, 6°(α), δεν θα χρησιμοποιούνται για τη μεταφορά άλλων υλών χωρίς να έχουν πρώτα προσεκτικά καθαρισθεί από οποιαδήποτε κατάλοιπα (υπολείμματα, κατακάθια). 2ΙΙ.572

2ΙΙ.573-2ΙΙ.599

Κλάσις 6.1

Τοξικές Ύλες

Άρθρο 1

Γενικά αντικείμενο· ορισμοί

2ΙΙ.600-2ΙΙ.619

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά διαλυμάτων υδροκυανίου της 1°(β), ή υδάτινων διαλυμάτων αιθυλενιμίνης (ETHYLENEIMINE) και προπυλενιμίνης (PROPYLENEIMINE)· της 3°, ή ανθρακύλιου νικελίου της 5°(α) θα σχεδιάζωνται για πίεση τουλάχιστο 16 KG/CM^2 (πίεση θλιβομέτρου). 2ΙΙ.620

Κελύφη προοριζόμενα για τη μεταφορά άλλων υλών αναφερομένων στο περιθώριο 61.121 (1), (α) και (β), θα σχεδιάζωνται για πίεση τουλάχιστο 10 KG/CM^2 (πίεση θλιβομέτρου). 2ΙΙ.621

Κελύφη προοριζόμενα για τη μεταφορά υλών αναφε- 2ΙΙ.622

ρομένων στο περιθώριο 6Ι.Ι2Ι (Ι), (γ), θα σχεδιάζωνται για πίεση τουλάχιστο 4 KG/CM^2 (πίεση θλιβομέτρου). 2ΙΙ.622 (Συνεχίζεται)

Κελύφη προοριζόμενα για τη μεταφορά υλών υπό μορφήν νόνεος (σκόνης) ή νόκκων θα σχεδιάζωνται συμφώνως προς τις διατάξεις του γενικού άρθρου (τμήματος) της παρούσης Προσθήκης. 2ΙΙ.623

2ΙΙ.624-2ΙΙ.629

Άρθρο 3

Είδη Εξοπλισμού

Όλα τα ανοίγματα κελυφών προοριζομένων για τη μεταφορά υλών αναφερομένων στο περιθώριο 6Ι.Ι2Ι (Ι) (α) και (β), θα είναι πάνω από το επίπεδο επιφανείας του υγρού. Καμμία σωλήνωσις ή ενώσεις (συνδέσεις) σωλήνων θα διέρχωνται από τα τοιχώματα του κελύφους κάτω του επιπέδου επιφανείας του υγρού. Τα ανοίγματα θα μπορούν να κλείνουν ερμητικά, και το κλείσιμο θα είναι σε θέση να προστατεύεται από (με) πώμα που να μπορεί να κλειδώνει. Επιπροσθέτως, οπές καθαρίσματος (οπές σχήματος γροθιάς) ως αναφέρονται στο περιθώριο 2ΙΙ.Ι32 δεν θα επιτρέπωνται για κελύφη προοριζόμενα για τη μεταφορά υδάτινων διαλυμάτων υδροκυανίου (Ι^0 (β)). 2ΙΙ.630

(Ι) Κελύφη προοριζόμενα για τη μεταφορά υλών αναφερομένων στο περιθώριο 6Ι.Ι2Ι (Ι), (γ) και (δ), μπορούν να είναι τύπου εκκενώσεως εκ του πυθμένος (BOTTOM-DISCHARGE TYPE). 2ΙΙ.631

(2) Τα εξαρτήματα εκκενώσεως επί του πυθμένος

κελυφών προοριζομένων για τη μεταφορά των υλών των αναφε- 2ΙΙ.631
ρομένων στο περιθώριο 6Ι.Ι2Ι (Ι), (γ), θα είναι σύμφωνα (Συνεχί-
προς τις διατάξεις του περιθωρίου 2ΙΙ.Ι3Ι, και επιπροσθέ- ζεται)
τως οι σωλήνες εκκενώσεως των κελυφών θα μπορούν να κλείων-
ται με τυφλή φλάτζα, πώμα, ή κάποιον άλλον εξ ίσου αποτελεσμα-
τικόν μηχανισμόν.

(3) Όλα τα ανοίγματα των κελυφων των αναφερομέ-
νων στη παράγραφο (Ι) θα μπορούν να κλείνουν ερμητικά.

Εάν τα κελύφη είναι εφοδιασμένα με βαλβίδες ασφα- 2ΙΙ.632
λείας (ασφαλιστικά επιστόμια), των τελευταίων θα προηγείται
εύθραυστος δίσκος. Η διάταξις του ευθραύστου δίσκου και
της βαλβίδος ασφαλείας (ασφαλιστικού επιστομίου) θα πρέπει
να ικανοποιεί την αμβδια αρχή.

Δεξαμενές (βυτία) εφοδιασμένες με βαλβίδες ασφα-
λείας (ασφαλιστικά επιστόμια) και εύθραυστους δίσκους και
προοριζόμενες για μεταφορά δια θαλάσσης θα είναι σύμφωνες
προς τις διατάξεις που διέπουν τον εν λόγω τρόπον μεταφοράς.

Προστασία του εξοπλισμού 2ΙΙ.633

(Ι) Εξαρτήματα και παρελκόμενα συναρμολογούμενα στο
άνω μέρος του κελύφους

Τέτοια εξαρτήματα και παρελκόμενα θα έχουν είτε
τοποθετηθεί σε περίβλημα φέρον υποδοχήν
(RECESSED HOUSING)· είτε
θα είναι εφοδιασμένα με εσωτερική βαλβίδα
ασφαλείας (ασφαλιστικόν επιστόμιον)· είτε
θα προστατεύωνται με κάλυμμα, ή με εγκαρσίους
ή και επιμήκεις δοκούς, ή με άλλους εξ ίσου

αποτελεσματικούς μηχανισμούς, εις τρόπον ώστε στη περίπτωση αναποδογυρίσματος τα εξαρτήματα και παρελκόμενα να μη καταστραφούν 2ΙΙ.633 (Συνεχίζεται)

(2) Εξαρτήματα και παρελκόμενα συναρμολογούμενα στο κάτω μέρος του κελύφους

Σωλήνες με στορέα, πλευρικοί μηχανισμοί διακοπής, και όλοι οι μηχανισμοί εκκενώσεως θα είναι εντός υποδοχής τουλάχιστον 200 ΜΜ από το εξωτερικό άκρο του κελύφους ή θα προστατεύωνται από κιγκλίδωμα έχον συντελεστήν αδρανείας όχι μικρότερον των 20 CM^3 εγκαρσίως προς την κατεύθυνσιν του ταξειδίου· το εκ του εδάφους διάκενον αυτών δεν θα είναι μικρότερο των 300 ΜΜ με το κέλυφος πλήρες.

(3) Εξαρτήματα και παρελκόμενα συναρμολογούμενα στη πίσω όψη του κελύφους

Όλα τα εξαρτήματα και παρελκόμενα τα συναρμολογούμενα στη πίσω όψη θα προστατεύωνται από τον προφυλακτήρα προσκρούσεως τον περιγραφόμενον στο περιθώριο Ι0.2Ι6. Το ύψος των πάνω από το έδαφος θα είναι τέτοιο ώστε να προστατεύωνται καταλλήλως και επαρκώς από τον προφυλακτήρα προσκρούσεως.

2ΙΙ.634-
2ΙΙ.639

Άρθρο 4

Έγκριση Τύπου

Δεξαμενές (βυτία) εγκριθείσαι για τη μεταφορά 2ΙΙ.640

τροφίμων υλών δεν θα εγκρίνωνται για τη μεταφορά τροφίμων, ειδών καταναλώσεως ή ζωοτροφών. 2ΙΙ.640 (Συνεχίζεται) 2ΙΙ.641-2ΙΙ.649

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Κελύφη προοριζόμενα για τη μεταφορά των υλών των αναφερομένων στο περιθώριο 6Ι.Ι2Ι (Ι), (α) έως (γ), θα ελέγχωνται αρχικώς και περιοδικώς σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου). 2ΙΙ.650

Οι περιοδικοί έλεγχοι θα διεξάγωνται σε χρονικά διαστήματα όχι μεγαλύτερα των τριών ετών στη περίπτωση κελύφων προοριζομένων για τη μεταφορά υλών της 14°.

2ΙΙ.651-2ΙΙ.659

Άρθρο 6

Μαρκάρισμα (Σήμανσις)

(Ουδεμία ειδική διάταξις) 2ΙΙ.660-2ΙΙ.669

Άρθρο 7

Λειτουργία

Ο βαθμός της πληρώσεως (γεμίσματος) των κελυφων των προοριζομένων για τη μεταφορά των υλών των αναφερομένων στο περιθώριο 6Ι.Ι2Ι (Ι), (α) έως (δ), θα είναι σύμφωνος προς το περιθώριο 2ΙΙ.Ι72 (Ι) (δ). 2ΙΙ.670

Κελύφη προοριζόμενα για τη μεταφορά υλών της 5°(α) και 5°(β) θα πληρούνται (γεμίζωνται) μόνον μέχρι Ι KG υγρού ανά λίτρον χωρητικότητας. 2ΙΙ.671

Τα ανοίγματα των κελυφων θα είναι ερμητικώς κλεισμένα διαρκούσης της μεταφοράς. 2ΙΙ.672

Δεξαμενές (βυτία) χρησιμοποιούμενες για τη μεταφορά τοξικών υλών δεν θα χρησιμοποιούνται για τη μεταφορά ζωοτροφών, ειδών καταναλώσεως και τροφίμων. 2ΙΙ.673

2ΙΙ.674-
2ΙΙ.699

Κλάσις 7

Ραδιενεργείς Ύλες

Άρθρο Ι

Γενικά· αντικείμενο· ορισμοί

2ΙΙ.700-
2ΙΙ.719

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά των υλών των αναφερομένων στο περιθώριο 2703, Παράρτημα 5, παράγραφος ΙΙ, θα σχεδιάζωνται για πίεση τουλάχιστον 4 KG/CM^2 (πίεση θλιβομέτρου). 2ΙΙ.720

Οσάκις οι ραδιενεργείς ύλες είναι σε διάλυμα ή αιώρημα σε ύλες άλλων Κλάσεων και οι πιέσεις υπολογισμού οι προβλεπόμενες για τα κελύφη των δεξαμενών (βυτίων) των προοριζομένων για τη μεταφορά των τελευταίων υλών είναι μεγαλύτερες, θα ισχύουν αι πιέσεις των τελευταίων. 2ΙΙ.721

2ΙΙ.722-
2ΙΙ.729

Άρθρο 3

Είδη Εξοπλισμού

Κελύφη προοριζόμενα για τη μεταφορά υγρών ραδιε- 2II.730
νεργών υλών[8/] θα έχουν τα ανοίγματά τους πάνω από το επί-
πεδο της επιφανείας του υγρού. Καμμία σωλήνωσις ή σύνδεσις
σωλήνος θα διέρχεται από τα τοιχώματα του κελύφους κάτω
από το επίπεδο επιφανείας του υγρού.

2II.731-
2II.739

Άρθρο 4

Έγκριση Τύπου

Δεξαμενές εγκριθείσαι για τη μεταφορά ραδιενερ- 2II.740
γών υλών δεν θα εγκρίνωνται για τη μεταφορά τροφίμων, ει-
δών καταναλώσεως, ζωοτροφών, καλλυντικών ή φαρμάκων, ή
υλών χρησιμοποιουμένων δια την κατασκευήν των προϊόντων
αυτών.

2II.741-
2II.749

Άρθρο 5

Δοκιμές (Έλεγχοι)

Κελύφη προοριζόμενα για τη μεταφορά των υλών 2II.750
των αναφερομένων στο περιθώριο 2703, Παράρτημα 5, παράγρα-
φος II, θα ελέγχωνται αρχικώς και περιοδικώς σε πίεση
4 KG/CM^2 (πίεση θλιβομέτρου).

Με ανακλήσιν των διατάξεων του περιθωρίου 2II.751
2II.151, η περιοδική εσωτερική επιθεώρησις μπορεί να αντι-
κατασταθεί με έλεγχο του πάχους του τοιχώματος με υπερη-
χητικά (κύματα), ενεργουμένου κάθε τρία έτη.

2II.752-
2II.759

Άρθρο 6

Μαρκάρισμα (Σήμανση)

(Ουδεμία ειδική διάταξη) 2II.760-
2II.769

Άρθρο 7

Λειτουργία

Ο βαθμός πληρώσεως (γεμίσματος) της θερμοκρασίας 2II.770
συσχετισμού (REFERENCE TEMPERATURE) της 15°C δεν θα υπερβαίνει το 93 τοις εκατό της ολικής χωρητικότητας του κελύφους.

Δεξαμενές (βυτία) που χρησιμοποιήθηκαν για τη 2II.771
μεταφορά ραδιενεργών υλών δεν θα χρησιμοποιούνται για τη μεταφορά τροφίμων, ειδών καταναλώσεως, ζωοτροφών, καλλυντικών ή φαρμάκων, ή υλών χρησιμοποιουμένων για τη κατασκευή των προϊόντων αυτών.

2II.772-
2II.799

Κλάσις 8

Διαβρωτικές Ύλες

Άρθρο I

Γενικά αντικείμενο ορισμοί

2II.800-
2II.8I9

Άρθρο 2

Κατασκευή

Κελύφη προοριζόμενα για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6° (α)), υδατίνων διαλυμάτων υδροφθορικού οξέος (6° (β)), ή βρωμίου (I4°) θα σχεδιάζωνται για πίεση τουλάχιστο 2I KG/CM^2 (πίεση θλιβομέτρου). Κελύφη προοριζόμενα για τη μεταφορά βρωμίου θα είναι εφοδιασμένα με επένδυση από μολύβδου πάχους όχι μικρότερου των 5 MM, ή με ισοδύναμον επένδυση. 2II.820 (8.2.I)

Κελύφη προοριζόμενα για τη μεταφορά υλών των I°(α), 2°(α), 6°(γ), 7° έως 9°, 2I°(α) και 23° θα σχεδιάζωνται για πίεση τουλάχιστο I0 KG/CM^2 (πίεση θλιβομέτρου). 2II.82I

Οσάκις η χρήση αλουμινίου είναι απαραίτητη για κελύφη προοριζόμενα για τη μεταφορά υλών της 2°(α), τέτοια κελύφη θα κατασκευάζωνται από αλουμίνιο όχι κάτω του 99.5 εκατό καθαρό, οπότε, με ανάκλησιν της ανωτέρω παραγράφου, το πάχος του τοιχώματος δεν χρειάζεται να υπερβεί τα I5 MM.

Κελύφη προοριζόμενα για τη μεταφορά μονοχλωροακετικού οξέος (2I° (α)) θα είναι εξοπλισμένα με σμάλτο ή ισοδύναμον επένδυση εάν το υλικό του κελύφους προσβάλλεται

από το οξύ αυτό. 2II.82I

Κελύφη προοριζόμενα για τη μεταφορά υλών αναφερο- 2II.822
μένων εις το περιθώριο 8I.I2I πλην των απαριθμουμένων στά περιθώρια 2II.820 και 2II.82I θα σχεδιάζωνται για πίεση όχι μικροτέρα των 4 KG/CM^2 (πίεση θλιβομέτρου).

Κελύφη προοριζόμενα για τη μεταφορά υδάτινων δια- 2II.823
λυμάτων υπεροξειδίου του υδρογόνου ($4I^{o}$) θα πληρούν τις διατάξεις του περιθωρίου 2II.520.

2II.824-
2II.829

Άρθρο 3

Είδη Εξοπλισμού

Όλα τα ανοίγματα κελυφων προοριζομένων για τη 2II.830
μεταφορά υλών της 6^{o} και βρωμίου ($I4^{o}$) θα είναι πάνω από το επίπεδο της επιφανείας του υγρού· καμμία σωλήνωσις ή συνδέσεις σωλήνων θα διέρχεται από τα τοιχώματα του κελύφους κάτω από το επίπεδο επιφανείας του υγρού. Επιπροσθέτως, οπές καθαρισμού (σχήματος γροθιάς) ως αναφέρονται στο περιθώριο 2II.I32 δεν θα επιτρέπωνται. Τα ανοίγματα κλεισίματα θα μπορούν και θα πρέπει να είναι ικανά να προστατεύωνται αποτελεσματικά με μεταλλικό κάλυμμα.

Οι πάρα κάτω όροι θα ισχύουν για αποσυναρμολο- 2II.83I
γούμενες δεξαμενές (βυτία) προοριζόμενες για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6^{o} (α)) και υδάτινων διαλυμάτων υδροφθορικού οξέος (6^{o} (β)):-

I.- δεν θα αλληλοσυνδέονται με σωλήνωσιν· και

2.- εάν οι αποσυναρμολογούμενες δεξαμενές (βυτία)

μπορούν να ρολλάρουν, οι βαλβίδες θα είναι εφοδιασμένες με προστατευτικά καλύμματα. 2ΙΙ.831 (Συνεχίζεται)

2ΙΙ.832

Κελύφη προοριζόμενα για τη μεταφορά σταθεροποιημένου τριοξειδίου του θείου (9^{o}) θα είναι θερμικώς μονωμένα και θα είναι εφοδιασμένα με συσκευήν θερμάνσεως εις το εξωτερικόν των μέρος. Τα κελύφη μπορεί να είναι τύπου ενκενώσεως εκ του πυθμένος. Στη περίπτωση αυτή το σύστημα ενκενώσεως του κελύφους θα είναι εξοπλισμένον με δύο αμοιβαίως ανεξάρτητους μηχανισμούς διακοπής συναρμολογημένους εν σειρά, του πρώτου λαμβάνοντος την μορφήν ταχέως-κλειομένης εσωτερικής βαλβίδος διακοπής (ατμοφράκτου) εγκεκριμένου τύπου και του δευτέρου την μορφήν βαλβίδας εκροής (υδατοφράκτου) εις το άκρον του σωλήνα-εκκενώσεως-με-στορέα (PIPE SOCKET). Μία τυφλή φλάντζα ή κάποιος άλλος εξ ίσου αξιόπιστος μηχανισμός θα τοποθετείται επίσης στην έξοδο εκάστης εξωτερικής βαλβίδας εκροής (υδατοφράκτου). 2ΙΙ.832

Κελύφη και ο εξοπλισμός σέρβις αυτών προοριζόμενα για τη μεταφορά υποχλωριωδών διαλυμάτων (37^{o}) και υδάτινων διαλυμάτων υπεροξειδίου του υδρογόνου (41^{o}) θα είναι έτσι σχεδιασμένα ώστε να εμποδίζεται η είσοδος ξένης ύλης, η διαρροή του υγρού, και οιαδήποτε δημιουργουμένη επικίνδυνος υπερβολική πίεσις στο εσωτερικό του κελύφους. 2ΙΙ.833

Άρθρο 4

Έγκριση Τύπου

(Ουδεμία ειδική διάταξη) 2ΙΙ.840-2ΙΙ.849

Άρθρο 5

Δοκιμές (Έλεγχοι)

2ΙΙ.850 Κελύφη προοριζόμενα για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6°(α)) και υδάτινων διαλυμάτων υδροφθορικού οξέος (6° (β)) θα υποβάλωνται στη δοκιμή της αρχικής πιέσεως και εις τους περιοδικούς ελέγχους σε πίεση 10 KG/CM^2 (πίεση θλιβομέτρου), και τα προοριζόμενα για τη μεταφορά των λοιπών υλών των αναφερομένων στο περιθώριο 8Ι.12Ι, εάν οι ύλες αυτές μεταφέρωνται εις την υγράν φάσιν, σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου).

2ΙΙ.851 Ο έλεγχος της πιέσεως των κελυφων των προοριζομένων για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος (6° (α)) και υδάτινων διαλυμάτων υδροφθορικού οξέος (6° (β)) θα επαναλαμβάνεται κάθε έξι έτη και θα συνοδεύεται από εσωτερικήν επιθεώρησιν των κελυφων και έλεγχον των ειδών εξοπλισμού αυτών. Επιπροσθέτως, κάθε δύο έτη, η αντίσταση των κελυφων στη διάβρωση θα ελέγχεται μέσω καταλλήλων οργάνων (π.χ. δι'υπερηχητικών) και θα επαληθεύεται η κατάσταση του εξοπλισμού.

2ΙΙ.852 Ο έλεγχος της πιέσεως των κελυφων των προοριζομένων για τη μεταφορά σταθεροποιημένου τριοξειδίου του θείου (9°) θα επαναλαμβάνεται κάθε τρία έτη.

2ΙΙ.853 Η κατάσταση της επενδύσεως των κελυφων των προοριζομένων για τη μεταφορά βρωμίου (14°) θα ελέγχεται κάθε έτος από ανεγνωρισμένον ειδικόν (ειδήμονα), ο οποίος θα επιθεωρεί το εσωτερικόν του κελύφους.

2ΙΙ.854-
2ΙΙ.859

Άρθρο 6

Μαρκάρισμα (Σήμανσις)

Κελύφη προοριζόμενα για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6° (α)), υδάτινων διαλυμάτων υδροφθορικού οξέος (6° (β)), ή βρωμίου (14°), θα φέρουν, επιπροσθέτως των λεπτομερειών των ήδη περιγραφομένων στα περιθώρια 2ΙΙ.160 και 2ΙΙ.161, ένδειξιν του επιτρεπτού ανωτάτου καθαρού φορτίου σε χιλιόγραμμα και την ημερομηνίαν (μήνα, έτος) την πλέον προσφάτου εσωτερικής επιθεωρήσεως του κελύφους. 2ΙΙ.861-2ΙΙ.869

Άρθρο 7

Λειτουργία

Κελύφη προοριζόμενα για τη μεταφορά θειϊκού οξέος (1° (γ)) θα πληρούνται (γεμίζωνται) όχι άνω του 95 εκατό της χωρητικότητάς των, τα προοριζόμενα για τη μεταφορά σταθεροποιημένου τριοξειδίου του θείου (9°) όχι άνω του 88 εκατό, και τα προοριζόμενα για τη μεταφορά βρωμίου (14°) όχι κάτω του 88 εκατό και όχι άνω του 92 εκατό ή μέχρι 2.86 KG ανά λίτρον χωρητικότητας. Κελύφη προοριζόμενα για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6° (α)) ή υδάτινων διαλυμάτων υδροφθορικού οξέος (6° (β)) δεν θα πληρούνται (γεμίζωνται) άνω των 0.84 KG ανά λίτρον χωρητικότητας. 2ΙΙ.870 2ΙΙ.871-2Ι2.099

Προσθήκη Β.Ιβ

ΔΙΑΤΑΞΕΙΣ ΑΦΟΡΩΣΕΣ ΔΕΞΑΜΕΝΟ-CONTAINERS

(ΣΧΕΔΙΟΝ ΚΑΙ ΔΟΚΙΜΗ)

ΣΗΜΕΙΩΣΙΣ:-

Το Κεφάλαιον Ι περιγράφει τις διατάξεις τις ισχύουσες για δεξαμενο-CONTAINERS προοριζόμενες για τη μεταφορά υλών όλων των Κλάσεων.

Το Κεφάλαιον ΙΙ περιέχει ειδικές διατάξεις οι οποίες συμπληρούν ή τροποποιούν τις διατάξεις του Κεφαλαίου Ι.

Κεφάλαιο Ι

ΔΙΑΤΑΞΕΙΣ ΙΣΧΥΟΥΣΕΣ ΓΙΑ ΟΛΕΣ ΤΙΣ ΚΛΑΣΕΙΣ

Άρθρο Ι

Γενικά· αντικείμενο· ορισμοί

Οι διατάξεις αυτές θα ισχύουν για δεξαμενο- 2Ι2.Ι00
CONTAINERS χωρητικότητας άνω των 0.45 κυβ. μέτρων που χρησιμοποιούνται για τη μεταφορά υγρών, αεριωδών, κόνεως ή κοκκωδών υλών, και εις τα εξαρτήματα και παρελκόμενα αυτών.

Ένα δεξαμενο-CONTAINER θα περιλαμβάνει κέλυφος και 2Ι2.Ι0Ι
είδη εξοπλισμού, συμπεριλαμβανομένου εξοπλισμού διευκολύνοντος την μετακίνησιν άνευ αλλαγής της στάσεως.

Στις παρακάτω διατάξεις:- 2Ι2.Ι02

(Ι) (α) Δια του όρου "Κέλυφος" νοείται η κανονική δεξαμενή (βυτίο) (συμπεριλαμβανομένων των ανοιγμάτων και κλεισιμάτων αυτής)·

(β) Δια του όρου "εξοπλισμός σέρβις" του κελύ-

φους νοούνται μηχανισμοί πληρώσεως και εκκενώσεως, εξαερισμού, ασφαλείας και θερμομονώσεως, και όργανα μετρήσεως· και 212.102 (Συνεχίζεται)

(γ) Δια του όρου "Κατασκευαστικός εξοπλισμός" νοούνται ενισχυτικές, προστατευτικές ή σταθεροποιητικές δομοί εξωτερικώς του κελύφους.

(2) (α) Δια του όρου "υπολογισθείσα πίεσις" νοείται θεωρητική πίεσις τουλάχιστον ίση με τη πίεση δοκιμής η οποία σύμφωνα με τον βαθμόν του κινδύνου που παρουσιάζει η μεταφερομένη ύλη μπορεί να υπερβεί κατά το μάλλον ή ήττον ουσιαστικώς την πίεση λειτουργίας. Χρησιμοποιείται απλώς δια τον καθορισμόν του πάχους των τοιχωμάτων του κελύφους, αποκλειομένου οιουδήποτε εξωτερικού ή εσωτερικού ενισχυτικού μηχανισμού·

(β) Δια του όρου "Ανωτάτη πίεση λειτουργίας" νοείται η υψηλοτέρα των πάρακάτω τριών πιέσεων:-

I.- Της ανωτάτης δραστικής πιέσεως της επιτρεπομένης στο κέλυφος διαρκούσης της πληρώσεως ("επιτρεπομένη ανωτάτη πίεση πληρώσεως")·

2.- Της ανωτάτης δραστικής πιέσεως της επιτρεπομένης στο κέλυφος διαρκούσης της εκκενώσεως ("επιτρεπομένη ανωτάτη πίεση εκκενώσεως")· και

3.- Της δραστικής πιέσεως εις την οποίαν υποβάλλεται το κέλυφος εκ του περιεχομένου του (συμπεριλαμβανομένων τοιούτων ξένων αερίων τα οποία ενδέχεται να περιέχει) όταν η θερμοκρασία φθάνει τους 50°C ("ολική πίεση")· 2Ι2.Ι02 (Συνεχίζεται)

(γ) Δια του όρου "πίεση δοκιμής" νοείται η ανωτάτη δραστική πίεση που εγείρεται στο κέλυφος διαρκούσης της δοκιμής πιέσεως·

(δ) Δια του όρου "πίεση πληρώσεως" νοείται η ανωτάτη πίεση η όντως δημιουργουμένη στο κέλυφος όταν τούτο πληρούται δια πιέσεως·

(ε) Δια του όρου "πίεση εκκενώσεως" νοείται η ανωτάτη πίεση η όντως δημιουργουμένη συο κέλυφος όταν τούτο εκκενούται δια πιέσεως.

(3) Δια του όρου "δοκιμή διαρροής" νοείται η δοκιμή η οποία περιλαμβάνει την υποβολήν του κελύφους σε δραστικήν εσωτερικήν πίεσιν ίσην προς την ανωτάτην πίεσιν λειτουργίας, αλλά όχι μικροτέραν των 0.2 KG/CM^2 (πίεση θλιβομέτρου), δια μεθόδου εγκριθείσης υπό της αρμοδίας αρχής.

2Ι2.Ι03-
2Ι2.Ιι9

Άρθρο 2

Κατασκευή

Τα κελύφη θα είναι κατασκευασμένα από ελατό μεταλλικό υλικό. Δια συγκολλημένα κελύφη μόνον υλικόν τουοπο- 2Ι2.Ι20
ίου

η ικανότης συγκολλήσεως έχει πλήρως καταδειχθεί θα χρη- 2Ι2.Ι20
σιμοποιείται. Οι συγκολλήσεις θα γίνωνται επιδεξίως (Συνεχίζε-
και θα παρέχουν πλήρη ασφάλεια . Τα υλικά των κελύφων ται)
και των προστατευτικών των επενδύσεων που έρχονται σε
επαφή με το μεταφερόμενο περιεχόμενο δεν θα περιέχουν ύ-
λες δυνάμενες να αντιδράσουν επικινδύνως με το τελευταίο
και σχηματίσουν ενώσεις, ή εξασθενήσουν ουσιαστικώς το
υλικόν.

Κελύφη, τα προσαρτήματά των και ο κατασκευα- 2Ι2.Ι2Ι
στικός των εξοπλισμός και εξοπλισμός σέρβις θα σχεδιά-
ζωνται κατά τρόπον ώστε να αντέχουν τουλάχιστον εις τις
στατικές και δυναμικές τάσεις εν κανονική μεταφορά άνευ
απωλείας του περιεχομένου.I/--

Η πίεσις επί της οποίας βασίζονται αι διαστά- 2Ι2.Ι22
σεις του κελύφους του δεξαμενο-CONTAINER δεν θα είναι μι-
κροτέρα της υπολογισθείσης πιέσεως, αλλά αι τάσεις αι ανα-
φερόμεναι στο περιθώριο 2Ι2.Ι2Ι θά λαμβάνωνται επίσης
υπόψη.

Εκτός οσάκις ειδικοί όροι για τις διάφορες 2Ι2.Ι23
κλάσεις προβλέπουν άλλως, οι παρακάτω κατώτατοι όροι θα
λαμβάνωνται υπόψη κατά την σχεδίαση των κελύφων:-

(Ι) Το κέλυφος δεξαμενο-CONTAINER εκκενουμένου
δια βαρύτητος προοριζομένου για τη μεταφορά υλών εχουσών
εις 50°C ολικήν πίεσιν (π.χ. πίεσιν ατμού πλέον, τυχόν,

I/ Εάν υπάρχουν απαερωτικαί οπαί, τούτο δεν θα ισχύει για ποσότητες αερίου που διαφεύγουν μέσω αυτών.

μερικής πιέσεως αδρανών αερίων) όχι άνω των I.I KG/CM^2 2I2.I23
(απόλυτον) θα σχεδιάζεται για πίεση δοκιμής δύο φορές
τη στατική πίεση του υπό μεταφοράν υγρού, αλλά όχι κάτω
του διπλασίου της στατικής πιέσεως του ύδατος·

(2) Το κέλυφος δεξαμενο-CONTAINER, πληρώσεως και
εκκενώσεως δια πιέσεως, προοριζομένου για τη μεταφορά υ-
λών εχουσών εις 50°C ολικήν πίεσιν (τ.έ. πίεσιν ατμού
πλέον, τυχόν, μερικής πιέσεως αδρανών αερίων) όχι άνω των
I.I KG/CM^2 (απόλυτον) θα σχεδιάζεται για πίεση δοκιμής
ίσην προς I.3 φορές την πίεση πληρώσεως ή εκκενώσεως·

(3) Το κέλυφος δεξαμενο-CONTAINER -οιουδήποτε
συστήματος πληρώσεως ή εκκενώσεως- προοριζομένου για τη
μεταφορά υλών εχουσών εις 50°C ολικήν πίεσιν (τ.έ. πίεσιν
ατμού πλέο, τυχόν, μερικής πιέσεως αδρανών αερίων) όχι
κάτω των I.I και όχι άνω των I.75 KG/CM^2 (απόλυτον) θα
σχεδιάζεται για πίεση δοκιμής τουλάχιστον I.5 KG/CM^2
(πίεσιν θλιβομέτρου), ή I.3 φορές την πίεσιν πληρώσεως ή
εκκενώσεως εάν η πίεσις πληρώσεως ή εκκενώσεως είναι υψη-
λότερη·

(4) Το κέλυφος δεξαμεο-CONTAINER -οιουδήποτε
συστήματος πληρώσεως ή εκκενώσεως- προοριζομένου για τη
μεταφορά υλών εχουσών εις 50°C πλικήν πίεσιν (τ.ξ. πίεσιν
ατμού πλέον, τυχόν, μερικής πιέσεως αδρανών αερίων) άνω
των I.75 KG/CM^2 (απόλυτον) θα σχεδιάζεται για πίεση δοκι-
μής ίσην προς την υψηλοτέραν των παρακάτω δύο πιέσεων:
I.5 φορές την ολικήν πίεσιν εις 50°C, μείον I KG/CM^2, επι-
φυλασσομένης κατωτάτης πιέσεως 4 KG/CM^2 (πίεση θλιβομέτρου)·

και Ι.3 φορές την πίεσιν πληρώσεως ή εκπενώσεως.

Δεξαμενο-CONTAINERS προοριζόμενα να περιέχουν 2Ι2.Ι24
ωρισμένες επικίνδυνες ύλες θα είναι εφοδιασμένα με πρόσθετη προστασία, η οποία μπορεί να πάρει την μορφήν προσθέτου πάχους του κελύφους (του τοιούτου προσθέτου πάχους καθοριζομένου υπό το φώς των εγγενών κινδύνων των περί ων πρόκειται υλών· βλέπε τις σχετικές κλάσεις) ή ενός προστατευτικού μηχανισμού.

Εις την υπολογισθείσαν πίεσιν ή την πίεσιν δο- 2Ι2.Ι25
κιμής, οιαδήποτε τούτων είναι υψηλοτέρα, η τάσις σ (σίγμα) εις το σημείον της μεγαλυτέρας τάσεως του κελύφους θα συμφωνεί με τα εκ του υλικού εξαρτώμενα όρια τα προβλεπόμενα κατωτέρω. Επιπροσθέτως, κατά την επιλογήν του υλικού και τον καθορισμόν του πάχους του τοιχώματος, θα λαμβάνωνται υπόψη αι ανώτατες και κατώτατες θερμοκρασίες λειτουργίας, με ειδική αναφορά εις τον κίνδυνον θραύσεως.

(Ι) Για μέταλλα και κράματα παρουσιάζοντα σαφώς ορισμένον σημείον αντοχής ή χαρακτηριζόμενα δι' εγγυημένου συμβατικού κρισίμου σημείου ελαστικότητος Rε (γενικώς 0.2 εφα. εκατόν της υπολειμματικής επιμηκύνσεως):

(α) Οσάκις ο λόγος Rε/Rμ δεν είναι μεγαλύτερος του 0.66 (Rε = εμφανές κρίσιμον σημείον ελαστικότητος ή 0.2 εφα εκατόν τάσις δοκιμής· Rμ = εγγυημένη κατωτάτη αντοχή εις εφελκυσμόν)

$$\sigma \leqslant 0.75\ R\varepsilon$$

(β) Οσάκις ο λόγος Rε/Rμ υπερβαίνει το D.66 2Ι2.Ι25 (Συνεχίζεται)

$$\sigma \leqslant 0.5\ R\mu$$

(2) Για μέταλλα και κράματα μη παρουσιάζοντα εμφανές κρίσιμον σημείον ελαστικότητος και χαρακτηριζόμενα από εγγυημένην κατάτάτην αντοχήν εις εφελκυσμόν Rμ:

$$\sigma \leqslant 0.43\ R\mu$$

(3) Η επιμήκυνσις εις ρήγμα (θραύσιν), 2/ τα εκατό δεν θα είναι μικροτέρα των $\frac{1,000}{R\mu}$, αλλά δεν θα είναι μικροτέρα του 20 τα εκατό στη περίπτωση χάλυβος και όχι μικροτέρα του Ι2 τα εκατό στη περίπτωση κραμάτων αλουμινίου.

Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά ευφλέκτων υγρών/υλών με σημείον αναφλέξεως όχι μεγαλύτερο των 55°C και για τη μεταφορά ευφλέκτων αερίων θα είναι ικανά γειωθούν ηλεκτρικώς. 2Ι2.Ι26

Δεξαμενο-CONTAINERS θα είναι ικανά να απορροφούν τις δυνάμεις τις οριζόμενες στη παράγραφο (Ι) και το πάχος του τοιχώματος των κελυφων θα είναι ως προβλέπεται στις παραγράφους (2) - (4) κατωτέρω. 2Ι2.Ι27

2/ Τα δείγματα τα χρησιμοποιούμενα γιά τον καθορισμόν της επιμηκύνσεως θραύσεως θα λαμβάνωνται εγκαρσίως της κατευθύνσεως του ρολλαρίσματος και θα ασφαλίζωνται κατά τρόπον ώστε:

$$L\ o = 5\ \delta$$

όπου L o = μήκος του δείγματος προ της δοκιμής· και

δ = διάμετρος

(1) Δεξαμενο-CONTAINERS και οι προσδέσεις τους 212.I27
θα είναι ικανά υπό το ανώτατο επιτρεπτό φορτίο να απορροφούν τις παρακάτω δυνάμεις·

- προς την κατεύθυνση του ταξειδίου: το διπλάσιο του ολικού βάρους·
- οριζοντίως σε ορθές γωνίες προς τη κατεύθυνση του ταξειδίου: το ολικό βάρος· (οσάκις η κατεύθυνση του ταξειδίου δεν καθορίζεται σαφώς, το ανώτατο επιτρεπτό φορτίο θα είναι δύο φορές το ολικό βάρος)·
- κατακορύφως προς τα άνω: το ολικόν βάρος· και
- κατακορύφως προς τα κάτω: δύο φορές το ολικό βάρος.

Υπό εκάστην των ανωτέρω δυνάμεων οι τηρηθησόμενοι συντελεσταί ασφαλείας θα είναι οι παρακάτω:

- για μέταλλα έχοντα σαφως-ορισμένον σημείον υποχωρήσεως: συντελεστήν ασφαλείας I.5 εν σχέσει με το εμφανές κρίσιμον σημείον ελαστικότητος· ή για μέταλλα έχοντα μη-σαφώς-ορισμένον σημείον υποχωρήσεως: συντελεστήν ασφαλείας I.5 εν σχέσει με την εγγυημένην 0.2-τοις εκατό τάσιν δοκιμής.

(2) Το κατώτατον πάχος του τοιχώματος του βυτίου (βαρελίου του κελύφους θα υπολογίζεται με τον παρακάτω τύπον:-

$$\varepsilon = \frac{P \times D}{200 \text{ χσ μμ (χιλ.)}}$$

όπου P = υπολογισθείσα πίεσις ή πίεση δοκιμής, οποιαδήποτε τούτων είναι η υψηλοτέρα σε KG/CM^2·

D = εσωτερική διάμετρος του κελύφους σε MM (μμ)· και

σ = επιτρεπτή τάσις ως ορίζεται στο περιθώριο 2Ι2.205, παράγρ. Ι(α), Ι(β) και 2, σε KG/MM^2. 2Ι2.Ι27 (Συνεχίζεται)

Το πάχος εν ουδεμιά περιπτώσει θα είναι μικρότερο του περιγραφομένου στις παραγράφους (3) και (4) κατωτέρω.

(3) Τα βυτία (βαρέλια) και άκρα κελύφων διαμέτρου όχι άνω των Ι.80μ δεν θα έχουν πάχος μικρότερον των 5 MM (χιλ.) εάν από μαλακό χάλυβα 3/ (ως ορίζεται στο περιθώριο 2Ι2.Ι25) ή ισοδύναμον πάχος εάν από άλλο μέταλλο. Όπου η διάμετρος υπερβαίνει τα Ι.80μ το πάχος αυτό θα αυξάνεται μέχρι 6 MM (χιλ.) εάν η δεξαμενή είναι από μαλακό χάλυβα 3/ (ως ορίζεται στο περιθώριο 2Ι2.205) ή μέχρι ισοδυνάμου πάχους εάν η δεξαμενή είναι από άλλο μέταλλο. Οποιοδήποτε κι' αν χρησιμοποιηθεί μέταλλο, το πάχος του τοιχώματος του κελύφους εν ουδεμιά περιπτώσει θα είναι μικρότερο των 3 MM (χιλ.).

(4) Οσάκις πρόσθετη προστασία του κελύφους κατά ζημιών παρέχεται, η αρμόδια αρχή μπορεί να επιτρέψει τα προλεχθέντα πάχη να μειωθούν κατά την αναλογίαν (ανάλογα) της παρεχομένης προστασίας· εν τούτοις, τα λεχθέντα πάχη δεν θα είναι μικρότερα των 3 MM (χιλ.) στη περίπτωση μαλακού χάλυβα 3/, ή του ισοδυνάμου πάχους στη περίπτωση άλλων μετάλλων, για κελύφη διαμέτρου όχι μεγαλυτέρας των

3/ Δια του όρου "μαλακός χάλυβας" νοείται ο χάλυβας ο οποίος έχει αντοχήν θραύσεως μεταξύ 37 και 44 KG/MM^2.

Ι.80 μ. Για κελύφη με διάμετρο υπερβαίνουσα τα Ι.80 μ. το προλεχθέν κατώτατον πάχος θα αυξάνεται εις 4 ΜΜ (χιλ.) προκειμένου περί μαλακού χάλυβα 3/και σε ισοδύναμο πάχος προκειμένου περί άλλου μετάλλου. 2Ι2.Ι27 (Συνεχίζεται)

Δεξαμενο-CONTAINERS θα μεταφέρωνται μόνον επί οχημάτων των οποίων οι προσδέσεις είναι ικανές, υπό το ανώτατον επιτρεπτόν φορτίον επί των δεξαμενο-CONTAINERS, να απορροφήσουν τις δυνάμεις τις οριζόμενες στο παραπάνω περιθώριο 2Ι2.Ι27 (Ι). 2Ι2.Ι28

2Ι2.Ι29

Άρθρο 3

Είδη Εξοπλισμού

Τα είδη εξοπλισμού θα είναι έτσι τακτοποιημένα ώστε να προστατεύωνται κατά του κινδύνου να υποστούν ζημίας διαρκούσης της μεταφοράς και του χειρισμού. Εάν η σύνδεση μεταξύ του πλαισίου και του κελύφους επιτρέπει σχετικήν μετακίνησιν μεταξύ των δύο αυτών υπο-συγκροτημάτων, τα είδη εξοπλισμού θα είναι έτσι προσδεδεμένα ώστε να επιτρέπεται τέτοια μετακίνησις χωρίς τον κίνδυνο να υποστούν ζημίαν τα λειτουργούντα εξαρτήματα. 2Ι2.Ι30

Τα είδη εξοπλισμού θα παρουσιάζουν κατάλληλον βαθμόν ασφαλείας συγκρινόμενον με εκείνον του κελύφους.

Επιπροσθέτως, ειδικοί όροι ισχύοντες για δεξαμενο-CONTAINERS εκκενώσεως εκ του πυθμένος προβλέπονται στο παρακάτω περιθώριο 2Ι2.Ι3Ι.

Κάθε δεξαμενο-CONTAINER εκκενώσεως εκ του πυθμένος, και στη περίπτωση διαμερισμάτων του δεξαμενο-CONTAINER 2Ι2.Ι3Ι

κάθε διαμέρισμα, θα είναι εξοπλισμένο με δύο αμοιβαία ανεξάρτητους μηχανισμούς κλεισίματος, του πρώτου όντος ενός εσωτερικού ατμοφράκτου 4/ τοποθετημένου απ' ευθείας στο κέλυφος και του δευτέρου όντος ενός υδαροφράκτου ή ετέρου ισοδυνάμου μηχανισμού 5/ συναρμολογημένους σε σειρά, ένας σε κάθε άκρον του σωλήνα εκκενώσεως. 2I2.I3I (Συνεχίζεται)

Ο εσωτερικός ατμοφράκτης θα τίθεται σε λειτουργία από πάνω ή από κάτω. Εάν είναι δυνατόν, - η ρύθμισις -ανοικτός ή κλειστός- του εσωτερικού ατμοφράκτου θα είναι ικανή να επαληθεύεται από το έδαφος σε αμφότερες τις περιπτώσεις. Οι μηχανισμοί ελέγχου του εσωτερικού ατμοφράκτου θα είναι έτσι σχεδιασμένοι ώστε να αποφεύγεται οποιοδήποτε ακούσιο άνοιγμα από πρόσκρουση ή απρόσεκτη ενέργεια.

Ο εσωτερικός μηχανισμός κλεισίματος θα εξακολουθεί να λειτουργεί σε περίπτωση ζημίας του εξωτερικού μηχανισμού ελέγχου. Για να αποφευχθεί οποιαδήποτε απώλεια του περιεχομένου στη περίπτωση ζημίας των εξωτερικών εξαρτημάτων εκκενώσεως (σωλήνες, πλευρικοί μηχανισμοί κλεισίματος), ο εσωτερικός ατμοφράκτης και η έδρα του θα προστατεύωνται κατά του κινδύνου να στρεβλωθούν υπό εξωτερικών

4/ Εκτός όπως ενδέχεται να προβλέπεται άλλως στη περίπτωση κελυφών προοριζομένων για τη μεταφορά ωρισμένων δυναμένων να κρυσταλλοποιηθούν ή υψηλά γλοιωδών υλών.

5/ Προκειμένου περί δεξαμενο-CONTAINERS χωρητικότητας μικροτέρας των I μ^3, ο υδατοφράκτης ή άλλος ισοδύναμος μηχανισμός μπορεί να αντικατασταθεί από μία τυφλή φλάντζα.

τάσεων ή θα είναι έτσι σχεδιασμένα ώστε να ανθίστανται. 2I2.I3I
Οι μηχανισμοί πληρώσεως και εκκενώσεως (συμπεριλαμβανο- (Συνεχίζε-
μένων των φλαντζών ή ελικοτετμημένων πωμάτων) και/(τυχόν) ται)
προστατευτικά καλύμματα θα είναι σε θέση να ασφαλίζωνται
κατά οποιουδήποτε ακούσιου ανοίγματος.

Το δεξαμενο-CONTAINER ή έκαστο των διαμερισμά- 2I2.I32
των, εντός οσάκις προορίζεται για τη μεταφορά βαθέως
κατεψυγμένων αερίων, θα είναι εφοδιασμένο με άνοιγμα
αρκετά μεγάλο ώστε να μπορεί το δεξαμενο-CONTAINER ή δια-
μέρισμα να επιθεωρηθεί.

Δεξαμενο-CONTAINER προοριζόμενο για τη μετα- 2I2.I33
φορά υγρών εχόντων πίεσιν ατμού όχι μεγαλυτέραν των
I.I KG/CM^2 (απόλυτον) εις 50^{o}C θα έχει σύστημα εξαερι-
σμού και μηχανισμόν ασφαλείας που να εμποδίζουν να χυθεί
έξω από το κέλυφος το περιεχόμενον εάν το δεξαμενο-
CONTAINER αναποδογυρίσει, ή θα είναι σύμφωνον προς τις
παρακάτω διατάξεις του περιθωρίου 2I2.I34 ή 2I2.I35.

Δεξαμενο-CONTAINER προοριζόμενο για τη μετα- 2I2.I34
φορά υγρών εχόντων πίεσιν ατμού όχι μικροτέραν των I.I
και όχι μεγαλυτέραν των I.75 KG/CM^2 (απόλυτον) εις
50^{o}C θα έχει την βαλβίδα ασφαλείας (ασφαλιστικόν επι-
στόμιον) ρυθμισμένην όχι κάτω των I.5 KG/CM^2 (πίεσιν
θλιβομέτρου) και κατά τρόπον ώστε να είναι πλήρως ανοι-
κτή σε πίεση μη υπερβαίνουσα τη πίεση δοκιμής· ή θα συμ-
μορφούται προς τις διατάξεις του περιθωρίου 2I2.I35.

Δεξαμενο-CONTAINER προοριζόμενο για τη μετα- 2I2.I35
φορά υγρών εχόντων πίεσιν ατμού όχι μικροτέραν των I.75

και οχι μεγαλυτέραν των 3 KG/CM^2 (απόλυτον) εις 50°C θα 2Ι2.Ι35
είναι εξοπλισμένον με βαλβίδα ασφάλειας ρυθμισμένην σε πίεση θλι- (Συνεχί-
βομέτρου όχι μικροτέραν των 3 KG/CM^2 και κατά τρόπο ώστε ζεται)
να είναι πλήρως ανοικτή σε πίεση μη υπερβαίνουσα τη πίεση
δοκιμής· ή θα έχει ερμητικά στεγανοποιηθεί.

Κινούμενα εξαρτήματα όπως καλύμματα, κλεισί- 2Ι2.Ι36
ματα, κλπ., τα οποία ενδέχεται να τριβούν ή έλθουν σε επι-
κρουστικήν επαφήν με δεξαμενο-CONTAINERS εξ αλουμινίου
προοριζόμενα για τη μεταφορά ευφλέκτων υλών εχουσών ση-
μείον αναφλέξεως όχι άνω των 55°C ή για τη μεταφορά ευφλέ-
κτων αερίων δεν θα κατασκευάζωνται από απροστάτευτον δυ-
νάμενον να διαβρωθεί χάλυβα.

2Ι2.Ι37-
2Ι2.Ι39

Άρθρο 4

Έγκριση Τύπου

Η αρμόδια αρχή ή υπηρεσία εντεταλμένη υπό της 2Ι2.Ι40
εν λόγω αρχής θα εκδώσει σε σχέση με κάθε νέον τύπον
δεξαμενο-CONTAINER πιστοποιητικόν βεβαιούν ότι το πρωτό-
τυπον δεξαμενο-CONTAINER, συμπεριλαμβανομένων των προσδέ-
σεων, που επιθεώρησε είναι κατάλληλον για τον σκοπόν για
τον οποίον προορίζεται και πληροί τις διατάξεις κατασκευής
του άρθρου 2 και τις περί εξοπλισμού διατάξεις του άρθρου 3.
Εάν τα δεξαμενο-CONTAINERS κατασκευάζωνται εις συνεχείας
χωρίς τροποποιήσεις, η έγκρισις αυτή θα ισχύει για όλες
τις συνέ-χειες. Τα αποτελέσματα του ελέγχου, οι ύλες για
τη μεταφορά των οποίων εγκρίνεται το δεξαμενο-CONTAINER,

και ο αριθμός της εγκρίσεως θα καθορίζωνται στην έκθεση του ελέγχου. Ο αριθμός της εγκρίσεως θα αποτελείται από το διακριτικόν χαρακτηριστικόν (ένδειξιν) 6/ του Κράτους στην επικράτεια του οποίου εδόθη η έγκριση, και από αριθμόν μητρώου. 2Ι2.Ι40 (Συνεχίζεται)

2Ι2.Ι4Ι-
2Ι2.Ι49

Άρθρο 5

Δοκιμές (Έλεγχοι)

Τα κελύφη και τα είδη εξοπλισμού των είτε ομού είτε χωριστά θα υποβάλωνται σε αρχική επιθεώρηση προτού τεθούν σε υπηρεσία και έπειτα συνέχεια θα υποβάλλωνται σε περιοδικές επιθεωρήσεις. Η αρχική επιθεώρηση θα περιλαμβάνει έλεγχο των χαρακτηριστικών του σχεδίου, εσωτερικήν και εξωτερικήν εξέταση και δοκιμήν (έλεγχον) υδραυλικής πιέσεως. Εάν τα κελύφη και τα είδη εξοπλισμού των ελεγχθούν χωριστά μετά την συναρμολόγησίν των θα υποβάλωνται από κοινού σε δοκιμήν διαρροής. Οι περιοδικές επιθεωρήσεις θα περιλαμβάνουν εξωτερικήν και εσωτερικήν εξέτασιν και, ως γενικόν κανόνα, έλεγχον υδραυλικής πιέσεως. Η επικάλυψη για θερμομόνωση και τα παρόμοια θα αφαιρούνται μόνον καθ'ό μέτρον απαιτείται για αξιόπιστη εκτίμηση των χαρακτηριστικών του δεξαμενο-CONTAINER. Οι αρχικοί και περιοδικοί έλεγχοι πιέσεως θα διεξάγωνται, από ειδικόν εγκριθέντα από την αρμόδια αρχή, στη πίεση δοκιμής 2Ι2.Ι50

6/ Το διακριτικόν χαρακτηριστικόν (ένδειξιν) προς χρήσιν σε διεθνή κυκλοφορία το προβλεπόμενον υπό της Συμβάσεως Οδικής Κυκλοφορίας (Βιέννη, 1968).

την σημειουμένην στη πλάκα των στοιχείων του δεξαμενο- 2Ι2.Ι50
CONTAINER, εκτός σεπεριπτώσεις στις οποίες χαμηλές πιέ- (Συνεχίζεται)
σεις δοκιμής εξουσιοδοτούνται για τους περιοδικούς ελέγχους. Σε ειδικές περιπτώσεις, και από συμφώνου μετά της αρμοδίας αρχής, ο έλεγχος της υδραυλικής πιέσεως μπορεί να αντικατασταθεί με έλεγχον πιέσεως χρησιμοποιούντα άλλο υγρό ή αέριο.

Τα δεξαμενο-CONTAINERS, προτού τεθούν σε υπη- 2Ι2.Ι5Ι
ρεσία και μεταταύτα σε χρονικά διαστήματα μη υπερβαίνοντα τα πέντε έτη, θα ελέγχωνται συμφώνως προς τις διατάξεις του ανωτέρω περιθωρίου 2Ι2.Ι50. Προτού τα δεξαμενο-CONTAINERS τεθούν σε υπηρεσία, και μεταταύτα σε χρονικά διαστήματα μη υπερβαίνοντα τα δυόμισυ έτη, όλος ο εξοπλισμός θα ελέγχεται για στεγανότητα και ικανοποιητική λειτουργία.

Πιστοποιητικά εικονίζοντα τα αποτελέσματα των 2Ι2.Ι52
ελέγχων αυτών θα εκδίδωνται από ειδικόν εγκριθέντα από την αρμόδια αρχή.

2Ι2.Ι53-
2Ι2.Ι59

Άρθρο 6

Μαρκάρισμα (Σήμανσις)

Κάθε δεξαμενο-CONTAINER θα είναι εφοδιασμένο 2Ι2.Ι60
με ανθεκτική στη διάβρωση μεταλλική πλάκα μονίμως τοποθετημένη στο κέλυφος σε μέρος ευχερώς προσιτό για επιθεώρηση. Τα παρακάτω στοιχεία τουλάχιστον θα μαρκάρωνται στη πλάκα δια σφραγίσεως ή οιασδήποτε άλλης όμοιας μεθόδου. Τα στοιχεία μπορούν να χαραχθούν απ'ευθείας πάνω στα

τοιχώματα αυτού τούτου του κελύφους εάν τα τοιχώματα εί- 21.2.160
ναι έτσι ενισχυμένα ώστε να μην εξασθενείται η αντοχή του (Συνεχίζεται)
κελύφους.

- Αριθμός Εγκρίσεως·
- Όνομα ή σήμα Κατασκευαστού·
- Αύξων αριθμός Κατασκευαστού·
- Έτος κατασκευής·
- Πίεση δοκιμής σε KG/CM^2 (πίεση θλιβομέτρου)·
- Χωρητικότητα σε λίτρες· στη περίπτωση δεξαμενο-CONTAINERS πολλαπλών-στοιχείων: η χωρητικότητα κάθε στοιχείου·
- Θερμοκρασία σχεδίου (μόνον εάν άνω των 50°C ή κάτω των 20°C)·
- Μήνας και έτος αρχικού ελέγχου και πλέον προσφάτου περιοδικού ελέγχου· και
- Σφραγίδα του ειδικού που έκαμε τους ελέγχους.

Αναφορικώς με δεξαμενο-CONTAINERS πληρώσεως ή εκκενώσεως δια πιέσεως η επιτρεπομένη ανωτάτη πίεση λειτουργίας θα καταχωρείται επιπροσθέτως.

Τα παρακάτω στοιχεία θα είναι γραμμένα είτε πάνω σ'αυτό τούτο το δεξαμενο-CONTAINER ή σε πινακίδα:-

- Τα ονόματα του ιδιοκτήτου ή και του χειριστού·
- Η χωρητικότητα του κελύφους·
- Το βάρος άνευ φορτίου (ντάρα)·
- Το ανώτατο επιτρεπτό βάρος εμφόρτου δεξαμενο-CONTAINER· και
- Η ονομασία της μεταφερομένης ύλης. 7/

Επιπροσθέτως, τα δεξαμενο-CONTAINERS θα φέρουν τις προβλεπόμενες ετικέτες κινδύνου.

2I2.I62-
2I2.I69

Άρθρο 7

Λειτουργία

Διαρκούσης της μεταφοράς, τα δεξαμενο-CONTAINERS 2I2.I70
θα είναι στερεωμένα πάνω στο μεταφέρον αυτά όχημα κατά τέτοιο τρόπο ώστε να προστατεύωνται καταλλήλως από τα εξαρτήματα του μεταφέροντος οχήματος ή αυτού τούτου του δεξαμενο-CONTAINER κατά πλευρικής και μετωπικής προύσεως και κατά ανατροπής (αναποδογυρίσματος).8/ Εάν τα κελύφη και ο εξοπλισμός σέρβις είναι έτσι κατασκευασμένα ώστε να ανθίστανται στη πρόσκρουση ή ανατροπή δεν χρειάζεται να προστατευθούν κατά τον τρόπον αυτόν.

7/ Συλλογική περιγραφή ή χαρακτηριστικός αριθμός μπορεί να δοθεί αντι της ονομασίας της ύλης.

8/ Παραδείγματα προστασίας των κελυφων:

I.- Προστασία κατά της πλευρικής προσκρούσεως μπορεί π.χ. να συνίσταται σε επιμήκεις ράβδους προστασίας του κελύφους και στις δύο πλευρές εις το ύψος της μεσαίας γραμμής.

2.- Προστασία κατά της ανατροπής μπορεί π.χ. να συνίστανται σε ενισχυτικούς δακτυλίους ή ράβδους στερεωμένες εγκαρσίως εν σχέσει με το πλαίσιο.

3.- Προστασία κατά της οπισθίας προσκρούσεως μπορεί π.χ. να συνίστανται από προφυλακτήρα ή πλαίσιο.

Τα δεξαμενο-CONTAINERS δεν θα φορτώνωνται με επι- 2Ι2.Ι7Ι
κίνδυνες ύλες πλην εκείνων για τις οποίες ενεκρίθη η μεταφορά.

Οι παρακάτω βαθμοί πληρώσεως δεν θα υπερβαίνουν 2Ι2.Ι72
σε δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά υγρών σε θερμοκρασίες περιβάλλοντος:-

(Ι) (α) Εύφλεκτες ύλες που δεν παρουσιάζουν προσθέτους κινδύνους (π.χ. που δεν είναι τοξικές ή διαβρωτικές) σε δεξαμενο-CONTAINERS με σύστημα εξαερισμού και με ή χωρίς βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια):

βαθμός πληρώσεως $\frac{100}{1 + \alpha(50-T_F)}$ ή $\frac{100}{1 + 35\alpha}$ % χωρητικότητος·

(β) Τοξικές ή διαβρωτικές ύλες, είτε παρουσιάζουν είτε δεν παρουσιάζουν κίνδυνον ἀναφλέξεως, σε δεξαμενο-CONTAINERS με σύστημα εξαερισμού και με ή χωρίς βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια):

βαθμός πληρώσεως $\frac{98}{1 + \alpha(50-T_F)}$ ή $\frac{98}{1 + 35\alpha}$ % χωρητικότητος·

(γ) Εύφλεκτες ύλες χαμηλής-συμπυκνώσεως και χαμηλής συμπυκνώσεως οξέα και αλκαλικά διαλύματα σε κλειστά δεξαμενο-CONTAINERS:

βαθμός πληρώσεως $\frac{97}{1 + \alpha(50-T_F)}$ ή $\frac{97}{1 + 35\alpha}$ % χωρητικότητος·

(δ) Τοξικές ύλες υψηλής-συμπυκνώσεως και υψηλής συμπυκνώσεως οξέα και αλκαλικά διαλύματα σε κλειστά δεξαμενο-CONTAINERS:

βαθμός πληρώσεως $\frac{95}{1 + \alpha(50-T_F)}$ ή $\frac{95}{1 + 35\alpha}$ % χωρητικότητος.

(2) Στους τύπους αυτούς το α είναι ο μέσος συντε- 2I2.I72
λεστής κυβικής διαστολής του υγρού μεταξύ I5° και 50°C,
τ.έ. δι'ανωτάτην μεταβολήν της θερμοκρασίας των 35°C.

Το α υπολογίζεται με τον τύπον: $\frac{\delta_{I5} - \delta_{50}}{35 \times \delta_{50}}$

όπου δ_{I5} και δ_{50} είναι η πυκνότης τους υγρού στους I5°C
και 50°C αντιστοίχως. Το T_F είναι η μέση θερμοκρασία του
υγρού διαρκούσης της πληρώσεως.

(3) Οι διατάξεις του ανωτέρω περιθωρίου 2I2.I72 (I)
δεν θα ισχύουν για δεξαμενο-CONTAINERS το περιεχόμενον
των οποίων συντηρείται μέσω συσκευής θερμάνσεως σε θερμο-
κρασία άνω των 50°C διαρκούσης της μεταφοράς. Σε τέτοια
περίπτωση ο βαθμός πληρώσεως στο ξεκίνημα θα είναι τέτοιος
και η θερμοκρασία θα θα έχει έτσι ρυθμισθεί ώστε το δεξα-
μενο-CONTAINER να μην είναι γεμάτο πάνω από το 95 6τα
εκατό της χωρητικότητός του οποτεδήποτε διαρκούσης της
μεταφοράς.

Εάν τα κελύφη δεξαμενο-CONTAINERS προοριζομέ- 2I2.I73
νων για τη μεταφορά υγρών 9/ δεν χωρίζονται με χωρίσματα
ή πλάκες για απότομο τίναγμα σε τμήματα χωρητικότητας άνω
των 5.000 λιτρών, τα λεχθέντα κελύφη θα πληρούνται μέχρι
όχι κάτω του 80 6τα εκατό της χωρητικότητάς των εκτός
εάν είναι πρακτικώς άδεια.

Τα δεξαμενο-CONTAINERS θα κλείουν κατά τρόπον 2I2.I74
ώστε το περιεχόμενον να μη μπορεί να τρέξει προς τα έξω
ανεξέλεγκτο.

Οσάκις πολλά συστήματα κλεισίματος υπάρχουν 2I2.I75
σε σειρά, το πλησιέστερο προς την μεταφερομένην ύλην θα

κλείεται πρώτο.

Κανένα υπόλειμμα της μεταφερομένης επικινδύνου ουσίας θα κολλάει στο εξωτερικό του δεξαμενο-CONTAINER μετά την εκκένωση της μεταφοράς. 2Ι2.Ι76

Για να γίνουν δεκτά για μεταφορά, άδεια δεξαμενο-CONTAINERS θα κλείνωνται κατά τον αυτόν τρόπον και θα είναι του αυτού βαθμού στεγανά σαν να ήσαν πλήρη. 2Ι2.Ι77

2Ι2.Ι78-
2Ι2.Ι79

Άρθρο 8

Μεταβατικά Μέτρα

(Ι) Δεξαμενο-CONTAINERS χωρητικότητος κάτω των Ι.000 λιτρών κατασκευασμένα προτού τεθούν σε ισχύ οι παρούσες διατάξεις και μη συμμορφούμενα προς αυτές μπορούν, εάν κατεσκευάσθησαν σύμφωνα με τις διατάξεις της ADR και RID τις διέπουσες τα δοχεία (RECEPTABLES), να χρησιμοποιηθούν δια χρονικήν περίοδον τριών ετών αμέσως μετά την θέσιν σε ισχύ των διατάξεων αυτών για τη μεταφορά υγρών, αερίωδών, εις κόνιν ή κόκκους υλών. 2Ι2.Ι80

(2) Δεξαμενο-CONTAINERS χωρητικότητας όχι μικροτέρας των Ι.000 λιτρών μπορούν, με την έγκριση της αρμόδιας αρχής των χωρών εις τις οποίες πρόκειται να μεταφερθούν, να χρησιμοποιηθούν για χρονική περίοδο πέντε ετών αμέσως μετά την θέσιν σε ισχύ των διατάξεων αυτών για τη μεταφορά υγρών, αεριωδών, εις κόνιν ή κόκκους υλών.

2Ι2.Ι8Ι

2Ι2.Ι99

Κεφάλαιο ΙΙ

ΕΙΔΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΣΥΜΠΛΗΡΟΥΣΑΙ Η ΤΡΟΠΟΠΟΙΟΥΣΑΙ ΤΙΣ ΔΙΑΤΑΞΕΙΣ ΤΟΥ ΚΕΦΑΛΑΙΟΥ Ι

ΚΛΑΣΙΣ 2

Αέρια: πεπιεσμένα, υγροποιημένα ή διαλυόμενα υπό πίεση

Άρθρο Ι

Γενικά· αντικείμενο· ορισμοί

2Ι2.200-
2Ι2.2Ι9

Άρθρο 2

Κατασκευή

Τα κελύφη δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά υλών των Ι° έως 6° και 9° δεν θα κατασκευάζωνται από αλουμίνιο ή κράμα αλουμινίου. 2Ι2.220

Οι διατάξεις των περιθωρίων 2Ι4.250 έως 2Ι4.285, της Προσθήκης Β.Ιδ, θα ισχύουν για τα υλικά και τη κατασκευή των κελυφων των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά αερίων της 7° και 8°. 2Ι2.22Ι

2Ι2.222-
2Ι2.229

9/ Ύλες των οποίων ο χρόνος εκροής στους 20°C από πώμα DIN με οπήν 4 MM(χιλ.) είναι μικρότερος των Ι0 λεπτών (αντιστοιχών σε χρόνον εκροής κάτω των 96 δευτ. στους 20°C από πώμα FORD No.4, ή κάτω των 2.680 CENTISTOKES) θα θεωρούνται ότι είνα υγρά για την εφαρμογή της παρούσας διατάξεως.

Άρθρο 3

Είδη Εξοπλισμού

Επιπροσθέτως του ότι θα εξοπλισθούν με τους μηχα- 2Ι2.230
νισμούς τους προβλεπόμενους στο περιθώριο 2Ι3.Ι3Ι, οι σωλήνες εκκενώσεως των κελυφων του δεξαμενο-CONTAINER θα είναι ικανοί να κλείνουν με τυφλές φλάντζες ή με κάποιο άλλο εξ ίσου αξιόπιστο μηχανισμό.

Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομέ- 2Ι2.23Ι
νων για τη μεταφορά υγροποιημένων αερίων μπορούν να εξοπλισθούν, επιπροσθέτως των οπών πληρώσεως, εκκενώσεως και εξισώσεως της πιέσεως του αερίου, με ανοίγματα εις τα οποία να μπορούν να τοποθετηθούν δείκτες (θλιβόμετρα), θερμόμετρα και μανόμετρα.

Οι βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια) θα 2Ι2.232
πληρούν τους όρους τους προβλεπομένους στις παρακάτω παραγράφους (Ι), (2) και (3).

(Ι) Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά των αερίων των Ι° έως 6° και 9° μπορούν να εφοδιασθούν με όχι περισσοτέρας των δύο βαλβίδων ασφαλείας (αφαλιστικών επιστομίων). Οι βαλβίδες ασφαλείας θα είναι ικανές να ανοίγουν αυτομάτως υπό πίεσιν από 0.9 έως Ι.0 φορές τη πίεση δοκιμής του κελύφους εις το οποίον έχουν τοποθετηθεί. Θα είναι επιπροσθέτως κατασκευασμένες κατά τέτοιο τρόπο ώστε σε περίπτωση ολικής υπό του πυρός καταβροχθίσεως (FIRE ENGULFMENT) η πίεση στο εσωτερικό του κελύφους να μην υπερβαίνει τη πίεση δοκιμής. Θα είναι τέτοιου τύπου ώστε να ανθίστανται στις δυναμικές τάσεις,

συμπεριλαμβανομένης της αποτόμου ροής του υγρού. Η χρή- 2Ι2.232
σις ασφαλιστικών βαλβίδων απλής βαρύτητος (DEADWEIGHT (Συνεχίζε-
VALVES) ή αντιβάρου (COUNTERWEIGT VALVES) απαγορεύεται. ται)

Τα κελύφη δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά αερίων των Ι° έως 9° επιβλαβών για τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηριάσεως ΙΟ/ δεν θα έχουν βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια) εκτός εάν των βαλβίδων ασφαλείας προηγείται δίσκος εκρήξεως (BURSTING DISC). Στη δεύτερη περίπτωση η διευθέτησις του δίσκου εκρήξεως και της βαλβίδος ασφαλείας θα γίνεται κατά τρόπον ικανοποιούντα την αρμόδια αρχή.

(2) Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά αερίων των 7°(α) και 8°(α) τα οποία δεν είναι σε συνεχή επικοινωνία με τον έξω αέρα, και των προοριζομένων για τη μεταφορά των αερίων των 7°(β) και 8°(β) θα είναι εφοδιασμένα με δύο ανεξάρτητες βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια) η κάθε μία των οποίων θα είναι έτσι σχεδιασμένη ώστε να επιτρέπεται η εκκένωση των αερίων από το κέλυφος κατά τέτοιο τρόπο που η πίεση ουδέποτε να υπερβαίνει τη πίεση λειτουργίας την σημειουμένην στο δεξαμενο-CONTAINER περισσότερο από ΙΟ τοις εκατό .

Επιπροσθέτως, τα κελύφη των τοιούτων δεξαμενο-CONTAINERS μπορούν να εφοδιασθούν με δίσκους εκρήξεως σε σειρά μαζί με και προηγούμενοι των βαλβίδων ασφαλείας. Στη περίπτωση αυτή η διευθέτησις του δίσκου εκρήξεως και της βαλβίδος ασφαλείας θα γίνει κατά τρόπον ικανοποιούντα την αρμόδια αρχή.

(3) Οι βαλβίδες ασφαλείας (ασφαλιστικά εποστόμια) 2Ι2.232
των κελυφων των δεξαμενο-CONTAINERS των προοριζομένων (Συνεχίζεται)
για τη μεταφορά των αερίων των 7° και 8° θα είναι ικανά
να ανοίγουν στη πίεση λειτουργίας την σημειουμένην στο
δεξαμενο-CONTAINER. Θα είναι έτσι σχεδιασμένες ώστε να
λειτουργούν αλάνθαστα ακόμη και στη χαμηλώτερη θερμοκρα-
σία λειτουργίας. Το αξιόπιστον της λειτουργίας των στη
θερμοκρασία αυτή θα διαπιστούται και ελέγχεται είτε διά
δοκιμής εκάστης βαλβίδος είτε δια δοκιμής δείγματος βαλβί-
δας εκάστου τύπου.

Μία εσωτερική περιορίζουσα τη ροή βαλβίς ή 2Ι2.233
ισοδύναμος μηχανισμός θα εφαρμόζεται σε κάθε οπή διαμέ-
τρου άνω των Ι.5 ΜΜ (χιλ.) που θα φέρει το κέλυφος για τη
διέλευση των αερίων ή υγρών, πλην των οπών των φερουσών
τις βαλβίδες ασφαλείας.

Θερμομόνωσις. 2Ι2.234

(Ι) Εάν τα κελύφη των δεξαμενο-CONTAINERS των προο-
ριζομένων για τη μεταφορά των υγροποιημένων αερίων των 3°
έως 4° είναι εξοπλισμένα με θερμο-μόνωση, η μόνωση αυτή θα
υπόκειται στις ειδικές διατάξεις υπό στοιχείον (2) κατωτέρω

ΙΟ/ Αέρια χαρακτηριζόμενα δια του γράμματος "Τ" εις
την Κατάστασιν των υλών θεωρούνται αέρια επιβλαβή για τα
αναπνευστικά όργανα ή συνεπαγόμενα κίνδυνον δηλητηριάσεως.

είτε αυτή: 212.234

αποτελείται από προστατευτικό κατά του ηλίου κάλυμμα όχι λιγώτερο του άνω τρίτου αλλά όχι περισσότερο του άνω ημίσεος της επιφανείας του δεξαμενο-CONTAINER και χωρισμένο από το κέλυφος με διάστημα αέρος περίπου 4 CM διαγωνίως· είτε αποτελείται από πλήρη επένδυσιν (CLADDING), καταλλήλου πάχους, μονωτικών υλικών.

Η θερμομόνωση θα είναι έτσι σχεδιασμένη ώστε να μη εμποδίζεται η είσοδος στους μηχανισμούς πληρώσεως και εκκενώσεως.

(2) Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά 1,3-βουταδιένης (3°(γ)), ή μεθυλοβινυλιοαιθέρα, τριφθοροχλωροαιθυλένιο ή βρωμιούχο βινύλιο (3° (C T)), θα προστατεύωνται από προστατευτικό κατά του ηλίου κάλυμμα ως ορίζεται ανωτέρω.

(3) Τα κελύφη των δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά αερίων των 7° και 8° θα είναι θερμομονωμένα. Η θερμομόνωση θα προστατεύεται κατά της προσκρούσεως δια συνεχούς μεταλλικής επενδύσεως. Εάν το διάστημα μεταξύ του κελύφους και της μεταλλικής επενδύσεως είναι υπό κενόν (μόνωση κενού), η προστατευτική επένδυσις θα είναι έτσι σχεδιασμένη ώστε να ανθίσταται άνευ παραμορφώσεως σε εξωτερική πίεση τουλάχιστον 1 KG/CM^2 (πίεση θλιβομέτρου). Εάν η επένδυση είναι έτσι κλεισμένη ώστε να είναι αεριοστεγανή, θα προμηθευθεί μηχανισμός εμποδίζων οποιαδήποτε επικίνδυνον πίεσιν να αναπτυχθεί στο στρώμα της μονώσεως εν περιπτώσει μη επαρκούς αεριοστεγανότητος του κελύφους ή των ειδών εξο-

πλισμού αυτού. Ο μηχανισμός θα εμποδίζει την εισχώρηση υγρασίας στη θερμομονωτική επένδυση. 2Ι2.234 (Συνεχίζεται)

(4) Τα κελύφη των δεξαμενο-CONTAINERS των προορι-ζομένων για τη μεταφορά οξυγόνου (7° (α)), ή αέρος ή μιγμάτων οξυγόνου με άζωτον (8° (α)), δεν θα περιλαμβάνουν οιοδήποτε καύσιμον υλικόν είτε στη θερμομόνωση είτε στα μέσα προσκολλήσεως (συνδέσεως) στο πλαίσιο.

Στη περίπτωση δεξαμενο-CONTAINERS πολλαπλών στοιχείων, θα πληρούνται οι κάτωθι όροι. 2Ι2.235

(Ι) Εάν ένα από τα στοιχεία του δεξαμενο-CONTAINER πολλαπλών στοιχείων είναι συναρμολογημένο με βαλβίδα ασφαλείας (ασφαλιστικό επιστόμιο) και παρέχονται μηχανισμοί κλεισίματος μεταξύ των στοιχείων, κάθε στοιχείο θα είναι έτσι συναρμολογημένο.

(2) Οι μηχανισμοί πληρώσεως και εκκενώσεως μπορούν να συναρμολογηθούν σε σωλήνωση.

(3) Κάθε στοιχείο δεξαμενο-CONTAINER πολλαπλών στοιχείων προοριζομένου για τη μεταφορά πεπιεσμένων αερίων των Ι° και 2° επιβλαβών για τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηριάσεως IO/ θα πρέπει να είναι ικανό

IO/ Τα παρακάτω θεωρούνται ότι είναι υγροποιημένα αέρια επιβλαβή για τα αναπνευστικά όργανα και συνεπαγόμενα κίνδυνον δηλητηριάσεως: υδροβρώμιο (άνυδρο υδροβρωμικό οξύ), υδροφθόριο (άνυδρο υδροφθορικό οξύ), υδρόθειο (θειωμένο υδρογόνο), αμμωνία, χλώριο, διοξείδιο του θείου (άνυδρο θειώδες οξύ), διοξείδιο του αζώτου (υπεροξείδιο του αζώτου· τετροξείδιο του αζώτου), αέριο Τ, μεθυλοβινυλιοαιθέρας,

να μονωθεί με βαλβίδα. 2Ι2.235

(4) Τα στοιχεία δεξαμενο-CONTAINER πολλαπλών στοιχείων προοριζομένου για τη μεταφορά υγροποιημένων αερίων των 3° έως 5° επιβλαβών για τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηριάσεως ΙΟ/ θα είναι έτσι σχεδιασμένα ώστε να μπορούν να πληρούνται χωριστά και να τηρούνται μονωμένα δια βαλβίδος ικανής να στεγανοποιηθεί.

2Ι2.236-
2Ι2.239

Άρθρο 4

Έγκριση Τύπου

(Ουδεμία ειδική διάταξις) 2Ι2.240-
2Ι2.249

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Τα υλικά των κελύφων δεξαμενο-CONTAINERS των προοριζομένων για τη μεταφορά αερίων των 7° και 8° θα ελέγχωνται δια της μεθόδου της περιγραφομένης στη Προσθήκη Β.Ιδ, περιθώρια 2Ι4.250 έως 2Ι4.285. 2Ι2.250

Η δοκιμή πιέσεως θα έχει ως κάτωθι:- 2Ι2.251

χλωρομεθάνιο (χλωριούχο μεθύλιο), βρωμομεθάνιο (βρωμιούχο μεθύλιο), φωσγένιο (χλωριούχο καρβ/ονύλιο), βρωμιούχο βινύλιο, μεθυλαμίνη (μονομεθυλαμίνη), διμεθυλαμίνη, τριμεθυλαμίνη, αιθυλαμίνη (μοναιθυλαμίνη), οξείδιο αιθυλενίου, μεθανεθιόλη (μεθυλομερκαπτάνη), μίγματα διοξειδίου του άνθρακος με αιθυλενοξείδιο και υγροποιημένο υδροχλώριο (άνυδρο υδροχλωρικό οξύ).

(I) Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά αερίων των I^{o} έως 2^{o}, συμφώνως προς το περιθώριο 2219 (I)· 2I2.25I

(2) Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά αερίων των 3^{o} και 4^{o}, συμφώνως προς το περιθώριο 2220 (2) εάν τα κελύφη δεν είναι διαμέτρου μεγαλυτέρου των I.5 μ., και συμφώνως προς το περιθώριο 2II.25I (2) (β) εάν τα κελύφη είναι διαμέτρου μεγαλυτέρας των I.5 μ.

(3) Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά των αερίων των 5^{o} και 6^{o}, συμφώνως προς περιθώριον 2220 (3) και (4), και συμφώνως προς περιθώριο 2II.25I (3) (β) στη περίπτωση δεξαμενο-CONTAINERS πολλαπλών στοιχείων τα στοιχεία των οποίων αλληλοσυνδέονται και σχηματίζουν συστοιχίαν, δεν είναι μονωμένα αλλήλων, και είναι εγκιβωτισμένα σε θερμόνωση.

(4) Δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά αμμωνίας διαλυομένης υπό πίεσιν (9^{o} (α Τ)), συμφώνως προς το περιθώριον 2II.25I (4)·

(5) (α) Δεξαμενο-CONTAINERS συναρμολογημένα με βαλβίδες ασφαλείας (ασφαλιστικά επιστόμια) και προοριζόμενα για τη μεταφορά αερίων των 7^{o} και 8^{o}· I.5 φορές την πίεση λειτουργίας την σημειουμένην στα κελύφη, αλλά όχι μικροτέρα των 3 KG/CM^{2} (πίεση θλιβομέτρου)· για δεξαμενο-CONTAINERS με μόνωσιν κενού η πίεση δοκιμής θα είναι I.5 φορές την πίεση λειτουργίας ηυξημένην κατά I KG/CM^{2}.

(β) Προκειμένου περί δεξαμενο-CONTAINERS άνευ βαλβίδων ασφαλείας (ασφαλιστικών επιστομίων) προοριζομένων για τη μεταφορά των αερίων των 7° (α) και 8° (α), η πρώτη δοκιμή θα εκτελείται σε 2 KG/CM^2 (πίεση θλιβομέτρου) και οι περιοδικοί έλεγχοι σε I KG/CM^2 (πίεση θλιβομέτρου). 2I2.25I (Συνεχίζεται)

Η πρώτη δοκιμή (έλεγχος) υδραυλικής πιέσεως θα εκτελείται προ της εφαρμογής της θερμομονώσεως. 2I2.252

Η χωρητικότης του κελύφους εκάστου δεξαμενο-CONTAINER προοριζομένου για τη μεταφορά αερίων των 3°, 4° και 9° θα καθορίζεται, υπό την επίβλεψιν ειδικού εγκριθέντος από την αρμόδια αρχή, δια ζυγίσεως ή ογκομετρικής μετρήσεως της ποσότητος του ύδατος της απαιτουμένης για να γεμίσει το κέλυφος. Η μέτρηση της χωρητικότητος του κελύφους θα είναι ακριβείας μέχρι I ~~τοις~~ εκατό. Ο καθορισμός της χωρητικότητας βάσει των διαστάσεων του κελύφους δεν επιτρέπεται. Τα ανώτατα επιτρεπτά βάρη πληρώσεως συμφώνως προς τα περιθώρια 2220 (4) και 2II.25I (3) θα προβλέπωνται (καθορίζωνται) από εγκριθέντα ειδικόν. 2I2.253

Όλαι αι συγκολλήσεις του κελύφους θα ελέγχωνται ραδιογραφικώς ή υπερηχητικώς χωρίς να προκαλούνται εις αυτές καταστροφές. 2I2.254

Κατά παρέκβαση των διατάξεων των περιθωρίων 2I2.I50 και 2I2.I5I, οι περιοδικοί έλεγχοι θα λαμβάνουν χώρα:- 2I2.255

(I) Κάθε δυόμιση έτη προκειμένου περι δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά τριφθοριούχου

βορίου (Ι° (α Τ)), δημοτικού αερίου (2° (β Τ)), χλωρί- 2Ι2.255
ου, υδροβρωμίου, διοξειδίο του αζώτου, φωσγενίου ή (Συνεχίζε-
διοξειδίου του θείου (3°(α Τ)), υδρόθειου (3° (β Τ)) ή ται)
υδροχλωρίου (5° (α Τ))·

(2) Μετά από υπηρεσίαν έξη ετών, προκειμένου περί δεξαμενο-CONTAINERS, άνευ βαλβίδων ασφαλείας, προοριζομένων για τη μεταφορά αερίων των 7°(α) και 8°(α)·

(3) Μετά από υπηρεσίαν οκτώ ετών, και μετέπειτα κάθε Ι2 έτη προκειμένου περί δεξαμενο-CONTAINERS άνευ βαλβίδων ασφαλείας και προοριζομένων για τη μεταφορά αερίων των 7°(α και 7°(β) και δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά αερίων των 7°(β) και 8°(β). Έλεγχος στεγανότητος μπορεί να γίνει, κατόπιν αιτήσεως της αρμόδιας αρχής μεταξύ δύο διαδοχικών ελέγχων.

Κατά τους περιοδικούς ελέγχους δεξαμενο-CONTAIN- 2Ι2.256
ERS εξοπλισμένων με μόνωση κενού, και προοριζομένων για τη μεταφορά αερίων των 7° και 8°, η υδραυλική δοκιμή μπορεί να αντικατασταθεί από δοκιμήν διαρροής εκτελουμένην είτε με τα αέρια τα οποία τα δεξαμενο-CONTAINERS προορίζονται να περιέχουν είτε με αδρανές αέριο.

Εάν, κατά τας περιοδικάς επιθεωρήσεις, κατα- 2Ι2.257
σκευάζονται ανθρωποθυρίδες σε δεξαμενο-CONTAINERS προοριζόμενα για τη μεταφορά αερίων των ΙΙ° έως Ι3°, η μέθοδος με την οποίαν θα κλεισθούν ερμητικά προτού τα δεξαμενο-CONTAINERS επανέλθουν σε υπηρεσία θα είναι εκείνη που θα εγκρίνει ο εγκριθείς ειδικός και θα εξασφαλίζει την ακεραιότητα του κελύφους.

2Ι2.258-
2Ι2.259

Άρθρο 6

Μαρκάρισμα

Επιπρόσθετα, τα παρακάτω στοιχεία θα μαρκάρων- 2Ι2.260
ται δια σφραγίσεως ή δι'οιασδήποτε άλλης ισοδυνάμου μεθόδου πάνω στη πλάκα που περιγράφεται στο περιθώριον 2Ι2.Ι60 ή απ'ευθείας πάνω στα τοιχώματα αυτού τούτου του κελύφους (μπόμπας, SHELL) εάν τα τοιχώματα είναι έτσι ενισχυμένα ώστε η αντοχή/ του κελύφους να μην εξασθενείται.

(Ι) Επί δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά μιάς μόνον ύλης:

Το όνομα του αερίου πλήρως.

Τούτο θα συνοδεύεται, προκειμένου περί δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά πεπιεσμένων αερίων της Ι° και 2° από την ανωτάτη επιτρεπομένη πίεση φορτίσεως και, προκειμένου περί δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά υγροποιημένων αερίων των 3° έως 8° και διαλυμμένης αμμωνίας υπό πίεση της 9° (Α Τ), από το επιτρεπόμενο ανώτατο φορτίο σε κιλά (KG).

(2) Επί δεξαμενο-CONTAINERS πολλαπλών σκοπών:

Τα ονόματα πλήρως, των αερίων για τα οποία η μεταφορά του δεξαμενο-CONTAINER έχει εγκριθεί, ακολουθούμενα από τα στοιχεία του επιτρεπομένου ανωτάτου φορτίου, σε κιλά (KG), για έκαστο από αυτά.

(3) Επί δεξαμενο-CONTAINERS εφοδιασμένων με βαλβίδες ασφαλείας και προοριζομένων για τη μεταφορά αερίων της 7°(α) και 8°(α), και επί δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά αερίων της 7°(β) και 8°(β):

Η πίεση λειτουργίας. 2Ι2.260 (Συνεχίζεται)

(4) Επί δεξαμενο-CONTAINERS εφοδιασμένων με θερμική μόνωση η διατύπωση "θερμικώς μονωμένα" θα εγγράφεται σε μία από τις επίσημες γλώσσες της ADR.

Το πλαίσιο ενός πολλαπλών στοιχείων δεξαμενο- 2Ι2.26Ι
CONTAINER θα είναι εφοδιασμένο πλησίον του σημείου πληρώσεως με μία πλάκα στην οποία θα ορίζεται:-

Η πίεση δοκιμής των στοιχείων.

Η πίεση λειτουργίας των στοιχείων των προοριζομένων για πεπιεσμένα αέρια.

Ο αριθμός των στοιχείων.

Η ολική χωρητικότητα των στοιχείων, σε λίτρες.

Το όνομα του αερίου πλήρως,

και, προκειμένου περί υγροποιημένων αερίων:

Το ανώτατο επιτρεπόμενο φορτίο ανά στοιχείον σε κιλά (KG).

2Ι2.262-
2Ι2.269

Άρθρο 7

Λειτουργία

Δεξαμενο-CONTAINER προοριζόμενον εις διαφόρους 2Ι2.270
χρόνους για τη μεταφορά διαφόρων υγροποιημένων αερίων των 3° έως 8° (δεξαμενο-CONTAINERS πολλαπλών σκοπών) δεν μπορεί να μεταφέρει ύλες άλλες από τις απαριθμούμενες σε μία, και μόνο μία, από τις παρακάτω ομάδες:-

Ομάς Ι: αζογονοποιημένοι υδρογονάνθρακες της 3°(α) και 4°(α),

Ομάς 2: υδρογονάνθρακες της 3°(β) και 4°(β),

Ομάς 3: αμμωνία (3^{o} (α Τ)), διμεθυλικός αιθέρας, διμεθυλαμίνη, αιθυλαμίνη, μεθυλαμίνη και τριμεθυλαμίνη (3^{o} (β Τ)), και βινυχλωρίδιο (3^{o} (γ)), 2Ι2.270 (Συνεχίζεται)

Ομάς 4: μεθυλοβρωμίδιο (3^{o} (α Τ)), αιθυλοχλωρίδιο και μεθυλοχλωρίδιο (3^{o} (β Τ)),

Ομάς 5: μίγματα αιθυλενοξειδίου με διοξείδιο του άνθρακος αιθυλενοξειδίου με άζωτον (4^{o} (γ Τ)),

Ομάς 6: αέρια της 7^{o}(α) και μίγματα αερίων της 8^{o}(α),

Ομάς 7: αιθάνιο, αιθυλένιο και μεθάνιο (7^{o}(β)), και μίγματα αιθανίου με μεθάνιο, επίσης όταν περιέχουν προπάνιο ή βουτάνιο (8^{o} (β)).

Δεξαμενο-CONTAINERS τα οποία έχουν πληρωθεί με ύλη της ομάδος Ι ή ομάδος 2 θα αδειάζωνται από υγροποιημένο αέριο προτού φορτωθούν με άλλην ύλην ανήκουσαν εις την ίδια ομάδα. Δεξαμενο-CONTAINERS τα οποία έχουν πληρωθεί με ύλην μιάς των ομάδων 3 έως 5 θα αδειάζωνται πλήρως από υγροποιημένο αέριο και θα φυσούνται προτού φορτωθούν με άλλην ύλην ανήκουσαν εις την ιδία ομάδα. 2Ι2.271

Η πολλαπλή χρήση δεξαμενο-CONTAINERS για τη μεταφορά υγροποιημένων αερίων της ιδίας ομάδος θα επιτρέπεται εάν τηρηθούν άπαντες οι όροι οι προβλεπόμενοι για τα αέρια που θα μεταφερθούν σε ένα και το αυτό δεξαμενο-CONTAINER. Μία τέτοια πολλαπλή χρήση θα υπόκειται στην έγκριση εγκεκριμένου εμπειρογνώμονα. 2Ι2.272

Η πολλαπλή χρήση δεξαμενο-CONTAINERS για τη μεταφορά αερίων διαφόρων ομάδων θα εγκρίνεται εάν επιτρέπεται υπό των εγκεκριμένων εμπειρογνωμόνων. 2Ι2.273

Οσάκις φορτωμένα δεξαμενο-CONTAINERS ή κενά αλλά ακαθάριστα δεξαμενο-CONTAINERS παραδίδονται για μεταφορά, μόνον τα στοιχεία του περιθωρίου 2ΙΙ.161 τα ισχύοντα για τα φορτωθέν αέριον ή το μόλις εκκενωθέν θα είναι ορατά· άλλα τα στοιχεία τα αφορώντα άλλα αέρια θα καλύπτωνται (κρύπτωνται). 2Ι2.274

Όλα τα στοιχεία ενός πολλαπλών στοιχείων δεξαμενο-CONTAINER θα περέχουν μόνον ένα και το αυτό αέριο. Στη περίπτωση δεξαμενο-CONTAINER πολλαπλών στοιχείων προοριζομένου για τη μεταφορά υγροποιημένων αερίων επιβλαβών εις τα αναπνευστικά όργανα ή συνεπαγομένων κίνδυνον δηλητηριάσεως ΙΟ/, τα στοιχεία θα πληρούνται χωριστά και θα τηρούνται απομονωμένα (θα απομονώνωνται) με στεγανή βαλβίδα (επιστόμιο). 2Ι2.275

Οι ανώτατοι επιτρεπτοί βαθμοί πληρώσεως σε κιλά/λίτρα οι προβλεπόμενοι στα περιθώρια 2219(2), 2220(2), (3) και (4) και 2ΙΙ.251(2), (3) και (4) θα τηρούνται. 2Ι2.276

Ο βαθμός πληρώσεως των κελυφών (βομβών, SHELLS) δεξαμενο-CONTAINERS των εφοδιασμένων με βαλβίδες ασφαλείας και προοριζομένων για τη μεταφορά αερίων των 11^{o} - 13^{o} θα είναι τέτοιοε ώστε εις την θερμοκρασία "εγκυφόρσεως, συναγερμού" εις την οποίαν η πίεση ατμού ισούται με τη πίεση ανοίγματος της βαλβίδος, ο όγκος του υγρού δεν υπερβαίνει τον επιτρεπόμενον βαθμόν πληρώσεως του κελύφους (βόμβας, SHELL) εις την θερμοκρασίαν αυτήν, τ.έ. 95 τα εκατό στη περίπτωση ευφλέκτων αερίων και 98 τα εκατό στη περίπτωση άλλων αερίων. 2Ι2.277

Πάνω στα κελύφη (μπόμπες, SHELLS) των δεξαμε- 2Ι2.278
νο-CONTAINERS των προοριζομένων για τη μεταφορά οξυγόνου (7° (α)), ή αέρος ή μιγμάτων οξυγόνου με άζωτον (8° (α)), ύλες περιέχουσες λίπος ή έλαιον (πετρέλαιον) δεν θα χρησιμοποιούνται για να εξασφαλίζεται η στεγανότης των ενώσεων ή για τη συντήρηση των κλεισιμάτων.

2Ι2.279

Άρθρο 8

Μεταβατικά μέτρα

2Ι2.280-
2Ι2.299

ΚΛΑΣΙΣ 3

Εύφλεκτα Υγρά

Άρθρο Ι

Γενικά, αντικείμενον, ορισμοί

2Ι2.300-
2Ι2.3Ι9

Άρθρο 2

Κατασκευή

Τα κελύφη (μπόμπες, SHELLS) των δεξαμενο- 2Ι2.320
CONTAINERS των προοριζομένων για τη μεταφορά διθειάνθρακος (Ι° (α)) θα σχεδιάζωνται για υπολογισθείσα πίεση Ι0 KG/CM^2 (πίεση θλιβομέτρου).

2Ι2.32Ι-
2Ι2.329

Άρθρο 3

Είδη εξοπλισμού

Δεξαμενο-CONTAINERS τα οποία είναι εφοδιασμένα 2Ι2.330

με σύστημα αερισμού άνευ μηχανισμού διακοπής (κλεισί- 2Ι2.330
ματος), και τα οποία προορίζονται για τη μεταφορά ευ-
φλέκτων υγρών τα οποία έχουν σημείον αναφλέξεως μη υπερ-
βαίνον τους 55°C, και δεξαμενο-CONTAINERS εφοδιασμένα
με βαλβίδα ασφαλείας θα έχουν φλογοπαγίδα στο σύστημα
αερισμού.

Όλα τα ανοίγματα (οπές) στα κελύφη των δεξα- 2Ι2.33Ι
μενο-CONTAINERS των προοριζομένων για τη μεταφορά ακρυ-
λαλδεΰδης (ακρολεΐνης), χλωροπρενίου (χλωρο-βουταδιε-
νίου) και διθειάνθρακος (Ι° (α)) θα είναι πάνω από το
επίπεδο επιφανείας του υγρού. Ουδεμία σωλήνωση ή ενώσεις
σωλήνων θα διέρχωνται από τα τοιχώματα του κελύφους κάτω
από το επίπεδο επιφανείας του υγρού. Τα ανοίγματα (οπές)
θα είναι ικανά να κλείουν ερμητικά και το κλείσιμο θάναι
ικανό (θα μπορεί) να προστατεύεται με ασφαλιστικό πώμα.

2Ι2.332-
2Ι2.339

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις) 2Ι2.340-
2Ι2.349

Άρθρο 5

Δοκιμαί (Έλεγχοι)

(Ουδεμία ειδική διάταξις) 2Ι2.350-
2Ι2.359

Άρθρο 6

Μαρκάρισμα

(Ουδεμία ειδική διάταξις) 2Ι2.360-
2Ι2.369

Άρθρο 7

Λειτουργία

Στη περίπτωση υγρών που έχουν πίεση ατμού άνω των I.75 KG/CM^2 (απόλυτον) στους 50°C, οι παρακάτω βαθμοί πληρώσεως ερμητικώς κλεισμένων κελυφών (μπομπών, (SHELLS) δεν θα πρέπει να υπερβαίνωνται: για μυρμηκικό μεθυλεστέρα (I° (α)) και άλλα υγρά έχοντα συντελεστήν διαστολής άνω των I50 X I0^{-5} αλλά όχι άνω των I80 X I0^{-5} ..... 9I εκατό της χωρητικότητος· για ακεταλδεΰδη (5°) και λοιπά υγρά έχοντα συντελεστήν κυβικής διαστολής άνω των I80 X I0^{-5} αλλά όχι άνω των 230 X I0^{-5} ..... 90 εκατό της χωρητικότητος. 2I2.370

Κέλυφος (μπόμπα, SHELL) από αλουμίνιο δεν θα χρησιμοποιείται για τη μεταφορά ακεταλδεΰδης (5°) εκτός εάν το κέλυφος φυλάσσεται αποκλειστικώς για τέτοια μεταφορά και η ακεταλδεΰδη είναι απηλλαγμένη από οξύ. 2I2.37I

Την ψυχρά εποχήν (Οκτώβριος - Μάρτιος), ελαφρά αποστάγματα για διάσπαση και λοιποί υγροί υδρογονάνθρακες έχοντες πίεση ατμού μη υπερβαίνουσα τα I.5 KG/CM^2 (απόλυτον) στους 50°C μπορούν να μεταφέρωνται σε κελύφη (μπόμπες) του τύπου του προβλεπομένου στο περιθώριο 2I2.I33. 2I2.372

Διθειάνθρακας (I° (α)) δεν θα μεταφέρεται εκτός εντός ερμητικώς κλεισμένων κελυφών ή σε κελύφη εφοδιασμένα με βαλβίδες ρυθμισμένες όχι κάτω των 3 KG/CM^2 (πίεσιν θλιβομέτρου). 2I2.373

2I2.374-

2I2.379

Άρθρο 8

Μεταβατικά Μέτρα

2Ι2.380-
2Ι2.399

ΚΛΑΣΙΣ 4.Ι

Εύφλεκτα στερεά

ΚΛΑΣΙΣ 4.2

Ύλες υποκείμενες σε αυτανάφλαφλεξιν

ΚΛΑΣΙΣ 4.3

Ύλες που αναδύουν εύφλεκτα αέρια σε επαφή με τα νερό

Άρθρο Ι

Γενικά, αντικείμενον, ορισμοί

2Ι2.400-
2Ι2.4Ι9

Άρθρο 2

Κατασκευή.-

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.420
ορι ζομένων για τη μεταφορά λευκού ή κιτρίνου φωσφόρου του περιθωρίου 243Ι, Ι°, και τριχλωροσιλανίου (πυριτοχλωροφορμίου) του περιθωρίου 247Ι. 4°, θα σχεδιάζωνται (κατασκευάζωνται) για υπολογισθείσα πίεση Ιο KG/CM^2 (πίεσιν θλιβομέτρου).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.42Ι
ορι ζομένων για τη μεταφορά αλκυλίων αλουμινίου, και αλογονιδίων και υδριδίων αλκυλίων αλουμινίου, περιθωρίου 243Ι, 3°, θα σχεδιάζωνται (κατασκευάζωνται) γθα πίεση όχι μικροτέρα των 2Ι KG/CM^2 (πίεση θλιβομέτρου).

2Ι2.422-
2Ι2.429

Άρθρο 3

Είδη εξοπλισμού

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προοριζο- 2Ι2.430
μένων για τη μεταφορά θείου του περιθωρίου 240Ι, 2°(β), και ναφθαλίνης του περιθωρίου 240Ι, ΙΙ° (γ), θα είναι εφοδιασμένα με θερμική μόνωσιν γενομένην από υλικά τα οποία δεν είναι ευχερώς εύφλεκτα ώστε η θερμοκρασία εις την εξωτερικήν επιφάνειαν να μη μπορεί να ανεβεί πάνω από 50°C διαρκούσης της μεταφοράς. Μπορούν να είναι εφοδιασμένα με βαλβίδες που να ανοίγουν αυτομάτως προς τα μέσα ή προς τα έξω υπό την επίδραση διαφοράς πιέσεως από 0.2 έως 0.3 KG/CM^2. Οι μηχανισμοί εκκενώσεως θά είναι ικανοί να προστατεύωνται με ασφαλιστικό μεταλλικό πώμα.

Τα κελύφη δεξαμενο-CONTAINERS προοριζομένων 2Ι2.43Ι
για τη μεταφορά λευκού ή κιτρίνου φωσφόρου του περιθωρίου 243Ι, Ι° θα πληρούν τους κάτωθι όρους:

(Ι) Ο μηχανισμός θερμάνσεως δεν θα εισχωρεί εις το σώμα του κελύφους αλλά θα εφαρμόζεται από έξω από αυτό. Άλλη σωλήνωσις θα εισέρχεται στο κέλυφος στο άνω μέρος του· τα ανοίγματα (οπές) θα είναι πάνω από το ανώτατο επιτρεπτό επίπεδο του φωσφόρου και θα είναι ικανά να κλείνουν πλήρως με ασφαλιστικά πώματα.

(2) Το κέλυφος θα είναι εφοδιασμένο με σύστημα μετρήσεως της στάθμης (επιπέδου) προς επαλήθευσιν του επιπέδου του φωσφόρου και, εάν το ύδωρ χρησιμοποιείται ως προ-

στατευτικός άγων, με σταθερόν σημείον εικονίζον το ανώ- 2Ι2.43Ι
τατον επιτρεπτόν επίπεδον (στάθμην) του ύδατος.

Τα ανοίγματα και αι οπαί (βαλβίδες, αγωγοί, 2Ι2.432
ανθρωποθυρίδες, κλπ.) επί κελύφη (μπόμπες) δεξαμενο-
CONTAINERS προοριζομένων για τη μεταφορά υλών του περι-
θωρίου 247Ι, Ι°(α), θα είναι εφοδιασμένα με στεγανά
ασφαλιστικά πώματα, και τα τοιαύτα κελύφη θα είναι εφο-
διασμένα με θερμικήν μόνωσιν γενομένην από υλικά τα οποί-
α δεν είναι ευχερώς εύφλεκτα ώστε η θερμοκρασία στην
εξωτερική επιφάνεια να μη μπορεί να ανεβεί πάνω από
50°C διαρκούσης της μεταφοράς.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.433
ορισμένων για την μεταφορά αλκυλίων αλουμινίου, και
αλογονιδίων και υδριδίων αλκυλίων αλουμινίου του περι-
θωρίου 243Ι, 3°, δεν θα έχουν ανοίγματα ή συνδέσεις, κάθ-
μη και άν μπορούν να κλείνουν, κάτω του επιπέδου επιφα-
νείας του υγρού. Ανοίγματα, περιλαμβανομένων των παρα-
κολουθημάτων αυτών, στο άνω μέρος του κελύφους (μπόμπας)
θα είναι ικανά να προστατεύωνται με προστατευτικό κάλυμ-
μα (πώμα).

2Ι2.434-
2Ι2.439

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία ειδική διάταξις) 2Ι2.440-
2Ι2.449

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προορι- 2Ι2.450
ζομένων για τη μεταφορά θείου του περιθωρίου 240Ι, 2°
(η θερμοκρασία πληρώσεως πρέπει επιπροσθέτως να λαμβάνεται υπόψη στη περίπτωση κελύφων κατασκευασμένων από αλουμίνιο), ναφθαλίνης του περιθωρίου 240Ι, ΙΙ°, λευκού ή κιτρίνου φωσφόρου του περιθωρίου 243Ι, Ι°, και τριχλωροσιλανίου (πυριτοχλωροφορμίου) του περιθωρίου 247Ι, 4°, θα ελέγχωνται σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προορι- 2Ι2.45Ι
ζομένων για τη μεταφορά αλκυλίων αλουμινίου, και αλογονιδίων καιι υδριδίων αλκυλίων αλουμινίου, του περιθωρίου 243Ι, 3°, θα υποβάλωνται σε αρχικόν έλεγχον πιέσεως, και σε περιοδικούς ελέγχους κάθε πέντε χρόνια, εκτελουμένους σε πίεση Ι0 KG/CM^2 (πίεση θλιβομέτρου) με υγρό το οποίο δεν αντιδρά με την υπό μεταφοράν ύλην.

2Ι2.452-
2Ι2.459

Άρθρο 6

Μαρκάρισμα

(Ουδεμία ειδική διάταξις) 2Ι2.460-
2Ι2.469

Άρθρο 7

Λειτουργία

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προορι- 2Ι2.470
ζομένων για τη μεταφορά θείου του περιθωρίου 240Ι, 2°,
θα πληρούνται όχι άνω του 98 τα εκατό της χωρητι-

κότητος των.

Λευκός ή κίτρινος φωσφόρος του περιθωρίου 2I2.47I
243I, I°, εάν το ύδωρ χρησιμοποιείται ως προστατευτικός
άγων θα καλύπτεται με βάθος όχι μικρότερον των I2 CM ύδα-
τος κατά τον χρόνον της πληρώσεως· ο βαθμός πληρώσεως εις
θερμοκρασίαν 60°C δεν θα υπερβαίνει το 98 εκατ. Εάν
άζωτον χρησιμοποιηθεί ως προστατευτικός άγων, ο βαθμός πλη-
ρώσεως εις θερμοκρασίαν 60°C δεν θα υπερβαίνει το 96 εκατ.
εκατ. Ο απομένων χώρος θα πληρωθεί με άζωτον κατά τοιούτον
τρόπον ώστε, ακόμη και μετά την ψύξιν, η πίεσις εις ουδένα
χρόνον (ουδέποτε) να πίπτει κάτω της ατμοσφαιρικής πιέσεως.
Το κέλυφος (μπόμπα) θα είναι ερμητικώς κλεισμένη εις τρόπον
ώστε να μη προκύψει διαρροή αερίου.

Για τη μεταφορά υλών του περιθωρίου 247I, I° 2I2.472
(α), τα πώματα θα κλείνωνται συμφώνως προς το περιθώριο
2I2.432 και η θερμοκρασία της εξωτερικής επιφανείας του κε-
λύφους (μπόμπας) δεν θα υπερβαίνει τους 50°C.

Στη περίπτωση του τριχλωροσιλανίου (πυριτοχλω- 2I2.473
ροφορμίου) του περιθωρίου 247I, 4°, ο βαθμός πληρώσεως
δεν θα υπερβαίνει τα I.I4 KG ανά λίτρον χωρητικότητος εάν
η πλήρωσις γίνεται κατά βάρος, ή 85 εκατ. εάν η πλήρω-
σις γίνεται κατ'όγκον.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS τα 2I2.474
οποία περιείχαν φωσφόρον του περιθωρίου 243I, I°, όταν πα-
ραδοθούν για μεταφορά είτε:-

- θα πληρούνται με άζωτον· ο αποστολεύς πρέπει
να βεβαιοί εις το έγγραφο μεταφοράς ότι η δεξα-

μενή μετά το κλείσιμο είναι αεροστεγανή· είτε
- θα πληρούνται με ύδωρ όχι λιγώτερο του 96 εκατό και όχι περισσότερο του 98 εκατό της χωρητικότητός των · μεταξύ της Ιης Οκτωβρίου και της 3Ιης Μαρτίου το ύδωρ τούτο θα περιέχει έναν ή περισσότερους αντιψυκτικούς άγοντας απηλλαγμένους από διαβρωτικήν ενέργειαν, μη δυναμένους να αντιδράσουν με φωσφόρον, και επαρκώς συμπεπυκνωμένους ώστε να αποφεύγεται η φύξη του ύδατος διαρκούσης της μεταφοράς.

2Ι2.475-
2Ι2.479

Άρθρο 8

Μεταβατικά μέτρα

2Ι2.480-
2Ι2.499

ΚΛΑΣΙΣ 5.Ι

Οξειδωτικές Ύλες

ΚΛΑΣΙΣ 5.2

Οργανικά Υπεροξείδια

Άρθρο Ι

Γενικά, αντικείμενο, ορισμοί

2Ι2.500-
2Ι2.5Ι9

Άρθρο 2

Κατασκευή.-

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS, και 2Ι2.520
τα είδη του εξοπλισμού των, προοριζόμενα για τη μεταφορά

υπεροξειδίου του υδρογόνου ή υδατίνων διαλυμάτων υπεροξειδίου του υδρογόνου του περιθωρίου 250Ι, Ι°, ή για τη μεταφορά υγρών οργανικών υπεροξειδίων του περιθωρίου 255Ι, Ι0°, Ι4° και Ι5° θα είναι κατασκευασμένα από αλουμίνιο όχι λιγώτερο του 99.5 τοις εκατό καθαρού ή καταλλήλου κράματος χάλυβος μη δυναμένου να προκαλέσει την αποσύνθεσιν του υπεροξειδίου του υδρογόνου ή των οργανικών υπεροξειδίων. 2Ι2.520 (Συνεχίζεται)

2Ι2.52Ι-2Ι2.529

Άρθρο 3

Είδη εξοπλισμού

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προορι- 2Ι2.530
ζομένων για τη μεταφορά υδατίνων διαλυμάτων υπεροξειδίου του υδρογόνου περιέχοντος άνω του 70 τοις εκατό υπεροξειδίου του υδρογόνου του περιθωρίου 250Ι, Ι°, θα έχουν τα ανοίγματά (οπάς) των άνωθι του επιπέδου επιφανείας του υγρού. Στη περίπτωση διαλυμάτων που περιέχουν άνω του 60 τοις εκατόν αλλά όχι άνω του 70 τοις εκατό υπεροξείδιον του υδρογόνου, θα επιτρέπωνται ανοίγματα (οπαί) κάτωθι του επιπέδου επιφανείας του υγρού. Στη περίπτωση αυτή το σύστημα εκκενώσεως του κελύφους (μπόμπας) θα περιλαμβάνει δύο αμοιβαίως ανεξαρτήτους μηχανισμούς κλεισίματος, του πρώτου όντος ταχέως κλείνοντος εσωτερικού ατμοφράκτου εγκεκρυμμένου τύπου και του δευτέρου όντος υδατοφράκτου (βαλβίδος εκροής), συναρμολογήσεως εν σειρά, εις τούτων εν κάθε άκρο του σωλήνος εκροής. Τυφλή φλάντζα

ή κάποιος άλλος εξ ίσου αξιόπιστος μηχανισμός θα εφαρμό- 2Ι2.530
ζεται επίσης εις την έξοδον εκάστου εξωτερικού υδατοφρά- (Συνεχί-
κτου. Ο εσωτερικός ατμοφράκτης θα είναι τέτοιος ώστε να ζεται)
παραμένει ακάμπτως ασφαλισμένος εις το κέλυφος και εις
την κλειστήν θέσιν εάν ο σωλήν αποσπασθεί.

Η σύνδεσις με τα εξωτερικά στόμια των σωλή- 2Ι2.53Ι
νων των δεξαμενο-CONTAINERS θα επενδύεται με κατάλληλη
πλαστική ύλη.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.532
ορισμένων για τη μεταφορά υγρών οργανικών υπεροξειδίων
του περιθωρίου 255Ι, Ι0°, Ι4° και Ι5°, θα είναι εφοδια-
σμένα με μηχανισμόν αερισμού συνδεδεμένον με φλογοπαγίδα
και θα ακολουθούνται 66 σειρά από ασφαλιστική
βαλβίδα που να ανοίγει αυτόματα σε πίεση Ι.8 έως 2.2 KG/CM^2
(πίεση θλιβομέτρου). Τα υλικά, από τα οποία τα κλεισίματα
τα οποία μπορούν να έλθουν σε επαφή με το υγρό ή τον ατμό
του κατασκευάζονται, δεν θα έχουν καταλυτικήν επίδρασιν
(ελατηριοειδής ασφαλιστική βαλβίς κατασκευασμένη από κρά-
μα αλουμινίου-πυριτίου (SILUMIN) ή από ανοξείδωτο χάλυβα
V.2A ή από υλικό ισοδυνάμου ποιότητος).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.533
ορισμένων για τη μεταφορά οργανικών υπεροξειδίων του
περιθωρίου 255Ι, Ι0°, Ι4° και Ι5°, θα είναι εφοδιασμένα
με θερμικήν μόνωσιν συμφώνως προς τους όρους του περιθω-
ρίου 2Ι2.234 (Ι). Το κάλυμμα και το ακάλυπτον μέρος του
κελύφους (μπόμπας) θα είναι βαμμένα λευκά.

2Ι2.534
2Ι2.539

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία Ειδική διάταξις) 2Ι2.540-2Ι2.549

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προορίζονται για τη μεταφορά υπεροξειδίου του υδρογόνου ή υδατίνων διαλυμάτων υπεροξειδίου του υδρογόνου, του περιθωρίου 250Ι, Ι° ή υγρού οργανικού υπεροξειδίου του περιθωρίου 255Ι, Ι0°, Ι4° και Ι5°, θα ελέγχωνται με πίεση 4 KG/CM^2 (πίεση θλιβομέτρου). 2Ι2.550

2Ι2.55Ι-2Ι2.559

Άρθρο 6

Μαρκάρισμα

(Ουδεμία ειδική διάταξις) 2Ι2.560-2Ι2.569

Άρθρο 7

Λειτουργία

Το εσώτερικό του κελύφους (μπόμπας) του δεξαμενο-CONTAINER, και όλα τα μεταλλικά εξαρτήματα τα οποία είναι δυνατόν να έλθουν σε επαφή με το υπεροξείδιο του υδρογόνου του περιθωρίου 250Ι, Ι°, θα διατηρείται καθαρό. Ουδέν υλικόν ικανό να συνδυασθεί επικινδύνως με την μεταφερομένην ύλην θα χρησιμοποιείται για αντλίες, βαλβίδες ή άλλους μηχανισμούς. 2Ι2.570

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.57Ι
ορι ζομένων για τή μεταφορά υγρών του περιθωρίου 250Ι,
Ι° έως 3°, θα πληρούνται μέχρι όχι άνω του 95 τοις εκα-
τό της χωρητικότητός των εις θερμοκρασίαν Ι5°C. Τα κε-
λύφη δεξαμενο-CONTAINERS προορι ζομένων για τη μεταφορά
υγρών οργανικών υπεροξειδίων του περιθωρίου 255Ι, Ι0°,
Ι4° και Ι5°, θα πληρούνται μέχρι όχι περισσότερο του
80 τοις εκατό της χωρητικότητός των. Τα κελύφη θα είναι
απηλλαγμένα από ακαθαρσίες κατά τον χρόνον της πληρώσεως.

2Ι2.572-
2Ι2.579

Άρθρο 8

Μεταβατικά μέσα

2Ι2.580-
2Ι2.599

ΚΛΑΣΙΣ 6.Ι

Τοξικές Ύλες.-

Άρθρο Ι

Γενικόν αντικείμενον, ορισμοί

2Ι2.600-
2Ι2.6Ι9

Άρθρο 2

Κατασκευή.-

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2Ι2.620
ορι ζομένων για τη μεταφορά υλών του περιθωρίου 260Ι,
2° (α), 3°, 4° (α), ΙΙ° (α), Ι3° (β), Ι4°, 23°, 6Ι°
(α), 6Ι° (ε), 6Ι° (στ), 8Ι° και 82°, θα σχεδιάζωνται
εάν οι ύλες αυτές είναι υγρές σε +40°C (πλήν των τε-

τραχλωριούχου άνθρακος, χλωροφορμίου και χλωριούχου με- 2I2.620
θυλενίου) για υπολογισθείσα πίεσιν IO KG/CM^2 (πίεση (Συνεχίζε-
θλιβομέτρου). ται)

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS προ- 2I2.62I
ορι ζομένων για τη μεταφορά υλών αναφερομένων στο περιθώ-
ριο 6I.I2I (3) πλην των απαριθμουμένων στο περιθώριο
2I2.620 ανωτέρω θα είναι έτσι κατασκευασμένα ώστε να μπο-
ρούν να εκκενούνται σε πίεση όχι μικροτέρα των 3 KG/CM^2
(πίεση θλιβομέτρου).

2I2.622-
2I2.629

Άρθρο 3

Είδη Εξοπλισμού

(I) Όλα τα ανοίγματα (οπαί) των κελυφών (μπομπών) 2I2.630
δεξαμενο-CONTAINERS προοριζομένων για τη μεταφορά υλών
αναφερομένων στο περιθώριο 6I.I2I (3) θα είναι πάνω από
το επίπεδο επιφανείας του υγρού.

(2) Ουδεμία σωλήνωσις ή συνδέσεις σωλήνων θα διέρ-
χωνται από τα τοιχώματα του κελύφους (μπόμπας) κάτωθι του
επιπέδου επιφανείας του υγρού. Τα ανοίγματα (οπαί) θα μπο-
ρούν να κλείνουν ερμητικά και το κλείσιμο θα μπορεί να
προστατεύεται με ασφαλιστικό πώμα. Επιπρόσθετα, τα κελύ-
φη (μπόμπες) των τοιούτων δεξαμενο-CONTAINERS μπορούν να
είναι εφοδιασμένα με δίσκους εκρήξεως (BURSTING DISKS)
συναρμολογημένους εν σειρά προ των ασφαλιστικών βαλβίδων.
Σε τέτοια περίπτωση η διάταξη του δίσκου εκρήξεως και της
ασφαλιστικής βαλβίδος θα είναι η διάταξη η ικανοποιούσα
την αρμοδία αρχή.

2Ι2.63Ι-
2Ι2.639

Άρθρο 4

Έγκριση Τύπου

(Ουδεμία Ειδική Διάταξις) 2Ι2.640-
2Ι2.649

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Δεξαμενο-CONTAINERS (δεξαμενο-Υποδοχείς) 2Ι2.650
προοριζόμενοι για τη μεταφορά υλών του περιθωρίου 260Ι 2° (α), 3°, 4° (α), ΙΙ° (α), Ι3° (β), Ι4°, 23°, 6Ι° (α), 6Ι° (ε), 6Ι° (στ), 8Ι° και 82°, εάν οι ύλες αυτές είναι υγρές σε +40°C θα ελέγχωνται αρχικώς και περιοδικώς σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου).

2Ι2.65Ι-
2Ι2.659

Άρθρο 6

Μαρκάρισμα

(Ουδεμία Ειδική Διάταξις) 2Ι2.660-
2Ι2.669

Άρθρο 7

Λειτουργία

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS 2Ι2.670
(δεξαμενο-Υποδοχέων) προοριζομένων για τη μεταφορά υλών του περιθωρίου 260Ι, 2° (α), 2° (β), 4° (α), Ι2° (α), Ι3° (α), Ι3° (β) και 8Ι° έως 83°, θα πληρούνται μέχρι όχι άνω του 93 στα εκατό της χωρητικότητός των.

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS 2Ι2.67Ι

(δεξαμένο-υποδοχέων) προοριζομένων για τη μεταφορά υδατίνων διαλυμάτων αιθυλενεϊμίνης (ETHYLENEIMINE) (3°) και υλών του περιθωρίου 2601, 14°, θα πληρούνται μέχρι όχι περισσότερο του 95 τοις εκατό της χωρητικότητός των. 2Ι2.671

2Ι2.672-
2Ι2.679

Άρθρο 8
Μεταβατικά μέτρα

2Ι2.680-
2Ι2.699

ΚΛΑΣΙΣ 7
Ραδιενεργείς Ύλες

Άρθρο 1
Γενικά, αντικείμενο, ορισμοί

2Ι2.700-
2Ι2.719

Άρθρο 2
Κατασκευή

Δεξαμενο-CONTAINERS (δεξαμενο-υποδοχείς) προορίζόμενοι για τη μεταφορά υλών αναφερομένων στο Παράρτημα 5, με εξαίρεσιν το εξαφθοριούχο ορράνιο, θα σχεδιάζονται (κατασκευάζωνται) για υπολογισθείσα πίεση 4KG/CM^2 τουλάχιστον. Στη περίπτωση δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) προοριζομένων για τη μεταφορά εξαφθοριούχου ουρανίου, η πίεση υπολογισμού θα ορίζεται σε 10 KG/CM^2. Όταν η ραδιενεργός ύλη είναι διάλυμα ή αιώρημα σε επικίνδυνες ύλες άλλων Κλάσεων και όταν αι απαιτούμεναι πιέσεις υπολογισμού για δεξαμενο-υποδοχείς προοριζομένους για τη 2Ι2.720

μεταφορά των τελευταίων υλών είναι μεγαλύτεραι, θα εφαρ- 2Ι2.720
μόζωνται αι πιέσεις αυτές. (Συνεχίζεται)

2Ι2.72Ι-
2Ι2.729

Άρθρο 3

Εξοπλισμός

Τα ανοίγματα (οπές) δεξαμενο-CONTAINERS (δεξαμε- 2Ι2.730
νο-υποδοχέων) προοριζομένων για τη μεταφορά υγρών ραδιε-
νεργών υλών 9/ θα είναι άνω του επιπέδου του υγρού και
ουδεμία σωλήνωσις ή σύνδεσις σωλήνων θα διέρχεται από
τα τοιχώματα του κελύφους (μπόμπας) κάτω από το επίπεδον
επιφανείας του υγρού.

2Ι2.73Ι-
2Ι2.739

Άρθρο 4

Έγκρισις Τύπου

Δεξαμενο-CONTAINERS (δεξαμενο-υποδοχείς) εγκρι- 2Ι2.740
θέντες για τη μεταφορά ραδιενεργών υλών δεν θα εγκρί-
νωνται για τη μεταφορά οιωνδήποτε άλλων υλών.

2Ι2.74Ι-
2Ι2.749

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Οι δεξαμενο-CONTAINERS (δεξαμενο-υποδοχείς) θα 2Ι2.750
υποβάλωνται, τουλάχιστον μία φορά κάθε πέντε χρόνια, σε
δοκιμή υδραυλικής πιέσεως σε πίεση 4 KG/CM^2. Κατά παρέκ-
βασιν του περιθωρίου 2Ι2.Ι50, η περιοδική εσωτερική επι-

θεώρησης μπορεί να αντικαθίσταται με δοκιμήν υπερηχητικών κυμάτων του πάχους του τοιχώματος διεξαγομένην κάθε δυόμισυ χρόνια.

2Ι2.75Ι-
2Ι2.759

Άρθρο 6

Μαρκάρισμα

2Ι2.760-
(Ουδεμία Ειδική Διάταξις) 2Ι2.769

Άρθρο 7

Λειτουργία

Ο βαθμός πληρώσεως σε θερμοκρασία Ι5°C δεν θα υπερβαίνει το 93 εκατό της ολικής χωρητικότητος του κελύφους (μπόμπας). Δεξαμενο-CONTAINERS (δεξαμενο-υποδοχείς) οι οποίοι εχρησιμοποιήθησαν για τη μεταφορά ραδιενεργών υλών δεν θα χρησιμοποιούνται για τη μεταφορά άλλων υλών. 2Ι2.770

2Ι2.77Ι-
2Ι2.779

Άρθρο 8

Μεταβατικαί διατάξεις

2Ι2.780-
2Ι2.799

ΚΛΑΣΙΣ 8

Διαβρωτικές Ύλες

Άρθρο Ι

Γενικά, αντικείμενο, ορισμοί

2Ι2.800-
2Ι2.8Ι9

Άρθρο 2

Κατασκευή

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξα- 2Ι2.820
μενο-υποδοχέων) προοριζομένων για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6° (α)), υδατίνων διαλυμάτων υδροφθορικού οξέος (6° (β)), ή βρωμίου (Ι4°), θα σχεδιάζωνται (κατασκευάζωνται) για πίεση όχι μικρότερη των 2Ι KG/CM^2 (πίεση θλιβομέτρου).

Τα κελύφη δεξαμενο-CONTAINERS (δεξαμενο-υποδο- 2Ι2.82Ι
χέων) προοριζομένων για τη μεταφορά υλών της Ι°, (α) και (β)· 2°, (α) και (β)· 6° (γ)· 7° έως 9°· 2Ι° (α)· και 23°, θα κατασκευάζωνται για πίεσηόχι μικρότερη των Ι0 KG/CM^2 (πίεση θλιβομέτρου).

Τα κελύφη δεξαμενο-CONTAINERS (δεξαμενο-υποδο- 2Ι2.822
χέων) προοριζομένων για τη μεταφορά των υλών των αναφερομένων στο περιθώριο 8Ι.Ι2Ι (2), πλην των απαριθμουμένων στο περιθώριο 2Ι8.200 και 2Ι8.20Ι, θα σχεδιάζωνται (κατασκευάζωνται για υπολογισθείσα πίεση 4 KG/CM^2 (πίεση θλιβομέτρου) και θα είναι έτσι κατασκευασμένα ώστε να μπορούν να εκκενούνται σε πίεση όχι μικρότερη των 3 KG/CM^2 (πίεση θλιβομέτρου).

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξαμε- 2Ι2.823
νο-υποδοχέων) προοριζομένων για τη μεταφορά υδατίνων διαλυμάτων του υπεροξειδίου του υδρογόνου (4Ι°) θα πληρούν τους όρους του περιθωρίου 2Ι6.200.

2Ι2.824-
2Ι2.829

Άρθρο 3

Είδη Εξοπλισμού

Όλα τα ανοίγματα (οπές) των κελυφών (μπομπών) δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) προοριζομένων για τη μεταφορά υλών της 6° ή βρωμίου (14°) θα είναι άνω της επιπέδου της επιφανείας του υγρού. Ουδεμία σωλήνωσις ή συνδέσεις σωλήνων θα διέρχωνται από τα τοιχώματα του κελύφους (μπόμπας) κάτω από το επίπεδο της επιφανείας του υγρού. Τα κλεισίματα θα μπορούν να προστατεύωνται αποτελεσματικά με μεταλλικό κάλυμμα (πώμα). 2Ι2.830

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) προοριζομένων για τη μεταφορά σταθεροποιημένου τριοξειδίου του θείου (9°) θα είναι θερμικώς μονωμένον και θα είναι εφοδιασμένον με μηχανισμόν θερμάνσεως από έξω. Τα κελύφη (μπόμπες) μπορεί να είναι του τύπου εκκενώσεως εκ του πυθμένος. Στη περίπτωση αυτή το σύστημα εκκενώσεως του κελύφους θα περιέχει δύο αμοιβαίως ανεξαρτήτους μηχανισμούς κλεισίματος (διακοπής), του πρώτου όντος ταχέος κλείοντος εσωτερικού ατμοφράκτου εγκεκριμένου τύπου και του δευτέρου όντος υδατοφράκτου, συναρμολογήσεως εν σειρά, εις τούτων εις έκαστον άκρον του σωλήνος εκκενώσεως. Τυφλή φλάντζα ή κάποιος άλλος εξ ίσου αξιόπιστος μηχανισμός θα εφαρμόζεται επίσης εις την εξαγωγή εκάστου εξωτερικού υδατοφράκτου. 2Ι2.831

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) προοριζομένων για τη μεταφορά διαλυμάτων υδροχωρίτου (37°) και υδατίνων διαλυμάτων υπεροξειδίου 2Ι2.832

του υδρογόνου (4Ι°) θα είναι έτσι σχεδιασμένα (κατασκευασμένα) ώστε να αποφεύγεται η είσοδος ξένης ύλης, η διαρροή του υγρού, και η ανάπτυξις οιασδήποτε επικινδύνου υπερβολικής πιέσεως στο κέλυφος (μπόμπα). 2Ι2.833-2Ι2.839

Άρθρο 4

Έγκρισις Τύπου

(Ουδεμία Ειδική Διάταξις) 2Ι2.840-2Ι2.849

Άρθρο 5

Δοκιμαί (Έλεγχοι)

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) προοριζομένων για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6° (α)), ή υδατίνων διαλυμάτων υδροφθορικού οξέος της 6° (β), θα υφίστανται την αρχική δοκιμή πιέσεως και τις περιοδικές δοκιμές σε πίεση 10 KG/CM^2 (πίεση θλιβομέτρου), και των προοριζομένων για τη μεταφορά των λοιπών υλών των αναφερομένων στο περιθώριο 8Ι.Ι2Ι (2), σε πίεση 4 KG/CM^2 (πίεση θλιβομέτρου). 2Ι2.850

Η δοκιμή της πιέσεως των δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) των προοριζομένων για τη μεταφορά σταθεροποιημένου τριοξειδίου του θείου (9°) θα επαναλαμβάνεται κάθε δυόμισυ χρόνια. 2Ι2.851

Η κατάσταση της μολυβδίνου επενδύσεως των κελυφών (μπομπών) των δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) των προοριζομένων για τη μεταφορά βρωμίου (Ι4°) θα ελέγχε- 2Ι2.852

ται κατ'έτος από εγκεκριμένο εμπειρογνώμονα, ο οποίος θα επιθεωρεί το εσωτερικόν του κελύφους (μπόμπας).

Επιπρόσθετα των δοκιμών των προβλεπομένων 2Ι2.853
στο Άρθρο 5, η κατά της διαβρώσεως αντίστασις των δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) των προοριζομένων για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6° (α)), ή υδατίνων διαλυμάτων υδροφθορικού οξέος της 6° (β), θα ελέγχεται δια καταλλήλων οργάνων (π.χ. δια μεθόδων υπερηχητικών κυμάτων)· και η κατάσταση των ειδών εξοπλισμού θα επαληθεύεται, κάθε δυόμισυ χρόνια.

2Ι2.854-
2Ι2.859

Άρθρο 6

Μαρκάρισμα

Επιπρόσθετα των στοιχείων των προβλεπομέ- 2Ι2.860
νων στα περιθώρια 2Ι2.Ι60 και 2Ι2.Ι6Ι, τα παρακάτω στοιχεία θα μαρκάρωνται επί των δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων) των προοριζομένων για τη μεταφορά υδροφθορίου (ανύδρου υδροφθορικού οξέος) (6° (α)), υδατίνων διαλυμάτων υδροφθορικού οξέος της 6° (β), ή βρωμίου (Ι4°): το επιτρεπτό ανώτατο καθαρό φορτίο σε κιλά (KG), και την ημερομηνίαν (μήνας και έτος) της πειό τελευταίας εσωτερικής επιθεωρήσεως του κελύφους.

2Ι2.86Ι-
2Ι2.869

Άρθρο 7

Λειτουργία

Τα κελύφη (μπόμπες) δεξαμενο-CONTAINERS 2Ι2.870

(δεξαμενο-υποδοχέων) προοριζομένων για τη μεταφορά θειϊκού οξέος (I^{α} (γ)) θα πληρούνται μέχρι όχι περισσότερο του 95 τοις εκατό της χωρητικότητός των, των προοριζομένων για τη μεταφορά σταθεροποιημένου τριοξειδίου του θείου (9^{ο}) μέχρι όχι περισσότερο του 88 τοις εκατό, και των προοριζομένων για τη μεταφορά βρωμίου (I4^{ο}) μέχρι όχι λιγώτερο του 88 τοις εκατόν και όχι περισσότερο του 92 τοις εκατό ή μέχρι 2.86 KG ανά λίτρο χωρητικότητος. Κελύφη (μπόμπες) προοριζόμενα για τη μεταφορά υδροφθορίου (άνυδρου υδροφθορικού οξέος) (6^{ο} (α)) και υδατίνων διαλυμάτων υδροφθορικού οξέος (6^{ο} (β)) δεν θα πληρούνται πάνω από 0.84 KG ανά λίτρον χωρητικότητος. 2I2.870 (Συνεχίζεται)

2I2.871-2I2.879

Άρθρο 8

Μεταβατικά Μέτρα

2I2.880-2I3.099

Προσθήκη Β. Iγ

ΔΙΑΤΑΞΕΙΣ ΠΟΥ ΑΦΟΡΟΥΝ ΣΤΑΘΕΡΕΣ ΔΕΞΑΜΕΝΕΣ (ΒΥΤΙΑ) ΚΑΙ ΛΥΟΜΕΝΕΣ ΔΕΞΑΜΕΝΕΣ ΣΕ ΕΝΙΣΧΥΜΕΝΑ ΠΛΑΣΤΙΚΑ

Παρατηρήσεις

- Η παρούσα Προσθήκη έχει εφαρμογήν επί σταθερών δεξαμενών και λυομένων δεξαμενών· δεν έχει εφαρμογήν επί συστοιχιών δοχείων (BATTERIES OF RECEPTACLES), επί δεξαμενο-CONTAINERS (δεξαμενο-υποδοχέων), ή επί δοχείων (RECEPTACLES).

- Για δοχεία (RECEPTACLES), βλέπε τις αφορώσες αυτά διατάξεις στο Παράρτημα Α (κόλα).

- Υπενθυμίζομε ότι το περιθώριο 10.121 (1) απαγορεύει τη μεταφορά επικινδύνων υλών σε δεξαμενές εκτός όταν μία τέτοια μεταφορά ρητώς εξουσιοδοτείται. Η παρούσα Προσθήκη περιορίζεται επομένως σε διατάξεις που έχουν εφαρμογήν επί σταθερών δεξαμενών και λυομένων δεξαμενών σε ενισχυμένα πλαστικά (πλαστικές ύλες) που χρησιμοποιούνται σε επιχειρήσεις μεταφοράς αι οποίαι έχουν ρητώς εξουσιοδοτηθεί.

Άρθρο 1

Γενικές διατάξεις αφορώσαι την κατασκευή σταθερών δεξαμενών και λυομένων δεξαμενών

Οι δεξαμενές (βυτία) πρέπει να πληρούν τους 213.100 παρακάτω όρους της Προσθήκης Β.1α:-

(1) Γενικαί διατάξεις ισχύουσες για δεξαμενές που χρησιμοποιούνται για τη μεταφορά υλών όλων των Κλάσεων:- περιθώρια 211.120, (4), (5) και (6)· 211.121, (1) και (2)· 211.122· 211.124· 211.126· 211.127, (5)· 211.128· 211.130· 211.132· 211.137· 211.140· 211.150 έως 211.153· 211.160 και 211.161· 211.171· 211.172, (1) και (2)· και 211.173 έως 211.178.

(2) Διατάξεις ισχύουσες για δεξαμενές που χρησιμοποιούνται για τη μεταφορά των υλών της Κλάσεως 3: περιθώριο 211.330.
Η δοκιμή στεγανότητος και η εσωτερική επιθεώρησις θα εκτελούνται κάθε τρία χρόνια.

(3) Ειδικαί διατάξεις ισχύουσαι για δεξαμενές

που χρησιμοποιούνται για τη μεταφορά των υλών της Κλάσεως 8: περιθώριο 2ΙΙ.833.

Τα τοιχώματα της δεξαμενής δεν πρέπει να παρουσιάζουν ουσιαστικόν ελάττωμα προκαλούν μείωσιν της ασφαλείας. 2Ι3.Ι0Ι

Τα τοιχώματα της δεξαμενής πρέπει να έχουν διαρκή αντίστασιν κατά των μηχανικών, θερμικών και χημικών τάσεων εις τας οποίας υποβάλλονται. 2Ι3.Ι02

2Ι3.Ι03

Ανοίγματα (οπές) Δεξαμενών

(Ι) Οσάκις η δεξαμενή έχει ένα ή περισσότερα ανοίγματα (οπές) εκκενώσεως κάτωθι του επιπέδου του υγρού, οιοσδήποτε σωλήν ή βαλβίς τοποθετημένη στο τοιούτο άνοιγμα (οπή) ή ανοίγματα (οπές) θα προστατεύεται δια της εμπήξεως εις το κέλυφος της δεξαμενής ή δι'οιουδήποτε άλλου μέσου εγκεκριμένου υπό της αρμοδίας αρχής και παρέχοντος ισοδύναμον προστασίαν.

(2) Η χρήσις κοχλιωτών πωμάτων αυστηρώς απαγορεύεται. Οι βαλβίδες θα είναι μοντέλου εγκεκριμένου υπό της αρμοδίας αρχής.

(3) Αι οπές πληρώσεως θα κλείωνται με ερμητικόν μηχανισμόν. Εάν ο μηχανισμός εξέχει προς τα έξω από το κέλυφος της δεξαμενής θα προστατεύεται από ένα κάλυμμα ικανό να αντισταθεί (να ανθέξει) εις τας τάσεις στρεβλώσεως από τυχαίο αναποδογύριασμα (ανατροπή) της δεξαμενής.

2Ι3.Ι04-

2Ι3.ΙΙ9

Άρθρο 2

Ύλες χρησιμοποιούμενες για τα τοιχώματα της δεξαμενής

Τα τοιχώματα των δεξαμενών μπορούν να κατασκευασθούν2I3.I20 από τα παρακάτω υλικά:-

(I) Συνθετική ρητίνη

- μη-κεκορεσμέναι ρητίναι πολυεστέρος
- εποξικαί ρητίναι (EPOXIDE RESINS)
- άλλαι ρητίναι με όμοια χαρακτηριστικά, υπό τον όρον ότι επιδεικνύεται η ασφάλεια του τοιχώματος.

(2) Ενισχύσεις ινών

Ίνες υάλου (ύαλος των τύπων E και C) I/ με κατάλληλον επένδυσιν, π.χ. με βάσιν σιλανίου ή παρόμοια προϊόντα. Αι ίνες υάλου μπορούν να χρησιμοποιούνται υπό μορφήν κομμένων ή μη-κομμένων χονδρών νημάτων (ROVINGS) συμπεριλαμβανομένων ενισχυμένων δια συρμάτων χονδρών νημάτων ή νηματίων, λινατσών ή υφασμάτων.

(3) Προσθετικά

(α) Προσθετικά απαραίτητα δια την μεταχείρισιν των ρητινών, π.χ., καταλύται, επιταχυνταί, μονομερή (MONOMERS), σκληρυνταί, θιξοτροπικές ύλες, συμφώνως προς τις οδηγίες του κατασκευαστού της ρητίνης.

(β) Χρωστικές ύλες, EXTENDERS, και άλλα προϊόντα που επιτρέπουν την λήψιν των απαιτουμένων ιδιοτήτων, π.χ. την αύξησιν των ανθεκτι-

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I/ Η ύαλος των τύπων E και C ορίζεται εις τον Πίνακα I.

κών εις το πυρ ιδιοτήτων, υπό τον όρον ότι δεν θα προκαλέσουν μείωσιν εις την ασφάλειαν χρήσεως (αφαλή χρήσιν) των τοιχωμάτων της δεξαμενής.

2I3.I2I-
2I3.I29

Άρθρο 3

Κατασκευή των τοιχωμάτων της δεξαμενής

Το στρώμα της εξωτερικής επιφανείας των τοιχωμάτων της δεξαμενής πρέπει να αντέχει στις ατμοσφαιρικές επιδράσεις καθώς και στη βραχεία επαφή με τις υπό μεταφοράν ύλες. 2I3.I30

Τα τοιχώματα της δεξαμενής και οι σφραγισμένες ενώσεις πρέπει να ικανοποιούν τους όρους μηχανικής αντιστάσεως τους αναφερομένους στο άρθρο 4. 2I3.I3I

Το στρώμα της εσωτερικής επιφανείας των τοιχωμάτων πρέπει να αντέχει στις διαρκείς επιδράσεις της υπό μεταφοράν ύλης. Το στρώμα αυτό πρέπει να κατασκευάζεται από ενισχυμένην ρητίνην έχουσαν κατώτατον πάχος I ΜΜ (χιλ.). Οι χρησιμοποιούμενες ίνες δεν πρέπει να ελαττώνουν την χημικήν αντίστασιν του στρώματος. Το εσωτερικόν μέρος του στρώματος πρέπει να είναι πλούσιον εις ρητίνες και πρέπει να έχει κατώτατο πάχος 0.2 ΜΜ (χιλ.). 2I3.I32

Οι όροι οι λεπτομερώς αναφερόμενοι στα περιθώρια 2I3.I40 (6) και 2I3.I42 (2) του άρθρου 4 πρέπει να τηρούνται.

Η τελική επεξεργασία των τοιχωμάτων πρέπει να ικανοποιεί τους όρους τους λεπτομερώς αναφερομένους στο περιθώριο 2I3.I40 (3) του άρθρου 4. 2I3.I33

Το κατώτατον πάχος του τοιχώματος θα είναι 2I3.I34
- 3.5 MM (χιλ.) εάν η χωρητικότης της δεξαμενης δεν υπερβαίνει τις 3.000 λίτρες.
- 5.0 MM (χιλ.) εάν η χωρητικότης της δεξαμενής είναι άνω των 3.000 λιτρών.

2I3.I35-
2I3.I39

Άρθρο 4

Μέθοδοι δοκιμής και απαιτούμεναι ποιότητες

Δοκιμαί και ποιότητες απαιτούμεναι για υλικά της προ- 2I3.I40
τοτύπου δεξαμενής.-

(I) Δειγματοληψίαι

Τα απαιτούμενα δια την δοκιμήν δείγματα πρέπει στον είναι δυνατόν να λαμβάνωνται από τα τοιχώματα της δεξαμενής. Προς τον σκοπόν τούτον κομμένα τμήματα από την κατασκευήν των οπών κλπ. μπορούν να χρησιμοποιούνται.

(2) Ποσοστόν ινών υάλου (ύάλου εις ίνας).

Η δοκιμή πρέπει να διεξάγεται συμφώνως προς τας μεθόδους τας προβλεπομένας εν ISO RECOMMENDATION RII72 I970.

Το εις ύαλον περιεχόμενον του δείγματος πρέπει να είναι υψηλώτερον του 25 %β κατά και κατώτερον του 85 %β κατά βάρος.

(3) Βαθμός πολυμερισμού

(α) Τοίχωμα ρητινών πολυεστέρος

Το περιεχόμενον υπολειμματικού στυρενίου δεν πρέπει να είναι μεγαλύτερον του 2 %β κατ, υπολογιζόμενον επί της ολικής ποσότητος των ρητινών. Ο έλεγχος (δοκιμή) θα διεξάγεται συμ-

φώνως προς κατάλληλον μέθοδον. 2/ 213.140 (Συνεχίζεται)

(4) Κάμψις και αντοχή εις εφελκυσμόν

Αι μηχανικαί ιδιότητες πρέπει να καθορίζωνται:-

- για το κέλυφος, στις αξονικές και περιφερειακές κατευθύνσεις
- για τα άκρα και τα τοιχώματα των διαμερισμάτων, σε κάθε οποιαδήποτε κατεύθυνση.

Εάν οι κύριες κατευθύνσεις της ενισχύσεως δεν συμπίπτουν με τις αξονικές και περιφερειακές κατευθύνσεις (π.χ. στη περίπτωση της διαξονικής περιελίξεως), η αντοχή πρέπει να καθορίζεται στις κύριες κατευθύνσεις της ενισχύσεως και να υπολογίζωνται για τις αξονικές και περιφερειακές κατευθύνσεις δια της εφαρμογής των κάτωθι συνθέσεων (τύπων):-

Εφελκυσμός

$\sigma_{T,C} = 2\,\sigma_{T,H}\,\text{ημίτονον}^2\alpha$

$\sigma_{T,\alpha} = 2\,\sigma_{T,H}\,\text{συνημίτονον}^2\alpha$

Κάμψις

$\sigma_{F,C} = 2\,\sigma_{F,H}\,\text{ημίτονον}^2\alpha$

$\sigma_{F,\alpha} = 2\,\sigma_{F,H}\,\text{συνημίτονον}^2\alpha$

T = εφελκυσμός
C = περιφερειακή
α = αξονική
H = ελικοειδής
F = κάμψις
α = προνομιούχος γωνία περιελίξεως

2/ Η μέθοδος του προτύπου (STANDARD) DIN I6945 του Ιουνίου I969, παράγραφος 6.4.3 θεωρείται κατάλληλος.

3/ Η μέθοδος του προτύπου (STANDARD) DIN I6945 του Ιουνίου I969, παράγραφος 6.4.2 θεωρείται κατάλληλος.

Η αντοχή εις εφελκυσμόν πρέπει να ελέγχεται συμφώνως προς τας μεθόδους του εγγράφου ISO/TC6I/WG2/TG "Δοκιμαί πλαστικών ενισχυμένων με ύαλον" No.4 του Φεβρουαρίου I97I. 213.140 (Συνεχίζεται)

Η αντοχή εις την κάμψιν πρέπει να ελέγχεται συμφώνως προς τας μεθόδους της RECOMMENDATION ISO/TC6I No. I540 του Απριλίου I970.

Όροι

Καθ' ούργες δεξαμενάς πρέπει να πληρούν τους παρακάτω συντελεστάς ασφαλείας κατά της θραύσεως:

Συντελεστής ασφαλείας για στατική φόρτωση: 7.5

Συντελεστής ασφαλείας για δυναμική φόρτωση: 5.5

Αι τιμαί επιταχύνσεως που θα εφαρμοσθούν κατά τον υπολογισμόν του δυναμικού φορτίου έχουν ως κάτωθι:-

2 G εις την κατεύθυνσιν του ταξειδίου

I G εις ορθάς γωνίας προς την κατεύθυνσιν του ταξειδίου

I G κατακορύφως προς τα άνω, και

2 G κατακορύφως προς τα κάτω.

Επειδή τα χαρακτηριστικά ελάσματοειδούς εξ ενισχυμένης πλαστικής ύλης μπορεί να διαφέρουν συμφώνως προς την κατασκευήν του, κατώτατα τιμαί δεν καθορίζονται για αντοχήν εις κάμψιν και εις εφελκυσμόν αλλά για φορτία:-

$A = \varepsilon \sigma_T$ όπου σ_T είναι η αντοχή εις εφελκυσμόν κατά την θραύσιν

$B = \varepsilon^2 \sigma_F$ όπου σ_F είναι η αντοχή εις κάμψιν κατά την θραύσιν

Αι κατώταται τιμαί για δυνάμεις Α και Β είναι: 213.140 (Συνεχίζεται)

Για κάμψιν:-

Χωρητικότης δεξαμενής $\leqslant$ 3.000 λίτρες

- περιφερειακή κατεύθυνσις B = 600 DaN
- αξονική κατεύθυνσις B = 300 DaN

Χωρητικότης δεξαμενής $>$ 3.000 λίτρες

- περιφερειακή κατεύθυνσις B = 600 DaN
- αξονική κατεύθυνσις B = 600 DaN

Για εφελκυσμό:

- περιφερειακή κατεύθυνσις A = 100 DaN/MM
- αξονική κατεύθυνσις A = 70 DAN/MM

Ο συντελεστής Ε στην κάμψιν μετράται εις -40°C και εις $+60^{\circ}$C. Αι δύο τιμαί μπορεί να μη διαφέρουν περισσότερο από 30 τοις εκατό της τιμής της λαμβανομένης εις 20°C.

Συμπεριφορά υλικού τοιχώματος διαρκούσης δοκιμής εφελκυσμού διαρκείας άνω των 1.000 ωρών.

Η τάσις δοκιμής είναι $\frac{\sigma T}{7.5}$

Διαρκούσης της δοκιμής ο συντελεστής $K = \frac{\varepsilon_{1000}}{\varepsilon_o}$ μπορεί να μην είναι υψηλώτερος του 1.6

ε_o = επιμήκυνσις φορτωθέντος δείγματος κατά την έναρξιν της δοκιμής

1.000 = επιμήκυνσις φορτωθέντος δείγματος εις το τέλος της δοκιμής.

(5) Συμπεριφορά προύσεως

(α) Φύσις της δοκιμής

Η συμπεριφορά προύσεως καθορίζεται επί δείγματος

ελασματοειδούς αντιστοιχούντος εις το κατασκευαστικό 213.140
υλικό το χρησιμοποιηθέν για τη κατασκευή της δεξαμενής. (Συνεχίζεται)
Η δοκιμή διεξάγεται δια ρίψεως βάρους χάλυβος 5 KG (κιλών) επί της επιφανείας ελασματοειδούς αντιστοιχούντος προς την εξωτερικήν επιφάνειαν της δεξαμενής.

(β) Συσκευή

Η συσκευή αποτελείται από βάρος χάλυβος 5 KG, μηχανισμόν καθοδηγήσεως (GUIDANCE DEVICE) για το βάρος αυτό, και φέρον το δείγμα σασσί. Γενικόν διάγραμμα της συσκευής δίδεται στο διάγραμμα Ι. Το βάρος είναι υπό μορφήν χαλυβδίνου κυλίνδρου εφοδιασμένου με δύο οδηγούς διαδρόμους, του κάτω άκρου έχοντος σφαιρικόν σχήμα, διαμέτρου 90 MM (χιλ.).

Ο μηχανισμός καθοδηγήσεως (GUIDANCE DEVICE) εφαρμόζεται κάθετα προς το τοίχωμα.

Ο δειγματο-φορέας αποτελείται από δύο γωνιακές-δοκούς (μπάρες) των 100 X 100 X 25 MM και 300 MM μήκους, συγκολλημένας σε μεταλλικό στήριγμα 400 X 400 MM (χιλ.). Το διάκενο μεταξύ των δύο δοκών είναι 175 MM (χιλ.). Ο δειγματο-φορέας, σταθεροποιημένος στο έδαφος, είναι εφοδιασμένος με βαθύ κοίλωμα για να επιτρέπεται το λύγισμα (η κάμψις) του δείγματος.

(γ) Προετοιμασία δειγμάτων.

Εκ του δείγματος, λαμβάνονται τρία μέρη, το καθένα 200 X 200 MM (χιλ.) X το πάχος του δείγματος.

(δ) Μέθοδος λειτουργίας
(μέρος του δείγματος)
Το δείγμα τοποθετείται συμμετρικώς επί του δειγματο-

φορέως· εάν είναι δυνατόν κάθεται στο στήριγμα εν 2Ι3.Ι40
συνεχεία δύο βασικών ευθειών γραμμών της επιφανείας,
κατά τοιούτον τρόπον ώστε το βάρος κτυπά το κέντρον
της όψεως του δείγματος της αντιστοιχούσης προς (με) την
εξωτερικήν επιφάνειαν της δεξαμενής.

Το βάρος αφήνεται να πέσει από ένα καθορισμένο ύψος, και λαμβάνεται μέριμνα να εξασφαλίζεται ότι δεν αναπηδά και κτυπά το δείγμα δεύτερη φορά.

Η δοκιμή πρέπει να διεξάγεται σε θερμοκρασία περιβάλλοντος.

Το ύψος εις το οποίο το βάρος υψώνεται στον μηχανισμόν καθοδηγήσεως σημειούται.

Τα άλλα δύο μέρη του δείγματος ελέγχονται κατά τον ίδιον τρόπον.

(ε) Όρος

Τό ύψος ρίψεως για βάρος 5 KG θα είναι Ι μέτρο· το δείγμα δεν πρέπει να επιτρέπει διαρροήν άνω του Ι λίτρου ανά 24 ώρες όταν υποβάλεται σε στήλη ύδατος Ι μ.

(6) Αντίστασις σε χημικούς άγοντας.

Επίπεδοι πλάκες ενισχυμένης πλαστικής ύλης, παρασκευασθείσαι εις το εργαστήριον υποβάλλονται στην προσβολή από την επικίνδυνον ύλην σε θερμοκρασία 50°C για 30 ημέρες συμφώνως προς την παρακάτω διαδικασίαν:-

(α) Περιγραφή της συσκευής δοκιμής (εικονίζεται και στο διάγραμμα 2).

Η συσκευή δοκιμής αποτελείται από κύλινδρον εξ υάλου, διαμέτρου Ι40 Χ Ι50 ΜΜ, ύψους Ι50 ΜΜ με δύο ακροφύσια

τοποθετημένα εις 135° το ένα εφαρμοσμένο με μίαν ένωσιν NS 29 για να λάβει έναν ενδιάμεσο σωλήνα για πυκνωτήν αντιθέτου ροής (REFLUX CONDENSER) (1), το άλλο ανοφύσιο εφαρμοσμένο με μίαν ένωσιν NS 14.5 για να λάβει ένα θερμόμετρο (2), αποτελείται επίσης από έναν ενδιάμεσο σωλήνα για πυκνωτήν αντιθέτου ροής και από έναν πυκνωτήν αντιθέτου ροής μη εικονιζόμενον εις το διάγραμμα. Το εξ υάλου τμήμα της συσκευής θα είναι από ύαλον που να αντέχει στις αλλαγές της θερμοκρασίας. 2313.140 (Συνεχίζεται)

Τα δείγματα ληφθέντα από τις πλάκες δοκιμής σχηματίζουν την βάσιν και το άνω μέρος του υάλινου κυλίνδρου. Έχουν ασφαλισθεί στα άκρα του κυλίνδρου με κολλάρο PTFE. Ο κύλινδρος με τα δύο δείγματα συσφίγγεται μεταξύ δύο πλακών πιέσεως εκ χάλυβος αντέχοντος εις την διάβρωσιν με έξη κοχλιωτές βίδες που σφίγγονται με πτερυγιωτά περικόχλια (περικόχλια μετ'ωτίων). Ένας παρέκυκλος (ροδέλλα) από αμίαντον πρέπει να τοποθετείται μεταξύ των πλακών πιέσεως και των δειγμάτων. Οι παρέκυκλοι αυτοί δεν εικονίζονται στο διάγραμμα 2. Η θέρμανσις πραγματοποιείται από έξω με αυτομάτως ελεγχόμενο σωληνωτό θερμαντήρα. Η θερμοκρασία μετράται εις τον θάλαμον που περιέχει το υγρό.

(β) Λειτουργία της συσκευής δοκιμής

Η συσκευή δοκιμής επιτρέπει μόνον επίπεδες πλάκες ομοιομόρφου πάχους να ελέγχωνται. Οι πλάκες δοκιμής πρέπει, εάν είναι δυνατόν, να είναι πάχους 4 ΜΜ (χιλ.)

Εάν οι πλάκες αυτές καλύπτωνται με επένδυσιν γέ- 2I3.I40
λης (πυκτής) πρέπει να ελέγχωνται αναφορικώς με (Συνεχίζε-
την πρακτικήν των χρήσιν. Έξη εξάγωνα δείγματα, I00 χιλ. ται)
εκάστη πλευρά, κόβονται από τη πλάκα δοκιμής.

Για κάθε δοκιμή, τρία δείγματα ετοιμάζονται ανά συσκευήν. Ένα από αυτά τα δείγματα χρησιμοποιείται ως αφετηρία (REFERENCE) και τα άλλα δύο χρησιμοποιούνται δια τον έλεγχο στην υγρή ζώνην, και ζώνην ατμού του μηχανισμού αντιστοίχως.

(γ) Διαδικασία δοκιμής

Τα υπό έλεγχον δείγματα τοποθετούνται επί της συσκευής με την επιφάνειαν η οποία μπορεί να έχει επενδυθεί με γέλην (πυκτή) βλέπουσαν προς τα μέσα. I200 ML υγρού δοκιμής χύνονται στον υάλινο κύλινδρο. Η συσκευή ακολούθως θερμαίνεται στη θερμοκρασία δοκιμής. Μία σταθερή θερμοκρασία διατηρείται διαρκούσης της δοκιμής. Μετά την δοκιμήν η συσκευή ψύχεται στη θερμοκρασία του περιβάλλοντος και αφαιρείται το υγρό δοκιμής. Τα ελεγχθέντα δείγματα πλένονται αμέσως με διϋλισμένον νερό. Υγρά τα οποία δεν είναι διαλυτά στο νερό αφαιρούνται με διαλυτικόν το οποίον δεν προσβάλλει τα δείγματα. Μηχανικόν καθάρισμα των πλακών δεν μπορεί να γίνει λόγω κινδύνου καταστροφής της επιφανείας των δειγμάτων.

(δ) Εκτίμησις

Οπτική εξέτασις γίνεται:

εάν η οπτική εξέτασις αποκαλύψει υπερβολικήν προσβολήν (ρήγματα, φυσαλλίδες, πόροι, ξεφλούδισμα, φούσκωμα, ή τραχύτης), η δοκιμή είναι αναμφισβήτητα αρνητική· 2Ι3.Ι40 (Συνεχίζεται)

- εάν η οπτική δεν αποκαλύψει ανωμαλίαν, δοκιμές κάμψεως ενεργούνται δια των μεθόδων των οριζομένων εις περιθώριον 2Ι3.Ι40 (4) επί των δύο δειγμάτων των υποβληθέντων εις χημικήν προσβολήν και επί του δείγματος αφετηρίας. Στη περίπτωση αυτή η αντοχή στην κάμψη δεν θα πρέπει να είναι άνω του 20 στα, εκατό χαμηλωτέρα της τιμής της εξακριβωθείσης δια την πλάκα δοκιμής την μη υποβληθείσαι εις οιανδήποτε τάσιν.

Δοκιμή και ποιότης απαιτουμένη για τη πρωτότυπο μονάδα 2Ι3.Ι4Ι

Η πρωτότυπος δεξαμενή θα υποβάλεται σε δοκιμή υδραυλικής πιέσεως διεξαγομένη από εμπειρογνώμονα εγκεκριμένον υπό των αρμοδίων αρχών Συμβαλλομένου Μέρους.

Εάν η πρωτότυπος δεξαμενή διαιρεθεί σε διαμερίσματα είτε με διαφράγματα είτε με κόντρα πόρτες, η δοκιμή θα διεξάγεται επί μονάδος κατασκευασμένης/δια τον σκοπόν αυτόν με τα αυτά εξωτερικά άκρα ολοκλήρου της δεξαμενής και η οποία αντιπροσωπεύει το τμήμα της δεξαμενής το υποβαλλόμενον, υπό κανονικάς συνθήκας χρήσεως, στις μεγαλύτερες τάσεις.

Η δοκιμή αυτή δεν θα πρέπει να διεξάγεται εάν υπάρχει ήδη επιτυχής δοκιμή επί άλλης πρωτοτύπου μονάδος της αυτής(διατομής ή (δια)τομής μεγαλυτέρων διαστάσεων, γωμετρικώς ομοίας με εκείνην της περί ής πρόκειται πρωτοτύ-

που μονάδος, ακόμη και εάν η μονάς αυτή έχει διαφορετικόν στρώμα εσωτερικής επιφανείας. 2Ι3.Ι4Ι (Συνεχίζεται)

Η δοκιμή αυτή πρέπει να καταδεικνύει ότι η πρωτότυπος μονάς έχει, υπό κανονικάς συνθήκας χρήσεως, συντελεστήν όχι μικρότερον του 7.5 όσον αφορά την θραύσιν (σπάσιμο).

Πρέπει να αποδεικνύεται, π.χ. δι'υπολογισμού, ότι οι συντελεστάς ασφαλείας κατά της θραύσεως οι διδόμενοι εις το περιθώριο 2Ι3.Ι40 (4) τηρούνται για κάθε τμήμα της δεξαμενής.

Θραύσις λαμβάνει χώρα όταν το υγρό της δοκιμής διαφεύγει από τη δεξαμενή υπό μορφήν πίδακος. Συνεπώς, προ της θραύσεως αυτής, η ύπαρξις στοιβάδων (DELAMINATIONS) και απωλειών υγρού δια των στοιβάδων τούτων υπό μορφήν σταγονιδίων επιτρέπεται. Η πρωτότυπος μονάς θα υποβάλεται σε υδραυλική πίεση.

$$H = 7.5 \times D \times \eta$$

όπου H είναι το ύψος της στήλης του ύδατος

η είναι το ύψος της δεξαμενής

D είναι η πυκνότης της υπό μεταφοράν ύλης.

Εάν θραύσις λάβει χώρα μέ ύψος στήλης ύδατος H_I μικρότερον του H, πρέπει να εξακολουθεί να είναι

$$H_I \geqslant 7.5 \times D \times (\eta - \eta_I)$$

όπου η_I είναι το ύψος του ανωτάτου σημείου όπου ο πρώτος πίδαξ του υγρού εμφανίζεται.

Εάν η ροή του υγρού εις το σημείον η_I είναι πολύ μεγάλη, είναι ουσιώδες να γίνει προσωρινή επισκευή καθώς

προσωρινή τοπική ενίσχυσις για να μπορέσει η δοκιμή να συνεχισθεί σε ύψος Η.

Έλεγχος συμμορφώσεως επί δεξαμενών παραγομένων εν σειρά 2Ι3.Ι42

(Ι) Η επιθεώρησις της συμμορφώσεως για δεξαμενές που παράχθησαν εν σειρά θα εκτελείται δια της διεξαγωγής ενός ή πλειόνων εκ των ελέγχων των απαριθμουμένων εις το περιθώριο 2Ι3.Ι40.

Εν τούτοις, η μέτρησις του βαθμού πολυμερισμού αντικαθίσταται με την μέτρησιν σκληρότητος του BARCOL.

(2) Σκληρότης BARCOL

Ο έλεγχος πρέπει να διεξάγεται συμφώνως προς καταλλήλους μεθόδους 4/. Η σκληρότης BARCOL μετράται επί της εσωτερικής επιφανείας της υποστάσης τελικήν επεξεργασίαν δεξαμενής και δεν πρέπει να είναι μικρότερη του 75 στα εκατό της τιμής της ληφθείσης εις το εργαστήριο επί καθαρής εσκληρυνθείσης ρητίνης.

(3) Το ποσοστόν ινών υάλου (GLASS FIBRE) πρέπει να είναι εντός των ορίων των προβλεπομένων εις περιθώριον 2Ι3.Ι40 (2) και, επιπροσθέτως, δεν πρέπει να παρεκκλίνει κατά άνω του Ιο στα εκατό του αριθμού για τη πρωτότυπο δεξαμενή.

4/ Αι μέθοδοι αι προβλεπόμενες εν πρότύπω ASTM-D 2583-67 θεωρούνται κατάλληλοι.

Δοκιμές και ποιότητες απαιτούμενες για όλες τις δεξαμε- 2I3.I43
νές προτού τεθούν σε υπηρεσία.

Δοκιμή στεγανότητας

Η δοκιμή στεγανότητας θα διεξάγεται σύμφωνα προς τις διατάξεις των περιθωρίων 2II.I50 και 2II.I5I της ADR και η σφραγίδα του εμπειρογνώμονος θα τίθεται στη δεξαμενή.

2I3.I44-
2I3.I49

Άρθρο 5

Ειδικές διατάξεις για δεξαμενές που χρησιμοποιούνται για τη μεταφορά υλών με σημείον αναφλέξεως $55^{o}C$ ή χαμηλώτερον

Η δεξαμενή πρέπει να κατασκευάζεται κατά τρό- 2I3.I50
πον εξασφαλίζοντα την απαλοιφή (μηδενισμόν) του στατικού ηλεκτρισμού από τα διάφορα συστατικά μέρη ώστε να αποφεύγεται η συσσώρευσις επικινδύνων ηλεκτρικών φορτίων.

Όλα τα μεταλλικά μέρη της δεξαμενής και η μονάς 2I3.I5I
μεταφοράς καθώς και τα στρώματα των τοιχωμάτων που είναι αγωγοί ηλεκτρισμού πρέπει να αλληλοσυνδέωνται.

Η αντίσταση μεταξύ εκάστου αγωγίμου τμήματος 2I3.I52
και του σασσί δεν πρέπει να είναι μεγαλυτέρα των $I0^{6}$ OHMS.

Απαλοιφή κινδύνων οφειλομένων σε φορτία προερχόμενα από τριβήν

Η επιφανειακή αντίσταση και η αντίσταση εκ- 2I3.I53
κενώσεως εις την γήν της ολικής επιφανείας της δεξαμενής θα συμμορφούνται προς τους όρους του περιθωρίου 2I3.I54.

Η επιφανειακή αντίσταση και η αντίσταση εκ- 2I3.I54
κενώσεως εις το έδαφος (γή) μετρούμενες συμφώνως προς το

περιθώριο 2Ι3.Ι55 πρέπει να ικανοποιούν τους παρακάτω δρους. 2Ι3.Ι54 (Συνεχίζεται)

(Ι) Τοιχώματα μη εφοδιασμένα με στοιχεία που είναι αγωγοί ηλεκτρισμού:

(α) Επιφάνειες επί των οποίων μπορεί κάποιος να βαδίσει:

Η αντίσταση εκκένώσεως στη γή δεν πρέπει να είναι μεγαλυτέρα των 10^8 OHMS (ΩΜ).

(β) Άλλες επιφάνειαι:

Η επιφανειακή αντίστασις δεν πρέπει να είναι μεγαλυτέρα των 10^9 OHMS (ΩΜ).

(2) Τοιχώματα εφοδιασμένα με στοιχεία που είναι αγωγοί ηλεκτρισμού:

(α) Επιφάνειες επί των οποίων κάποιος μπορεί να βαδίσει:

Η αντίσταση εκκενώσεως στην γη δεν πρέπει να είναι μεγαλυτέρα των 10^8 OHMS (ΩΜ).

(β) Άλλες επιφάνειες:

Η αγωγιμότης θα θεωρείται επαρκής εάν το ανώτον πάχος των μη-αγωγίμων στρωμάτων επί αγωγίμων στοιχείων, π.χ. αγώγιμα φύλλα (ελάσματα), μεταλλική δικτύωσις ή άλλο κατάλληλο ύλικό, συνδεδεμένα με την προσγείωσιν, δεν υπερβαίνει τα 2 ΜΜ, και στη περίπτωση μεταλλικής δικτυώσεως, ο επιφανειακός χώρος (το εμβαδόν επιφανείας) της οπής του δικτύου (MESH) δεν υπερβαίνει τα 64 CM^2.

(3) Οιαδήποτε μέτρησις επιφανειακής αντιστάσεως ή αντιστάσεως εκκενώσεως στη γή απαιτουμένη να διεξαχθεί επ'αυτής

ταύτης της δεξαμενής θα αντικαθίστανται σε χρονικά δια- 2I3.I54
στήματα όχι μεγαλύτερα του ενός έτους για να εξασφαλί- (Συνεχίζε-
ζεται ότι δεν υπερβαίνονται αι καθορισθείσαι αντιστάσεις. ται)

Μέθοδοι Δοκιμών (Ελέγχων) 2I3.I55

I.- Επιφανειακή Αντίστασις (^{R}I00) - (μοναδική αντίστασις) σε OHMS (ώμ), ηλεκτρόδια (ELECTRODES OF CONDUCTING PAINT) συμφώνως προς τον αριθμόν (σχήμα) 3 της RECOMMENDATION IEC I67 του I964, μετρούμενα με το πρότυπον 23/50 ατμοσφαιρών συμφώνως προς την RECOMMENDATION ISO R29I, παράγραφος 3.I του I963.

2.- Η αντίστασις εκκενώσεως στη γή σε OHMS (ώμ) είναι ο λόγος μεταξύ της συνεχούς τάσεως μετρουμένης μεταξύ ηλεκτροδίου περιγραφομένου κατωτέρω σε επαφή με την επιφάνεια της δεξαμενής του οχήματος και του γειωμένου σασσί του οχήματος, και του ολικού ρεύματος.

Η κατάστασις (CONDITIONING) των δειγμάτων είναι η αυτή της παραγράφου I. Το ηλεκτρόδιο είναι δίσκος με εμβαδόν επιφανείας 20 CM^2 και διάμετρον 50 MM. Η στενή του επαφή με την επιφάνεια της δεξαμενής πρέπει να εξασφαλίζεται, π.χ. δια της χρήσεως υγρού χάρτου ή υγρού σπόγγου ή οιασδήποτε άλλης καταλλήλου ύλης. Το γειωμένο σασσί του οχήματος χρησιμοποιείται ως το άλλο ηλεκτρόδιο. Διαρκής τάσις της κλίμακος I00 βόλτ - 500 βόλτ θα εφαρμόζεται. Η μέτρησις θα διεξάγεται μετά την επί ένα λεπτό εφαρμογήν της τάσεως δοκιμής. Το ηλεκτρόδιο μπορεί να τοποθετηθεί επί οιουδήποτε σημείου της εσωτερικής ή εξωτερικής επιφανείας της δεξαμενής.

Εάν η μέτρησις είναι αδύνατος επί της δεξα- 2I3.I55
μενής, μπορεί επίσης να διεξαχθεί, υπό τους αυτούς δ- (Συνεχί-
ρους, εις το εργαστήριον, επί δείγματος του υλικού. ζεται)

Απαλοιφή κινδύνων οφειλομένων σε φορτία προερχόμενα διαρκούσης της πληρώσεως

Μεταλλικά συστατικά μέρη συνδεδεμένα στη γή 2I3.I56
θα παρέχωνται και διατίθενται κατά τέτοιο τρόπο, ώστε σε οποιοδήποτε στάδιο της πληρώσεως ή της διαδικασίας εκκενώσεως να υπάρχει εμβαδόν όχι μικρότερον των 0.04 τετραγ. μέτρων γειωμένου μετάλλου σε επαφή με το προϊόν ανά κυβικόν μέτρον προϊόντος περιεχομένου εις την δεξαμενήν την στιγμήν εκείνην, και κανένα τμήμα του προϊόντος να απέχει περισσότερον από 2.0 μέτρα από το πλησιέστερο γειωμένο μεταλλικό συστατικό μέρος. Τα μεταλλικά αυτά συστατικά μέρη μπορούν να είναι της μορφής:-

(α) Μεταλλικής ποδοβαλβίδος, στομίου σωλήνος, ή πλακός (ελάσματος) εφ'όσον το ολικόν εμβαδόν του σε επαφή με το υγρό μετάλλου δεν είναι μικρότερον του οριζομένου, ή

(β) Μεταλλικής σχάρας με σύρμα πάχους όχι μικροτέρας του I MM (χιλ.) διαμέτρου και εμβαδού οπής όχι μεγαλύτερον των 4 τετραγ. εκατοστών, εφ'όσον το ολικόν εμβαδόν της σε επαφή με το υγρό σχάρας δεν είναι μικρότερο του οριζομένου.

Το περιθώριο 2I3.I56 δεν θα έχει εφαρμογήν σε 2I3.I57
δεξαμενές από ενισχυμένη πλαστική ύλη εφοδιασμένες με οποιοδήποτε άλλο σύστημα απαλοιφής του κινδύνου από φορτία προερ-

χόμενα (δημιουργούμενα) διαρκούσης της πληρώσεως, εφ' όσον έχει καταδειχθεί δια πρακτικής συγκριτικής δοκιμής συμφώνως προς το περιθώριον 2Ι3.Ι58 ότι ο χρόνος χαλαρώσεως (μεταπτωτικός χρόνος) του φορτίου του δημιουργουμένου εντός της δεξαμενής διαρκούσης της πληρώσεως είναι ισοδύναμος με τον χρόνον τον λαμβανόμενον για μεταλλική δεξαμενή αναλόγων διαστάσεων. 2Ι3.Ι57 (Συνεχίζεται)

Συγκριτική Δοκιμή (Έλεγχος) 2Ι3.Ι58

(Ι) Συγκριτική δοκιμή του χρόνου χαλαρώσεως ηλεκτροστατικού φορτίου συμφώνως προς τους όρους δοκιμής τους περιγραφομένους στην παράγραφο (2) θα διεξαχθεί επί πρωτοτύπου δεξαμενής από ενισχυμένης πλαστικής ύλης και δεξαμενής από χάλυβος κατά τον παρακάτω τρόπον (βλέπε διάγραμμα 3).

(α) Η από ενισχυμένης πλαστικής ύλης δεξαμενή θα μοντάρεται κατά τον αυτόν τρόπον όπως θα ήτο εν χρήσει, π.χ., επί χαλυβδίνου στηρίγματος ομοίου με σασσί οχήματος και θα πληρούται μέχρι όχι κάτω του 75 τοις εκατόν της χωρητικότητος με αυτοκινούμενον (AUTOMOTIVE) καύσιμον ντήζελ, μία αναλογία του οποίου διέρχεται δια παραλλήλου μικροφίλτρου κατά τέτοιο τρόπον ώστε η πυκνότητα του φορτίου της ολικής ροής να είναι περίπου 100 $^{U}C/M^{3}$.

(β) Η έντασις του πεδίου εις τον χώρον ατμού της δεξαμενής να μετράται δια παραλλήλου μέτρου πεδίου συνεχών ενδείξεων μονταρισμένου με τον άξονά του κάθετον και τοποθετημένον τουλάχιστον

20 CM από τον κάθετον σωλήνα πληρώσεως. 2Ι3.Ι58

(γ) Παρομοία δοκιμή θα διεξαχθεί επί δεξαμενής (Συνεχίζεται) εκ χάλυβος της οποίας το πλάτος, μήκος, και όγκος είναι εντός του Ι5 τοις εκατόν εκείνων της εξ ενισχυμένης πλαστικής ύλης δεξαμενής, ή επί δεξαμενής εξ ενισχυμένης πλαστικής ύλης ομοίων διαστάσεων, επενδεδυμένης εσωτερικώς με μεταλλικό λεπτό φύλλο συνδεδεμένο με τη γη.

(2) Οι παρακάτω όροι της δοκιμής θα τηρούνται:-

(α) Η δοκιμή θα διεξάγεται σε καλυμμένον χώρον υπό συνθήκας σχετικής υγρασίας κάτω του 80 τοις εκατόν.

(β) Το αυτοκινούμενον καύσιμον ντήζελ το χρησιμοποιούμενον εις την δοκιμήν θα έχει αγωγιμότητα ανάπαυλας (REST CONDUCTIVITY) στη θερμοκρασία μετρήσεως μεταξύ 3 και 5 $\mu S/M$. Αυτή θα μετράται σε κύτταρο (στοιχείο, CELL) εις το οποίον η

$$\frac{VT}{D^2}$$ είναι μικρότερη ή ίση με 2.5×10^{6}

όπου V = εφαρμοζομένη τάσις (απόστασις)

D = χώρος μεταξύ ηλεκτροδίων σε μέτρα

T = διάρκεια μετρήσεως σε δευτερόλεπτα

Η αγωγιμότης ανάπαυλας (REST CONDUCTIVITY) μετρουμένη επί δειγμάτων του προϊόντος ληφθέντων εντός δεξαμενής δοκιμής μετά την πλήρωσιν δεν θα διαφέρει σε διαδοχικές δοκιμές επί πλαστικών και μεταλλικών δεξαμενών κατά περισσότερον των 0.5 $\mu S/M$.

(γ) Η πλήρωσις θα γίνεται με σταθερό ρυθμό εντός της 2I3.I58
κλίμακος I έως 2 $μ^3$/το λεπτόν και θα είναι ο ίδιος
δια την δεξαμενήν από ενισχυμένης πλαστικής ύλης και
δια την δεξαμενήν από χάλυβος. Εις το τέλος της πλη-
ρώσεως, η ροή πρέπει να διακόπτεται εις χρόνον ο
οποίος είναι βραχύς συγκρινόμενος με τον χρόνον χα-
λαρώσεως (RELAXATION TIME) για το φορτίο εις την δε-
ξαμενήν εκ χάλυβος.

(δ) Η πυκνότης του φορτίου θα μετράται με καταλλήλου
μέτρο συνεχών ενδείξεων (π.χ., τύπου FIELD MILL
/μύλου/) εμβυθιζομένου εις το προϊόν και τοποθετη-
μένου όσον το δυνατόν πειό κοντα στον σωλήνα πλη-
ρώσεως.

(ε) Οι σωλήνες τροφοδοσίας και ο κάθετος σωλήν πληρώ-
σεως θα είναι εσωτερικής διαμέτρου IO CM (εκ.) και θα καταλή-
γουν σε έξοδον σωλήνος πληρώσεως τύπου "T".

(στ) Καταλληλον μικροφίλτρον [1], με ρυθμιζομένην παρα-
καμπτήριον καθιστούσα δυνατήν την ρύθμισιν της δι'
αυτής διερχομένης ροής, θα εφαρμόζεται όχι άνω των
5 μέτρων από την έξοδον του σωλήνος πληρώσεως.

(ζ) Η στάθμη του υγρού δεν θα φθάσει τον πυθμένα (κάτω
μέρος) του σωλήνος πληρώσεως ή του μέτρου πέδιλου (FIELD
METER).

---

[1] Το RELLUMIT 5 ευρέθη ότι είναι καταλληλον.

Σύγκρισις χρόνων χαλαρώσεως (RELAXATION TIMES)

(3) Η αρχική τιμή της εντάσεως πεδίου θα είναι η καταγραφείσα εις το ενωρίτατον χρονικόν σημείον μετά την παύσιν της ροής του καυσίμου όταν μία λεία καμπύλη εξασθενήσεως (DECAY CURVE) δημιουργηθεί. Ο χρόνος χαλαρώσεως (RELAXATION TIME) εξ αμφοτέρες τις δοκιμές θα διατυπούται ως ο χρόνος που χρειάσθηκε η έντασις πεδίου να εξασθενήσει (φθίνει) από την αρχική τιμή εις 0.37 της αρχικής τιμής. 2I3.I58 (Συνεχίζεται)

(4) Ο χρόνος χαλαρώσεως (RELAXATION TIME) της από ενισχυμένης πλαστικής ύλης δεξαμενής δεν θα υπερβαίνει τον της από χάλυβος δεξαμενής.

2I3.I59-
2I3.999

Πίναξ I

ΣΥΝΘΕΣΙΣ ΥΑΛΟΥ

Ὑαλος Ε: Σύνθεσις κατά βάρος:-		
Πυρίτης λίθος (Διοξείδιο πυριτίου)	($Si O_2$)	52 - 55 τοις ἑκατόν
Ἀλουμίνα	(AL_2O_3)	I4 - I5.5 " "
Ἄσβεστος	(Ca O)	I6.5 - I8 " "
Μαγνησία	(MG O)	4 - 5.5 " "
Βορικόν Ὀξείδιον	(B_2O_3)	6.5 - 2I " "
Φθόριο	(F)	0.2 - 0.6 " "
Ὀξείδιο του σιδήρου	(Fe_2O_3)	< I " "
Ὀξείδιο Τιτανίου	($Ti O_2$)	< I " "
Ἀλκαλικά Ὀξείδια	($Na_2O + K_2O$)	
Ὑαλος C: Σύνθεσις κατά βάρος:-		
Διοξείδιο πυριτίου	($Si O_2$)	63.5 - 65 " "
Ἀλουμίνα	(AL_2O_3)	4 - 4.5 " "
Ἄσβεστος	(Ca O)	I4 - I4.5 " "
Μαγνησία	(MG O)	2.5 - 3 " "
Βορικόν Ὀξείδιον	(B_2O_3)	5 - 6.5 " "
Σίδηρος	(Fe_2O_3)	0.3 " "
Ὀξείδιο του Νατρίου	(Na_2O)	7 - 9 " "
Ὀξείδιο του Καλίου	(K_2O)	0.7 - I " "

Διάγραμμα 1 (σελίδα 3288)

Μηχανισμός (επινόησις) δια την μέτρησιν της αντιστάσεως κρούσεως μέσω πίπτοντος βάρους σφαιρικού άκρου

WEIGHT GUIDANCE :-Καθοδήγησις Βάρους

SPECIMEN:- δείγμα

SECTION AA' :-(Δια)-τομή AA'

ANGLE-BAR WELDED TO CHASSIS:- Γωνιωτή δοκός συγκολλημένη στο σασσί

STEEL CHASSIS :- σασσί από χάλυβα

CONCRETE BASE:- βάσις από μπετόν

Διάγραμμα 2 (σελίδα 3289)

Μηχανισμός δια τον έλεγχον της αντιστάσεως έναντι των χημικών αγόντων

TIGHTENING RING (CLAMP):- Δακτύλιος συσφίγξεως (σφιγκτήρ)

SPECIMEN-PLATE:- πλάκα (έλασμα) δείγματος

(GASEOUS PHASE) :- αεριώδης φάσις)

TEFLON JOINT :- ένωσις TEFLON

CONNECTING TUBE:- συνδετικός σωλήν

GLASS CYLINDER:- υάλινος κύλινδρος

LEVEL OF LIQUID :- στάθμη (επίπεδο) υγρού

HEATING SEATH:- θήκη θερμάνσεως

TEFLON JOINT :- ένωσις TEFLON

SPECIMEN PLATE:- πλάκα (έλασμα) δείγματος

(LIQUID PHASE) :- (υγρή φάσις)

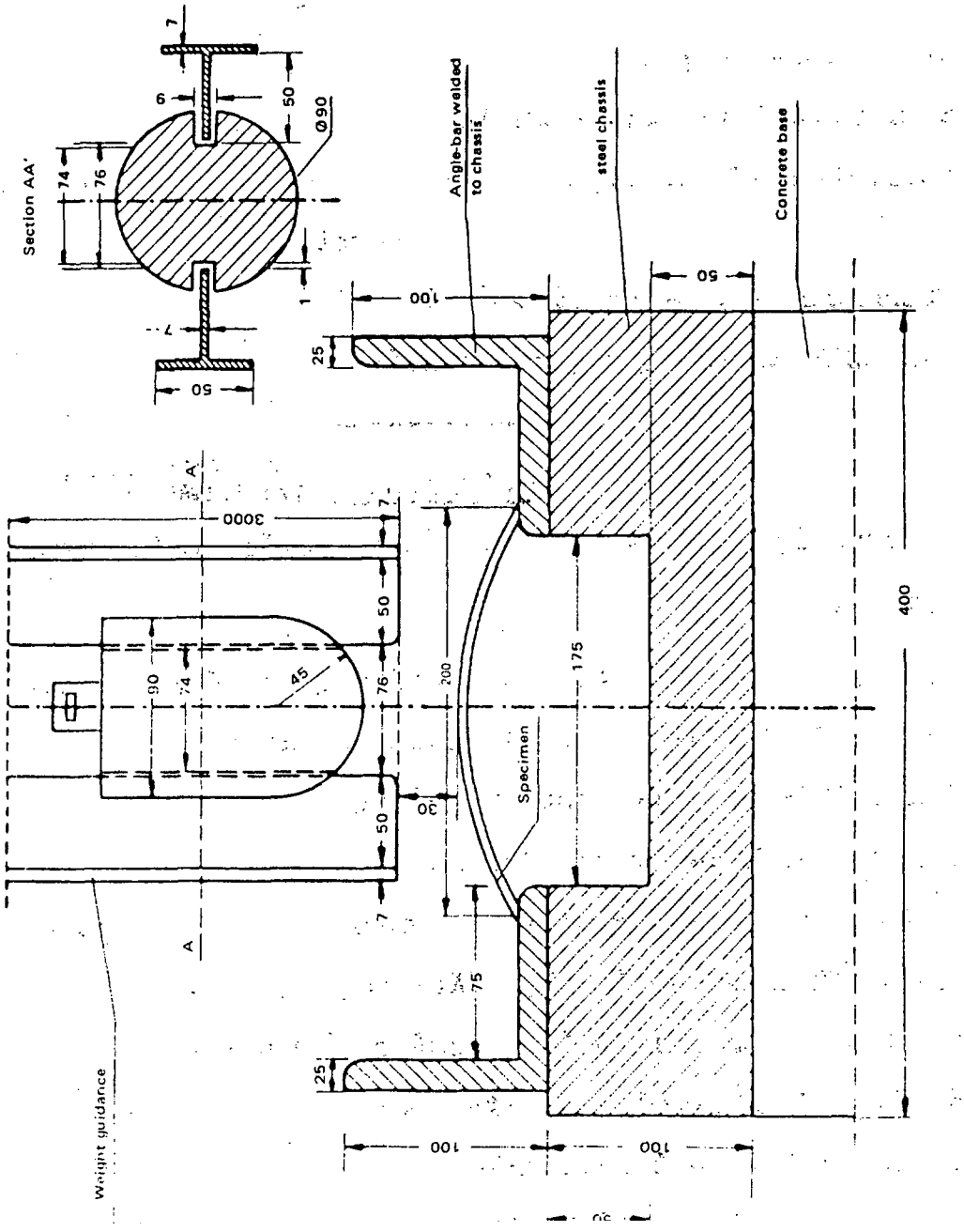
TIGHTENING RING (CLAMP):- Δακτύλιος συσφίγξεως (σφιγκτήρ)

BOLTS THREADED TO WING NUTS:- Βίδες κοχλιωμένες σε πτερυγωτά περικόχλια

Appendix B.1c

Diagram 1

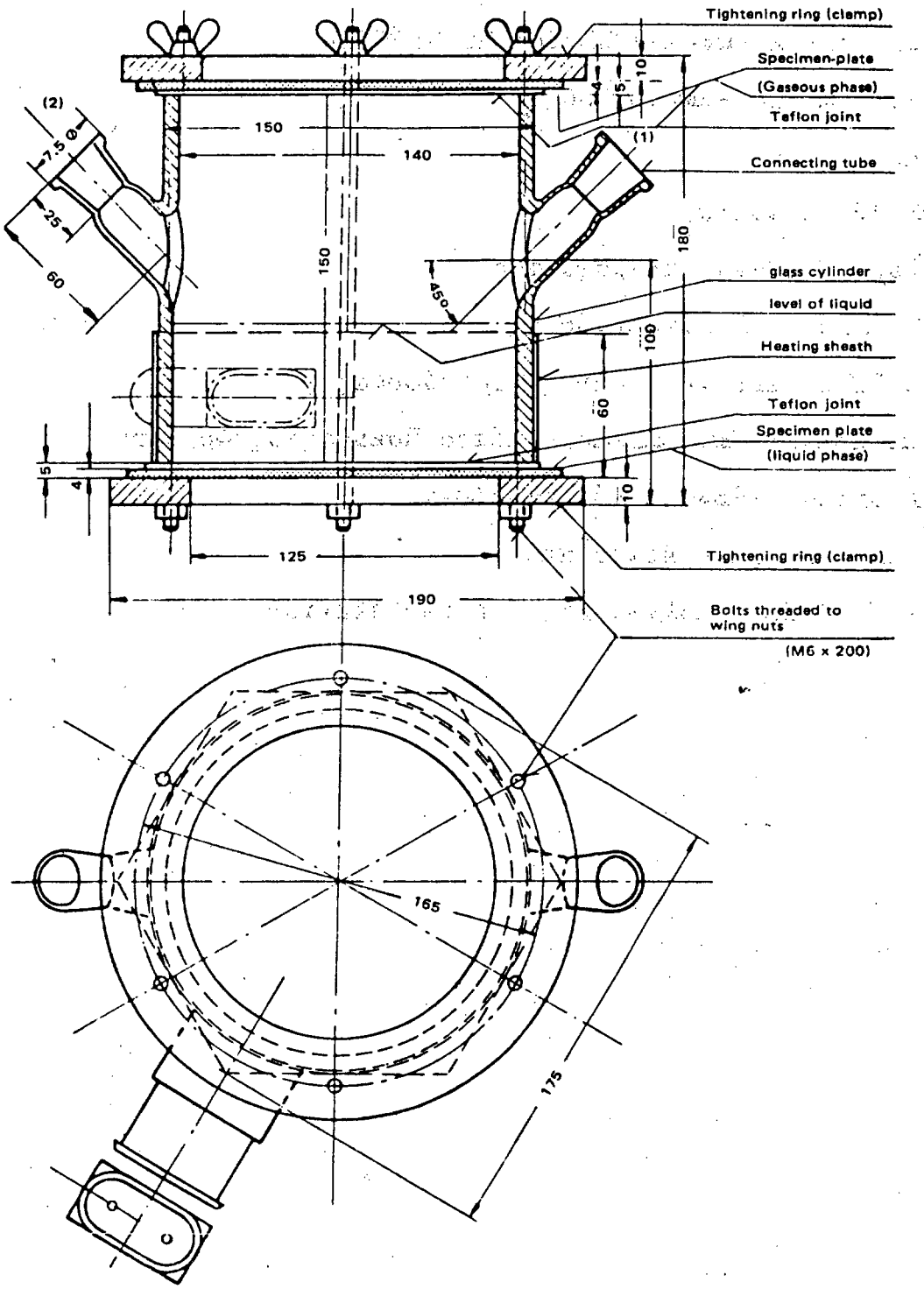
Device for measuring impact resistance by means of a spherically-ended falling weight



Appendix B.1c

Diagram 2

Device to test resistance to chemical agents



Διάγραμμα 3 (σελίδα 3291)

ΣΧΗΜΑΤΙΚΗ ΔΙΑΤΑΞΙΣ ΤΗΣ ΣΥΣΚΕΥΗΣ ΔΙΑ ΣΥΓΚΡΙΤΙΚΟΝ ΕΛΕΓΧΟΝ

STORAGE TANK:- ΔΕΞΑΜΕΝΗ ΑΠΟΘΗΚΕΥΣΕΩΣ

FLOW METER:- Μέτρο ροής

FLOW:- Ροή

PUMP:- Αντλία

MICROFILTER:- Μικροφίλτρο

BY PASS:- Παρακαμπτήριος

SUPPLY PIPES:- Σωλήνες Τροφοδοσίας

CHARGE DENSITY METER:- Μέτρο Πυκνότητος Φορτίου

FILLING PIPE:- Σωλήν πληρώσεως

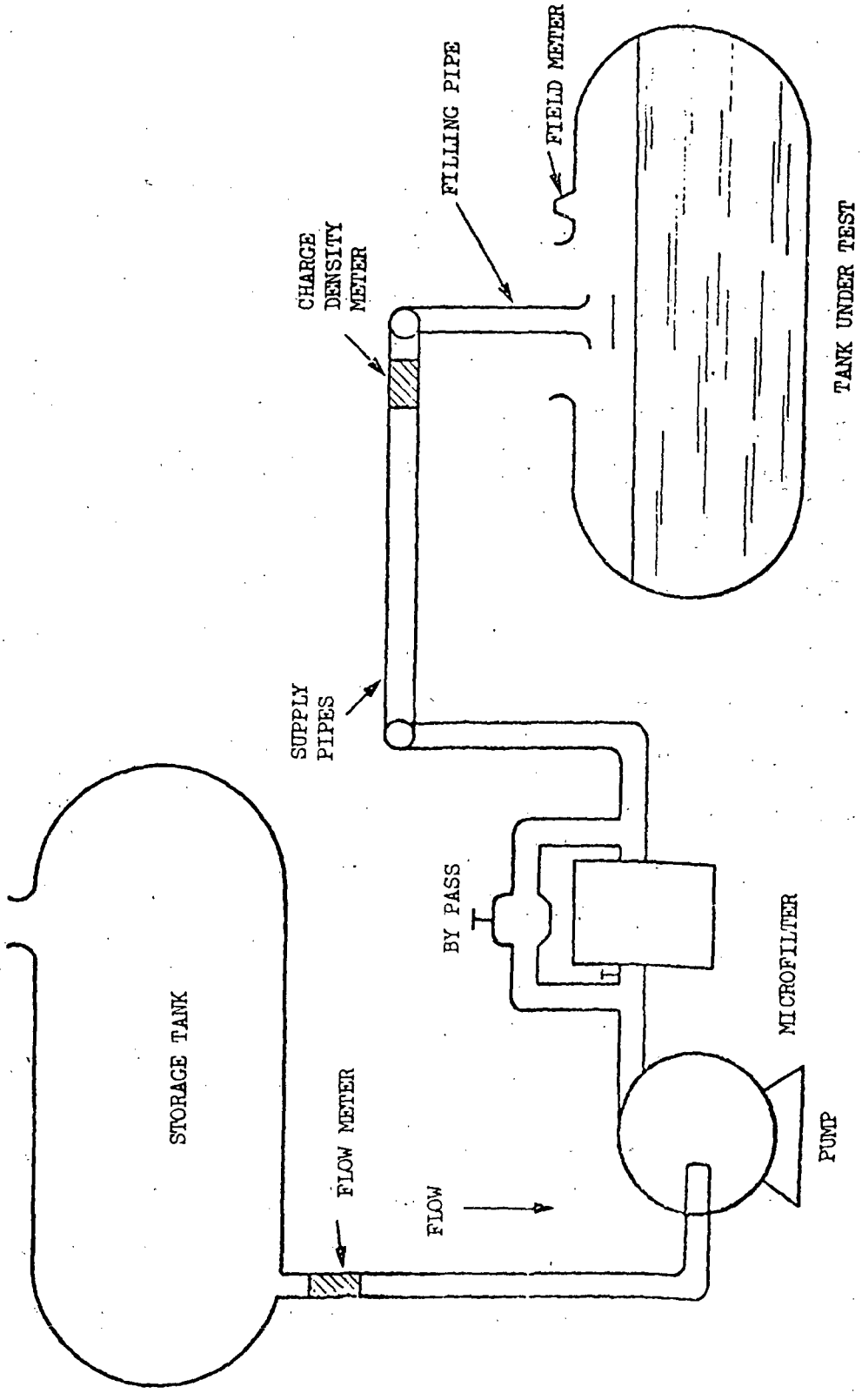
FIELD METER:- Μέτρο πεδίου

TANK UNDER TEST:- Δεξαμενή υπό έλεγχον

Appendix B.1c

Diagram 3

SCHEMATIC LAYOUT OF RIG FOR COMPARATIVE TEST



Προσθήκη Β.Ιδ.-

ΟΡΟΙ ΔΙΕΠΟΝΤΕΣ ΤΑ ΥΛΙΚΑ ΚΑΙ ΤΗΝ ΚΑΤΑΣΚΕΥΗΝ ΣΤΑΘΕΡΩΝ ΔΕΞΑΜΕΝΩΝ, ΛΥΟΜΕΝΩΝ ΔΕΞΑΜΕΝΩΝ, ΚΑΙ ΚΕΛΥΦΩΝ (ΜΠΟΜΠΩΝ) ΔΕΞΑΜΕΝΟ-CONTAINERS (ΔΕΞΑΜΕΝΟ-ΥΠΟΔΟΧΕΩΝ), ΠΡΟΟΡΙΖΟΜΕΝΩΝ ΔΙΑ ΤΗΝ ΜΕΤΑΦΟΡΑΝ ΛΙΑΝ-ΥΓΜΕΝΩΝ ΥΓΡΟΠΟΙΗΜΕΝΩΝ ΑΕΡΙΩΝ ΤΗΣ ΚΛΑΣΕΩΣ 2

2Ι4.000-
2Ι4.249

(Ι) Δοχεία, δεξαμενές και κέλυφη (μπόμπες) θα κατασκευάζωνται από χάλυβα, αλουμίνιο, κράμα αλουμινίου, χαλκό ή κράμα χαλκού, π.χ. ορείχαλκο. Εν τούτοις, δοχεία, δεξαμενές και κελύφη κατασκευασμένα από χαλκό ή κράμα χαλκού θα επιτρέπωνται μόνον για αέρια μη περιέχοντα ακετυλένιον· το αιθυλένιον μπορεί εν τούτοις να περιέχει όχι περισσότερο από 0.005 τοις εκατόν ακετυλένιον. 2Ι4.250

(2) Μόνον υλικά κατάλληλα για την χαμηλωτέραν θερμοκρασίαν λειτουργίας των δοχείων, δεξαμενών και κελυφών και των εξαρτημάτων και παρακολουθημάτων αυτών μπορούν να χρησιμοποιηθούν.

Τα παρακάτω υλικά θα επιτρέπωνται για τη κατασκευή δοχείων, δεξαμενών και κελυφών:- 2Ι4.25Ι

(α) χάλυβες μη υποκείμενοι σε εύθραυστο ρήγμα στη χαμηλωτέρα θερμοκρασία λειτουργίας (βλέπε περιθώριο 2Ι4.265).

Τα παρακάτω μπορούν να χρησιμοποιηθούν:-

Ι.- λεπτόκκοκοι αμιγείς χάλυβες, έως θερμοκρασίαν -60°C·

2.- νικελιούχοι χάλυβες (με περιεχόμενον εις νικέλ 0.5 έως 9 τοις εκατόν), έως θερμοκρασίαν -Ι96°C, εξαρτωμένου του εις νίκελ περιεχομένου·

3.- ωστενίται χρωμιο-νικελιούχοι χάλυβες, 2I4.25I
έως θερμοκρασίαν -270°C. (Συνεχίζεται)

(β) αλουμίνιον καθαρότητος όχι κάτω του 99.5 τοις εκατόν, ή κράματα αλουμινίου (βλέπε περιθώριο 2I4.266).

(γ) αποξειδωμένος χαλκός (DEOXIDIZED COPPER) καθαρότητος όχι κάτω του 99.9 τοις εκατόν, ή κράματα χαλκού έχοντα περιεχόμενον Cu χαλκόν άνω του 56 τοις εκατόν (βλέπε περιθώριο 2I4.267).

(I) Τα δοχεία, δεξαμενές και πελύφη θα είναι 2I4.252
είτε άνευ ραφής είτε συγκολλημένα.

(2) Δοχεία του περιθωρίου 2207 κατασκευασμένα από ωστενίτη χάλυβα, από χαλκό ή κράμα χαλκού μπορούν εναλλακτικώς να να υποβληθούν σε σκληρά συγκόλλησιν.

Τα εξαρτήματα και παρακολουθήματα μπορούν είτε 2I4.253
να βιδώνωνται στα δοχεία, δεξαμενές και πελύφη είτε να στερεώνωνται ως κάτωθι:-

(α) δοχεία, δεξαμενές και πελύφη κατασκευασμένα από χάλυβα, αλουμίνιο και κράμα αλουμινίου: δια συγκολλήσεως·

(β) δοχεία, δεξαμενές και πελύφη κατασκευασμένα από ωστενίτη χάλυβα, χαλκό ή κράμα χαλκού/:- δια συγκολλήσεως ή σκληράς-συγκολλήσεως.

Η κατασκευή των δοχείων, δεξαμενών και πελυ- 2I4.254
φών και η σύνδεσίς των εις το όχημα στο από κάτω πλαίσιο (UNDERFRAME) ή εις το πλαίσιο του CONTAINER (Υποδοχέως) θα είναι τέτοια ώστε να αποκλείεται μετά βεβαιότητας οια-

δήποτε τοιαύτη μείωσις της θερμοκρασίας των φερόντων το φορτίον συστατικών μερών η οποία θα μπορούσε να τα καταστήσει εύθραυστα. Τα μέσα συνδέσεως των δοχείων, δεξαμενών και κελυφών θα είναι έτσι κατασκευασμένα ώστε ακόμη και εάν το δοχείον, η δεξαμενή ή το κέλυφος είναι στη χαμηλωτέρα θερμοκρασία λειτουργίας εξακολουθούν να έχουν τις απαραίτητες μηχανικές ιδιότητες. 2Ι4.254 (Συνεχίζεται)

2Ι4.255-
2Ι4.264

Ι.- Υλικά, δοχεία, δεξαμενές και κελύφη

(α) Χαλύβδινα δοχεία, δεξαμενές και κελύφη (μπόμπες)

Τα υλικά τα χρησιμοποιούμενα για τη κατασκευή δοχείων, δεξαμενών και κελυφών, και τα πλαίσια συγκολλήσεως, πρέπει στην χαμηλωτέρα θερμοκρασία λειτουργίας τους να πληρούν τουλάχιστον τους παρακάτω όρους ως προς την αντοχή κρούσεως. 2Ι4.265

Οι έλεγχοι μπορούν να διεξάγωνται με τεμάχια-δοκιμών έχοντα εγκοπήν είτε σχήματος "U", είτε σχήματος "V".

Υ λ ι κ ό	Αντοχή κρούσεως Ι/ 2/ φύλλου μετάλλου και πλαισίων συγκολλήσεως στη χαμηλωτέρα θερμοκρασία λειτουργίας	
	KGM/CM^2 3/	KGM/CM^2 4/
Αμιγής καθησυχασμένος χάλυψ	3.5	2.8
Κράμα φερριτικού χάλυβος Ni<5°/o	3.5	2.2
" " " 5°/o≤Ni≤9°/o	4.5	3.5
Ωστενιτικός CR-Ni χάλυψ	4.0	3.2

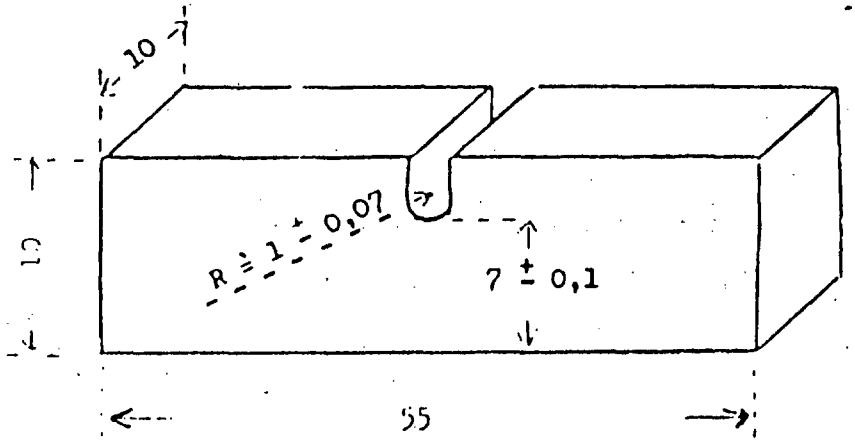
Ι/ Αντοχαί κρούσεως καθοριζόμεναι με διάφορα τεμάχια δοκιμών δεν μπορούν αμοιβαίως να συγκριθούν.

2/ Βλέπε περιθώρια 2Ι4.275 έως 2Ι4.277.

3/ Οι τιμές αναφέρονται σε τεμάχια δοκιμών με εγκοπήν σχήματος "U" όπως εικονίζεται κατωτέρω.

4/ Οι τιμές αναφέρονται σε τεμάχια δοκιμών με εγκοπήν σχήματος "V" συμμορφουμένην προς την ISO R 148.

Σχήμα (βλ. 3295)



Στη περίπτωση ωστενιτικών χάλυβων, μόνο το πλαίσιο συγκολλήσεως (WELD BEAD) χρειάζεται να υποβληθεί σε έλεγχο αντοχήν κρούσεως.

Για θερμοκρασίες λειτουργίας κάτω των -196°C ο έλεγχος αντοχής κρούσεως δεν εκτελείται στη χαμηλωτέρα θερμοκρασία λειτουργίας, αλλά σε -196°C.

(β) Δοχεία, δεξαμενές και κελύφη κατασκευασμένα από αλουμίνιο ή κράμα αλουμινίου

Οι ραφές των δοχείων, δεξαμενών και κελυφών πρέπει σε θερμοκρασία του περιβάλλοντος να πληρούν τους κάτωθι όρους ως προς τον συντελεστήν κάμψεως:

Πάχος φύλλου ε σε MM (χιλ.)	Συντελεστής Κάμψεως K 1/ για τη ραφή	
	Ρίζα σε ζώνη συμπιέσεως	Ρίζα σε ζώνη τάσεως
≤ 12	≥ 15	≥ 12
> 12 έως 20	≥ 12	≥ 10
> 20	≥ 9	≥ 8

1/ Βλέπε περιθώριο 214.285.

(γ) Δοχεία, δεξαμενές και κελύφη κατασκευασμένα από χαλκό ή κράμα χαλκού

Δεν είναι απαραίτητος η διεξαγωγή δοκιμών προς καθορισμόν εάν η αντοχή προύσεως είναι επαρκής. 2Ι4.267

2Ι4.268-2Ι4.274

2.- Έλεγχοι (Δοκιμές)

(α) Έλεγχοι αντοχής-προύσεως

Αι αντοχές προύσεως αι οριζόμενες εις περιθώριο 2Ι4.265 αφορούν τεμάχια δοκιμών Ι0 Χ Ι0 ΜΜ (χιλ.) και με εγκοπήν σχήματος "U" ή σχήματος "V". 2Ι4.275

Παρατηρήσεις:-

Ι.- Αναφορικώς με το σχήμα του τεμαχίου δοκιμής βλέπε περιθώριο 2Ι4.265 (πίναξ), σημειώσεις 3/ και 4/.

2.- Για φύλλα κάτω των Ι0 ΜΜ (χιλ.) αλλά όχι κάτω των 5 ΜΜ (χιλ.) πάχους, τεμάχια δοκιμών με εγκάρσια τομή Ι0 Χ ε ΜΜ, όπου "ε" παριστά το πάχος του φύλλου, θα χρησιμοποιούνται. Τέτοιοι έλεγχοι αντοχής προύσεως γενικώς αποδίδουν υψηλωτέρας τιμάς από ότι αποδίδουν τοιούτοι έλεγχοι επί βασικών (STANDARD) τεμαχίων δοκιμών.

3.- Ουδείς έλεγχος αντοχής προύσεως θα διεξάγεται επί φύλλων πάχους κάτω των 5 ΜΜ (χιλ.) ή επί των ραφών των.

(Ι) Για έλεγχο των φύλλων η αντοχή προύσεως θα καθορίζεται επί τριών τεμαχίων δοκιμών. Τεμάχια δοκιμών με εγκοπήν σχήματος "U" θα λαμβάνωνται σε ορθές γωνίες προς την κατεύθυνσιν του ρολλαρίσματος (κυλινδροσυμπιέσεως) και τεμάχια δοκιμών με εγκοπήν σχήματος "V" εις την κατεύθυνσιν του ρολλαρίσματος (κυλινδροσυμπιέσεως). 2Ι4.276

(2) Για δοκιμή ραφών τα τεμάχια δοκιμών θα λαμβάνονται ως κάτωθι:- 214.276 (Συνεχίζεται)

$\varepsilon \leq 10$

τρία τεμάχια δοκιμών εκ του κέντρου της συγκολλήσεως·
τρία τεμάχια δοκιμών εκ της ζώνης της παραμορφώσεως της δημιουργημένης εκ της συγκολλήσεως (η εγκοπή θα είναι όλωσδιόλου έξωθι της λιωμένης περιοχής /MELTED AREA/ αλλά όσο το δυνατόν πλησιέστερον εις αυτήν)·

Σχήματα (σελ. 3298)

π.χ. σύνολον έξη τεμάχια δοκιμών. Κέντρον συγκολλήσεως Ζώνη Παραμορφώσεως

Τα τεμάχια δοκιμών θα έχουν έτσι κατεργασθεί μηχανικώς ώστε να έχουν το ανώτατον δυνατόν πάχος.

$10 < \varepsilon \leq 20$

τρία τεμάχια δοκιμών εκ του κέντρου της συγκολλήσεως·
τρία τεμάχια δοκιμών εκ της ζώνης παραμορφώσεως·

Σχήμα

Κέντρον Συγκολλήσεως

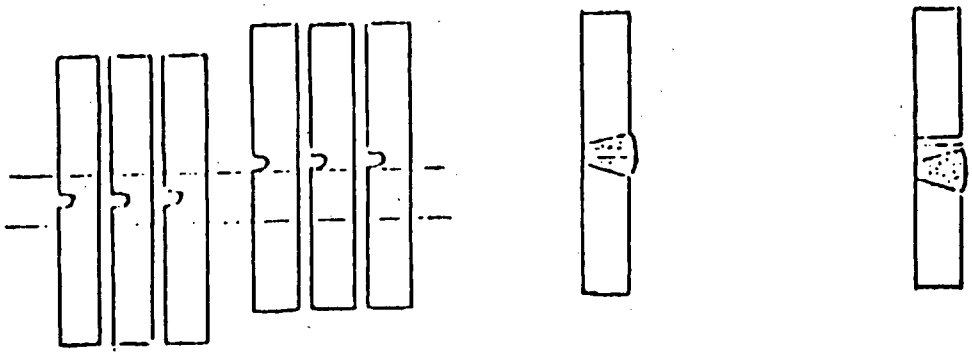
Σχήμα

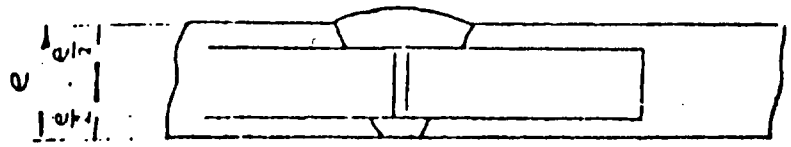
Ζώνη παραμορφώσεως

π.χ. σύνολον έξη τεμάχια δοκιμών.

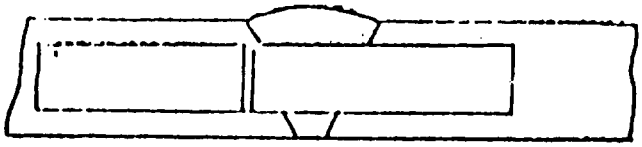
$\varepsilon > 20$

Δύο σετ τριών τεμαχίων δοκιμών (ένα σετ στην άνω όψη, ένα σετ στη κάτω όψη) σε καθένα των κατωτέρω οριζομένων σημείων:





Centre of weld



Σχήμα

Κέντρον συγκολλήσεως

Σχήμα (βλ. 3300)

Ζώνη παραμορφώσεως

π.χ. σύνολον δώδεκα τεμάχια δοκιμών.

(1) Για φύλλα, ο μέσος όρος των τριών δοκιμών θα πληροί τις κατώτατες τιμές τις οριζόμενες στο περιθώριο 2Ι4.265· καμμία των τιμών δεν μπορεί να είναι περισσότερο από 30 τοις εκατόν κάτω της εικονιζομένης ελαχίστης. 2Ι4.277

(2) Για συγκολλήσεις, αι λαμβανόμεναι μέσαι τιμαί από τα τεμάχια δοκιμών των ληφθέντων εις διάφορα σημεία, κέντρον συγκολλήσεως και ζώνην παραμορφώσεως, θα αντιστοιχούν προς τας οριζομένας ελαχίστας (κατωτάτας) τιμάς. Καμμία των τιμών δεν μπορεί να είναι περισσότερο από 30 τοις εκατόν κάτω της οριζομένης ελαχίστης (κατωτάτης).

2Ι4.278–2Ι4.284

(β) Καθορισμός συντελεστού κάμψεως

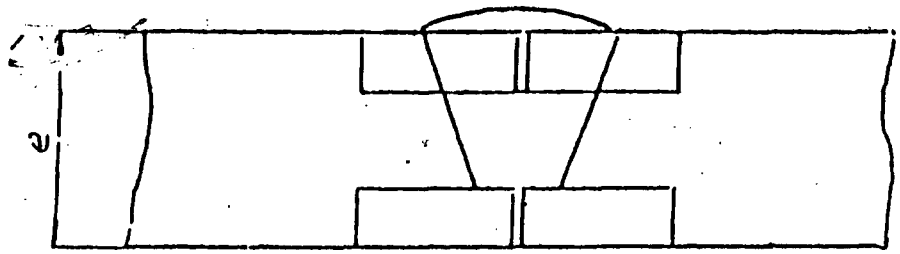
(1) Ο συντελεστής κάμψεως Κ ο αναφερόμενος εις περιθώριον 2Ι4.266 καθορίζεται ως έπεται:- 2Ι4.285

$$K = 50 \frac{\varepsilon}{R},$$

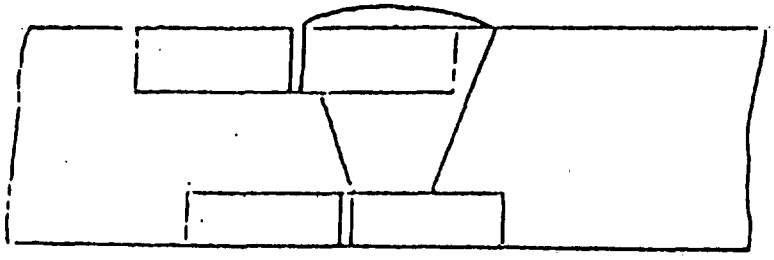
όπου ε = πάχος του φύλλου σε ΜΜ (χιλ.)· και

R = μέση ακτίς καμπυλότητος εις ΜΜ (χιλ.) του τεμαχίου δοκιμής όταν η πρώτη ρωγμή εμφανίζεται εις την ζώνην τάσεως.

(2) Ο συντελεστής κάμψεως Κ θα καθορίζεται για τις ραφές. Το πλάτος του τεμαχίου δοκιμής θα είναι ίσον προς 3 ε.



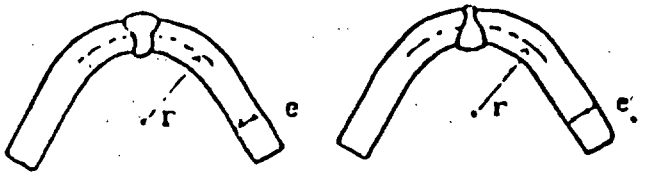
Centre of weld



Zone of deformation

(3) Τέσσερες δοκιμές θα εκτελούνται στη ραφή, δύο 2Ι4.285
με τη ρίζα στη ζώνη συμπιέσεως (εικών Ι) και δύο με (Συνεχίζε-
τη ρίζα στη ζώνη τάσεως (εικών 2)· όλες οι λαμβανόμενες ται)
τιμές θα πληρούν τους όρους των κατωτάτων τιμών του πε-
ριθωρίου 2Ι4.266.

Εικών Ι Εικών 2



2Ι4.286-
2Ι9.999

Προσθήκη Β.2

ΗΛΕΚΤΡΙΚΟΣ ΕΞΟΠΛΙΣΜΟΣ

(Ι) Ο δωτισμός των οχημάτων θα είναι ηλεκτρικός. 220.000

(2) Ο ηλεκτρικός εξοπλισμός των οχημάτων θα πλη-
ροί τους κάτωθι όρους:-

Όροι διέποντες τον ηλεκτρικόν εξοπλισμόν ως σύνολον

(α) Συνδεσμολογία:- Οι αγωγοί πρέπει να είναι σε μεγάλην απόστασιν προς αποφυγήν υπερθερμάνσεως. Πρέπει να είναι καταλλήλως μονωμένοι. Τα κυκλώματα θα προστατεύωνται κατά υπερβολικού ρεύματος με αντιστάσεις ή αυτομάτους διακόπτας. Η συνδεσμολογία θα είναι σταθερά συνδεδεμένη και τοποθετημένη κατά τρόπο που οι αγωγοί να προστατεύωνται κατά των κραδασμών, εξεχόντων λίθων και της θερμότητος της εκπεμπομένης από του συστήματα εξατμίσεως.

(β) Συσσωρευταί:- Διακόπτης δια την διακοπήν όλων των ηλεκτρικών κυκλωμάτων θα τοποθετείται όσο το δυνα-

τόν πλησιέστερον στον συσσωρευτήν. Σύστημα απ'ευθείας ελέγχου ή τηλεχειριστήριον θα έχει εγκατασταθεί εις την θέσιν του οδηγού και από έξω από το όχημα. Θα είναι ευχερώς προσιτόν και θα σημειούται ευδιακρίτως. Ο διακόπτης θα μπορεί να ανοίγεται ενόσω λειτουργεί η μηχανή χωρίς να προκαλείται επικίνδυνος διακύμανσις. Η ηλεκτρική τροφοδοσία προς τον ταχογράφον μπορεί, εν τούτοις, να γίνεται δια κυκλώματος συνδεδεμένου απ'ευθείας με τον συσσωρευτήν. Η συσκευή αυτή και η εγκατάστασίς της θα είναι ουσιαστικώς ασφαλείς σε μίγμα αποτελούμενον από 20 έως εκατόν υδρογόνον και 80 έως εκατόν αέρα. Εάν οι συσσωρευταί είναι τοποθετημένοι σε άλλο σημείο και όχι κάτω από το καπό της μηχανής, θα ασφαλίζωνται εντός θήκης με οπές αερισμού, μεταλλικής ή άλλου υλικού ισοδυνάμου αντοχής, με μονωμένα εσωτερικά τοιχώματα. 220.000 (Συνεχίζεται)

Όροι διέποντες το τμήμα του ηλεκτρικού εξοπλισμού το κείμενον όπισθεν της θέσεως του οδηγού

(γ) Το σύνολο του εξοπλισμού αυτού θα είναι έτσι σχεδιασμένο, εγκατεστημένο και προφυλαγμένο ώστε να μη μπορεί να προκαλέσει ανάφλεξιν ή βραχυκύκλωμα υπό ομαλάς συνθήκας χρήσεως των οχημάτων και να ελαττώνει εις το ελάχιστον τον κίνδυνον της αναφλέξεως ή του βραχυκυκλώματος εις περίπτωσιν κρούσεως ή στρεβλώσεως.

Ειδικώτερον:-

I.- Συνδεσμολογία

Οι αγωγοί (βλέπε 2 (α)) θα αποτελούνται από καλώδια προστατευόμενα από περιβλήματα άνευ ραφής και στεγανά κατά της σκωριάσεως.

2.- Φωτισμός 220.000

(Συνεχίζεται)

Βιδωτές λυχνίες δεν θα χρησιμοποιούνται. Εάν οι φανοί (λαμπτήρες) εις την καρρότσα του οχήματος δεν είναι σταθεροποιημένοι σε μέρη των τοιχωμάτων ή της οροφής εις τρόπον ώστε να προστατεύωνται κατά οιασδήποτε μηχανικής βλάβης, πρέπει να προστατεύωνται με έναν γερό κλωβό ή δικτυωτό.

220.001

Τα εύφλεκτα αέρια και είδη της Κλάσεως 2 220.002 των οποίων η μεταφορά δεν εξαιρείται δυνάμει των διατάξεων του περιθωρίου 21.251 κατά την εφαρμογή των όρων του περιθωρίου 220.000 είναι τα κάτωθι:-

(α) Πεπιεσμένα αέρια

Υδρογόνο (I°(β))

Μεθάνιο (I°(β))

Μονοξείδιο του άνθρακος (I°(B T))

Μίγματα αερίων2(β)

Συνθετικά αέρια (2° (β T))

Φωταέριον (2° (β T))

Υγραέριον (2° (β T))

(β) Υγροποιημένα αέρια

Βουτάνιον (3° (β))

Βουτυλένιον (3° (β))

Κυκλοπροπάνιο (3° (β))

Ισοβουτυλένιο (3° (β))

Προπάνιο (3° (β))

Ισοβουτάνιο (3° (β))

Προπυλένιο (3° (β)) 220.002
Αιθυλοχλωρίδιο (3° (β Τ)) (Συνεχίζεται)
Μεθυλοχλωρίδιο (3° (β Τ))
Διμεθυλαιθέρας (3° (β Τ))
Υδρόθειο (3° (β Τ))
Αιθυλαμίνη (3° (β Τ))
Μεθυλαμίνη (3° (β Τ))
Τριμεθυλαμίνη (3° (β Τ))
Μεθυλιομερκαπτάνη (3° (β Τ))
Βουταδιένη (3° (γ))
Βινυχλωρίδιο (3° (γ))
Βινυβρωμίδιο (3° (γ Τ))
Χλωροκυανίδιο (3° (γ Τ))
Αιθυλενοξείδιο (3° (γ Τ))
Αεριώδη μίγματα Α, ΑΟ, ΑL, Β ή Γ (4° (β))
Αιθάνιο (5° (β))
Αιθυλένιο (5° (β))

(γ) Λίαν-ψυγμένα υγροποιημένα αέρια

Τα αέρια της 7° (β) και 8° (β)

(δ) Αέρια διαλυόμενα υπό πίεσιν

Ακετυλένιο (9° (γ))

(ε) Είδη περιέχοντα αέριο

Διανεμηταί Αεροζόλ (AEROSOL DISPENSERS) της ΙΟ°, (β) και (β Τ)

220.003-
229.999

Προσθήκη Β.3

(βλέπε περιθώριο ΙΟ.Ι82)

ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ ΕΓΚΡΙΣΕΩΣ ΓΙΑ ΟΧΗΜΑΤΑ ΜΕΤΑ- 230.000
ΦΕΡΟΝΤΑ ΩΡΙΣΜΕΝΑ ΕΠΙΚΙΝΔΥΝΑ ΕΙΔΗ (ΕΜ/ΤΑ) 239.999

Ι.- ΠΙΣΤΟΠΟΙΗΤΙΚΟΝ Αρ. .....

2.- πιστοποιούν ότι το κατωτέρω οριζόμενο όχημα πληροί τους όρους τους προβλεπομένους υπό της Ευρωπαϊκής Συμφωνίας περί Διεθνούς Μεταφοράς Επικινδύνων Ειδών (Εμ/των) Οδικώς (ADR) για την αποδοχή του για τη διεθνή μεταφορά επικινδύνων ειδών (εμ/των) οδικώς.

3.- Ισχύει μέχρι .....

4.- Το παρόν πιστοποιητικόν πρέπει να επιστραφεί εις την εκδούσαν υπηρεσίαν όταν το όχημα αποσυρθεί της υπηρεσίας· εάν το όχημα μεταβιβασθεί εις άλλον ιδιοκτήτην· κατά την λήξιν της ισχύος του πιστοποιητικού· και εάν υπάρχει ουσιώδης αλλαγή σε ένα ή περισσότερα βασικά χαρακτηριστικά του οχήματος.

5.- Τύπος οχήματος: κλειστό όχημα, ανοικτό όχημα, βυτιοφόρο μετά/άνευ κλειστού/ανοικτού ρυμουλκουμένου οχήματος/ημι-ρυμουλκουμένου οχήματος (διαγράψατε λέξεις που δεν έχουν εφαρμογήν) .....
.....

6.- Ονοματεπώνυμο και εμπορική διεύθυνση μεταφορέως (ιδιοκτήτου) .....
.....

7.- Αριθμός Εγγραφής/Κυκλοφορίας)(εάν όχι: αριθμός σασσί) .....

8.- Το ανωτέρω περιγραφόμενον όχημα έχει υποβληθεί εις ..... την επιθεώρησιν την προβλεπομένην υπό της ADR, Παράρτημα Β, περιθώριο 10.182 και πληροί τους όρους που απαιτούνται για την αποδοχή του για τη διεθνή μεταφορά οδικώς επικινδύνων ειδών (εμπορευμάτων) των Κλάσεων .....
αριθμοί ειδών .....

9.- Παρατηρήσεις .....
.....

10.- ..... 19..

11.- Υπογραφή και σφραγίς εκδούσης υπηρεσίας εν .....

12.- Η ισχύς του παρόντος πιστοποιητικού παρατείνεται μέχρι .....

13.- Υπογραφή και σφραγίς εκδούσης υπηρεσίας εν .....

14.- Η ισχύς του παρόντος πιστοποιητικού παρατείνεται μέχρι .....

15.- Υπογραφή και σφραγίς εκδούσης υπηρεσίας εν .....

16.- Η ισχύς του παρόντος πιστοποιητικού παρατείνεται μέχρι .....

17.- Υπογραφή και σφραγίς εκδούσης υπηρεσίας εν .....

Παρατηρήσεις:- 1.- Αι διαστάσεις του πιστοποιητικού θα είναι 210 X 297 MM (χιλ.) (σχήμα Α4). Τόσο η προσθία όσα και η οπισθία σελίδα θα χρησιμοποιηθούν. Το χρώμα θα είναι λευκό, με ροδόχρουν διαγώνιον λωρίδα.

2.- Κάθε ρυμουλκούμενο όχημα θα αποτελεί το αντικείμενο χωριστού πιστοποιητικού εκτός εάν καλύπτεται υπό του πιστοποιητικού του οχήματος με το οποίο είναι συζευγμένο.

3.- Οσάκις πιστοποιητικόν εκδίδεται συμφώνως πρός το άρθρο 4, παράγραφος 2, της Συμφωνίας σε όχημα του οποίου η κατασκευή δεν πληροί εξ ολοκλήρου τους όρους του Παραρτήματος "Β", η ισχύς του πιστοποιητικού δεν θα παρατείνεται πέραν της διαρκείας της αναλήσεως της παρεχομένης υπό του ρηθέντος άρθρου 4, επιφυλασσομένων οσάκις θεωρείται ενδεδειγμένον των διατάξεων των περιθωρίων II.605, 2I.605, 3I.605 και 6I.605· και το κείμενον της παραγράφου 8 του πιστοποιητικού της εγκρίσεως θα αντικαθίσταται δια των κάτωθι:- "Το ανωτέρω περιγραφόμενον όχημα δεν πληροί εξ ολοκλήρου τους όρους του Παραρτήματος "Β", αλλά δικαιούται του ευεργετήματος των διατάξεων του άρθρου 4, παράγραφος 2, της Συμφωνίας".

Προσθήκη Β.4

Πίνακες αφορώντες την μεταφορά επικινδύνων υλών της Κλάσεως 7° Ετικέττα που θα τοποθετείται στα οχήματα που μεταφέρουν αυτές τις ύλες.

Οι κατώτατες αποστάσεις αι οριζόμενες στον κατωτέρω πίνα- 240.000
κα μεταξύ των ραδιενεργών υλών και των χώρων των οχημάτων των φυλασσομένων για τον οδηγόν και το συνοδεύον αυτόν προσωπικόν είναι σύμφωναι με τις διατάξεις του περιθωρίου 3659(8)

Ολικόν ποσόν δείκτου μεταφοράς	Κατώτατες αποστάσεις σε μέτρα, προστατευτικό υλικό δεν παρεμβάλλεται, από τα ενδιαιτήματα ή τον κανονικώς καταλαμβανόμενον χώρον εργασίας
	Ισχύοντα στοιχεία στη περίπτωση χρόνου εκθέσεως μη υπερβαίνοντος τις 250 ώρες ετησίως
Κάτω των 2	I.0
2 έως 4	I.5
4 έως 8	2.5
8 έως I2	3.0
I2 έως 20	4.0
20 έως 30	5.0
30 έως 40	5.5
40 έως 50	6.5

Οι κατώτατες αποστάσεις ασφαλείας οι αναφερόμενες στο 240.001
περιθώριο 3657 για τη φόρτωση και αποθήκευση κόλων τα
οποία φέρουν ετικέττα "FOTO" ομού μετά των κόλων της Κα-
τηγορίας II - KITPINON ή Κατηγορίας III - KITPINON δίδον-
ται στον παρακάτω πίνακα.
Αποστάσεις χωρισμού για τη φόρτωση και την αποθήκευση κό-
λων τα οποία φέρουν ετικέττα με την λέξιν FOTO ομού μετά
των κόλων των Κατηγοριών II - KITPINON ή III KITPINON

Ολικόν ποσόν/ποσότης (SUM) των κόλων της κατηγορίας		Ολικόν Ποσόν του δείκτου μεταφοράς	Διάρκεια ταξειδίου ή αποθηκεύσεως σε ώρες							
KITPINON III	KITPINON II		I	2	4	I0	24	48	I20	240
			Κατώταται αποστάσεις σε μέτρα							
		0.2	0.5	0.5	0.5	0.5	I	I	2	3
		0.5	0.5	0.5	0.5	I	I	2	3	5
	I	I	0.5	0.5	I	I	2	3	5	7
	2	2	0.5	I	I	I.5	3	4	7	9
	4	4	I	I	I.5	3	4	6	9	I3
	8	8	I	I.5	2	4	6	8	I3	I8
I	I0	I0	I	2	3	4	7	9	I4	20
2	20	20	I.5	3	4	6	9	I3	20	30
3	30	30	2	3	5	7	II	I6	25	35
4	40	40	3	4	5	8	I3	I8	30	40
5	50	50	3	4	6	9	I4	20	32	45

240.002-
240.009
240.0I0 Η ετικέττα η οποία θα τοποθετείται εις τα τοι-
χώματα των οχημάτων συμφώνως προς τις διατάξεις του περι-
θωρίου 3659(6) θα συμμορφούται προς το παρακάτω μοντέλο:-

RADIOACTIVE : ΡΑΔΙΕΝΕΡΓΟΝ

(Κατώτατο μήκος πλευράς: 15 CM (εκ.)

Σύμβολο και επιγραφή μαύρα σε λευκό φόντο (σχήμα σελ. 3310)

240.011
249.999

Προσθήκη Β.5

ΚΑΤΑΣΤΑΣΙΣ ΥΛΩΝ ΑΝΑΦΕΡΟΜΕΝΩΝ ΕΙΣ ΠΕΡΙΘΩΡΙΟΝ 10.500(2)

ΠΑΡΑΤΗΡΗΣΙΣ·

- Το πρώτο νούμερο του αριθμού προσδιορισμού του κινδύνου ορίζει τον βασικόν (αρχικόν) κίνδυνον ως έπεται:-

2.-Αέριον
3.-Εύφλεκτον Υγρόν
4.-Εύφλεκτον Στερεόν
5.- Οξειδωτική ύλη ή οργανικόν υπεροξείδιον
6.- Τοξικές Ύλες.
8.- Διαβρωτικές

- Το δεύτερο και τρίτο νούμερο προσδιορίζουν δευτερεύοντας κινδύνους:-

0.-ουδεμία σημασία
1.-κίνδυνος εκρήξεως
2.-ενδέχεται να αναδίδει αέριον
3.-κίνδυνος ευφλέκτου ύλης
6.- τοξικός κίνδυνος
8.- κίνδυνος διαβρώσεως
9.- κίνδυνος βιαίας αντιδράσεως από στιγμιαίαν αποσύνθεσιν ή αυτοπολυμερισμόν



5.-κίνδυνος οξειδώσεως

- Οσάκις το πρώτο και δεύτερο νούμερο είναι το ίδιο, μία ένταση του βασικού κινδύνου σημειούται, ήτοι: 33 σημαίνει υψηλώς (λίαν) εύφλεκτον υγρόν (σημείον αναφλέξεως κάτω των 21°C)· 66 σημαίνει λίαν επικίνδυνος τοξική ύλη· 88 σημαίνει λίαν επικίνδυνος διαβρωτική ύλη. Οσάκις τα δύο πρώτα νούμερα είναι 22, καθορίζεται φυγμένον αέριον. Ο συνδυασμός 42 καθορίζει στερεόν το οποίον αναδίδει αέριο σε επαφή με το νερό.
- Οσάκις του αριθμού προσδιορισμού του κινδύνου προηγείται το γράμμα "X", τούτο σημαίνει απόλυτον απαγόρευσιν εφαρμογής νερού επί του προϊόντος.

Οι ύλες οι αναφερόμενες στο περιθώριο 10.500(2) απαριθμούνται κατωτέρω:- 250.000

Ονομασία Ύλης (α)	Κλάσις και αριθμός Είδους (β)	Αριθμός Προσδιορισμού Κινδύνου (άνω μέρος) (γ)	Αριθμός Προσδιορισμού Ύλης (κάτω μέρος) (δ)
Α			
Ακετάλη (L, L-διεθοξυαιθάνιο)	3, 1°(α)	33	1088
Ακεταλδεΰδη	3, 5°	33	1089
Οξικό οξύ, παγόμορφο (και τα υδάτινα διαλύματά του περιέχοντα άνω του 80°/ο καθαρό οξύ)	8, 21°(γ)	83	1842
Οξικός Ανυδρίτης	8, 21°(ε)	83	1715
Ακετόνη	3, 5°	33	1090
Ακετόνη κυανιδρίνη (βλέπε 2-κυανοπροπάνιο-2-ΟL)			

(α)	(β)	(γ)	(δ)
Ακετονιτρίλιο	6.I, 2°(β)	633	I648
Ακετυλοχλωρίδιο	8, 22°	83	I7I7
Ακρυλαλδεΰδη	3, I°(α)	336	I092
Ακρυλονιτρίλιο	6.I, 2°(α)	633	I093
Αήρ	2, 8°(α)	22	I003
Οινόπνευμα (βλέπε αιθανόλη)			
Αλλυλική αλκοόλη	6.I,I3°(α)	63	I098
Αμμωνία	2,3°(α Τ))	268	I005
Αμμωνία, διαλυομένη στο ύδωρ, με άνω του 35°/ο αλλά όχι άνω του 40°/ο αμμωνία κατά βάρος	2,	268	2073
Αμμωνία, διαλυομένη στο ύδωρ, με άνω του 40°/ο αλλά όχι άνω του 50°/ο αμμωνία κατά βάρος	2, 9° (α Τ)	268	2073
Οξικός αμυλεστέρας (βλέπε οξικό πεντύλιο)			
Αλκοόλαι αμυλίου (πλην της τριτοταγούς αλκοόλης)	3, 3°	30	II05
Τριτοταγής αλκοόλη	3, I°(α)	33	II05
Ανιλίνη	6.I,II°(β)	60	I547
Πενταχλωριούχο αντιμώνιο	8,II°(α)	80	I730
Αργό (ψυγμένο)	2, 7°(α)	22	I95I
Β			
Βένζαλδεΰδη	3, 4°	30	I990
Βενζόλιο	3, I°(α)	33	III4
Βενζυλοχλωρίδιο	8, 22°	83	I736
Βρώμιο	8, I4°	886	I744

(α)	(β)	(γ)	(δ)
1,3 Βουταδιένιο	2,3°(γ)	239	1010
Βουτάνιο	2,3°(β)	23	1011
Βουταν-1-ολ-(βουτυλική αλκοόλη, κανονική)	3, 3°	30	1120
Βουταν-2-ολ (σεκ,βουτυλική αλκοόλη)	3, 3°	30	1121
Τριτοταγής βουτανόλη	3, 5°	33	1122
Ν-οξικό βουτύλιο	3, 3°	30	1123
σεκ-οξικό βουτύλιο	3, 1°(α)	33	1124
Ν-βουτυλική αλκοόλη (βλέπε βουταν-1-ολ)			
σεκ-βουτυλική αλκοόλη (βλέπε βουταν-2-ολ)			
Βουτυλαμίνη	3, 5°	338	1125
Ν-βουτυλοχλωρίδιο (βλέπε 1-χλωροβουτάνιο)			
1-βουτελένιο	2, 3°(β)	23	1012
Βουτυραλδεΰδη	3, 1°(α)	33	1129
Γ			
Διάλυμα χλωρικού ασβεστίου	5.1,4°(α)	50	2429
Διοξείδιο του άνθρακος	2, 5°(α)	20	1013
Διοξείδιο του άνθρακος, υγρό (ψυγμένο)	2, 7°(α)	22	2187
Διθειάνθραξ	3, 1°(α)	336	1131
Φωσγένιο (βλέπε φωσγένιο)			
Χλώριο	2, 3° (α Τ)	266	1017
Μονοχλωροβενζόλιο	3, 3°	30	1134

(α)	(β)	(γ)	(δ)
1-Χλωροβουτάνιο (βουτυλιοχλωρίδιο)	3,1°(α)	33	1127
Χλωροδιφθορομεθάνιο (R22)	2,3°(α)	20	1018
1-Χλωρο-2, 3-εποξιπροπάνιο (επιχλωρυδρίνη)	6,1,12°(α)	663	2023
2-χλωροαιθανόλη (βλέπε γλυκολική χλωρυδρίνη)			
Χλωροπρένιο	3, 1°(α)	336	1991
Χλωροσουλφονικό οξύ	8,11°(α)	88	1754
Χλωροτριφθορομεθάνιο (R13)	2, 5°(α)	20	1022
Κρεζόλη	6.1, 22°(α)	60	2076
Κυμένιον	3, 3°	30	1918
Διαλύματα, ανοργάνων, κυανιδίων	6.1, 31°(β)	66	1935
2-Κυανοπροπάνιο-2-ολ (ακετόνη κυανυδρίνη)	6.1, 11°(α)	66	1541
Κυκλοεξάνιο	3, 1°(α)	33	1145
Κυκλοεξανόνη	3, 3°	30	1915
Κυκλοεξένιο	3, 1°(α)	33	2256
Κυκλοπεντάνιο	3, 1°(α)	33	1146
Κυκλοπροπάνιο	2, 3°(β)	23	1027
Δ			
Δεκαϋδροναφθαλίνη	3, 3°	30	1147
Διακετοναλκοόλη, τεχνική	3, 5°	33	1148
1,2-Διαμινοαιθάνιο (αιθυλενοδιαμίνη)	8, 35°	83	1604
1,6-Διαμινοεξάνιο (εξαμεθυλεμοδιαμίνη)	8, 35°	80	1783

(α)	(β)	(γ)	(δ)
I,2-Διχλωροδιφθορομεθάνιο (RI2)	2, 3°(α)	20	I028
I,2-Διχλωροαιθάνιο	3, I°(α)	336	II84
Διχλωροφθορομεθάνιο (R2I)	2, 3°(α)	20	I029
Διχλωρομονοφθορομεθάνιο (βλέπε διχλωροφθορομεθάνιο)			
Διχλωροπροπένιο	3, 3°	36	2047
I,2-Διχλωρο-I, I,2 2-τετραφθοροαιθάνιο (R.II4)	2, 3°(α)	20	I958
I,I-Διεθοξυαιθάνιο (βλέπε ακεταλη)			
Διαιθυλαμίνη	3, 5°	338	II54
Διεθυλοβενζόλιο	3, 4°	30	2049
Διεθυλαιθέρας (θειϊκός αιθέρας)	3, I°(α)	33	II55
Δι-ισοπροπυλαιθέρας	3, I°(α)	33	II59
2,2-Διμεθυλοβενζόλιοϋπεροξείδιο	5.2, I0°	539	2II6
Ανθρακικόν Αιθάνιον	3, I°(α)	33	II6I
Διμεθυλαιθέρας	2, 3°(β T)	23	I033
Διμεθυλοθειϊκόν άλας (DIMETHYL SULPHATE)	6.I, I3°(β)	663	I595
Διοξάνη (DIOXANE)	3, 5°	336	II65
Διχλωριούχον δίθειον (DISULPHUR DICHLORIDE)	8, II°(α)	886	I828
E			
Επιχλωρυδρίνη (βλέπε I-χλωρο-2,3-εποξυπροπάνιο)			
Αιθανεθιόλη (αιθυλομερκαπτάνη)	3, I°(α)	336	2363
Αιθανόλη (αιθυλική αλκοόλη, αλκοόλη)	3, 5°	33	II70

(α)	(β)	(γ)	(δ)
Οξικόν εθοξυαιθύλιον	3, 3°	30	II72
Οξικόν Αιθύλιον (οξικός εστέρας)	3, I°(α)	33	II73
Ακρυλικό Αιθύλιον (ETHYL ACRYLATE)	3, I°(α)	339	I9I7
Αιθυλική Αλκοόλη (βλέπε αιθανόλ)			
Αιθυλικό βενζόλιο	3, I°(α)	33	II75
Αιθυλοχλωρίδιο	2, 3°(β Τ)	23	I037
Αιθυλένιον	2, 5°(β)	23	I962
Αιθυλένιον (ψυγμένο)	2, 7°(β)	223	I038
Αιθυλενοδιαμίνη (βλέπε I,2-διαμινοαιθάνιο)			
Μυρμηκικός Αιθυλεστέρας	3, I° (α)	33	II90
Αιθυλομερκαπτάνη (βλέπε αιθενεθιόλη)			
Πυριτικόν Αιθύλιον (βλέπε πυριτικόν τετρααιθύλιον)			
Φ (F)			
Φθοριοβορικό οξύ (υδάτινα διαλύματα περιέχοντα όχι άνω του 78°/ο καθαρού οξέος)	8, 7°	88	I775
Μυρμηκικό οξύ (περιέχον όχι κάτω του 70°/ο καθαρού οξέος)	8, 2I°(β)	80	I779
Φουρφουραλδεΰδη	3, 4°	36	II99
G (Z)			
Γλυκολική χλωροϋδρίνη (2-χλωροαιθανόλη)	6.I, I2°(β)	66	II35
H			
Εξαμεθυλενιοδιαμίνη (βλέπε I,6-διαμινοεξάνιο)			

(α)	(β)	(γ)	(δ)
Υδραζίνη σε υδάτινα διαλύματα περιέχοντα όχι άνω του 72°/ο υδραζίνην:-			
- διαλύματα περιέχοντα άνω του 64°/ο	8, 34°	86	2029
- διαλύματα περιέχοντα όχι άνω του 64°/ο	8, 34°	86	2030
Υδροβρωμικό οξύ, άνυδρον (βλέπε υδροβρώμιο)			
Διαλύματα υδροβρωμικού οξέος	8, 5°	88	I788
Υδρογονάνθρακες, υγροί, καθαροί ή σε μίγματα, μη άλλως οριζόμενοι στη Προσθήκη αυτή:-			
- με σημείο αναφλέξεως κάτων των 2I°C	3, I°(α)	33	I203
- με σημείο αναφλέξεως μεταξύ 2I°C και 55°C	3, 3°	30	I223
- με σημείο αναφλέξεως άνω των 55°C	3, 4°	30	I202
Μίγματα αερίων υδρογονανθράκων, A, AO, AL, B και Γ (υγροποιημένα)	2, 4°(β)	23	I965
Υδροχλωρικό οξύ, άνυδρο (βλέπε υδροχλώριο, υγροποιημένο)			
Διαλύματα υδροχλωρικού οξέος	8, 5°	88	I789
Υδροκυάνιο, διαλύματα (περιέχοντα όχι άνω του 20°/ο υδροκυανίου)	6.I, I°(β)	66	I6I3
Υδροφθορικό οξύ, υδάτινα διαλύματα περιέχοντα άνω του			

(α)	(β)	(γ)	(δ)
85°/ο καθαρό οξύ	8, 6°(β)		
Υδροφθορικό οξύ, υδάτινα διαλύματα περιέχοντα άνω του 60°/ο αλλά όχι άνω του 85°/ο καθαρό οξύ	8, 6°(γ)	886	I790
Υδροφθορικό οξύ, υδάτινα διαλύματα περιέχοντα όχι άνω του 60°/ο καθαρό οξύ	8, 6°(δ)		
Υδροφθορικό οξύ, άνυδρο (βλέπε υδροφθόριο)			
Υδροβρώμιο	2, 3°(α Τ)	286	I048
Υδροχλώριο	2, 5°(α Τ)	286	I050
Υδροφθόριο (άνυδρο υδροφθορικό οξύ)	8, 6°(α)	886	I052
Διαλύματα υπεροξειδίου του υδρογόνου:			
- περιέχοντα άνω του 40°/ο αλλά όχι άνω του 60°/ο υπεροξειδίου του υδρογόνου	8, 4I°(α)	85	20I4
- περιέχοντα άνω του 6°/ο αλλά όχι άνω του 40°/ο υπεροξειδίου του υδρογόνου	8, 4I°(β)	85	20I4
Υπεροξείδιο του υδρογόνου και διαλύματα υπεροξειδίου του υδρογόνου περιέχοντα άνω του 60°/ο υπεροξειδίου του υδρογόνου	5.I, I°	559	20I5
Υποχλωριώδη διαλύματα			
- περιέχοντα άνω των 50 GM διαθεσίμου χλωρίου ανά λίτρο	8, 37°(α)	85	I79I

(α)	(β)	(γ)	(δ)
- περιέχοντα όχι άνω των 50GM διαθεσίμου χλωρίου ανά λίτρο	8, 37°(β)	85	I79I
Ι			
Ισοβουτάνιο	2, 3°(β)	23	I969
Οξικόν ισοβουτύλιον	3, I°(α)	33	I2I3
Ισοβουτυλένιον	2, 3°(β)	23	I055
Ισοπρένιον (μεθυλοβουταδιένιον)	3, I°(α)	339	I2I8
Ισοπροπανόλη (βλέπε προπάνιον-2-ολ)			
Ακετικόν ισοπροπύλιον	3, I°(α)	33	I220
Ισοπροπυλική αλκοόλη (βλέπε προπάνιο-2-ολ)			
Ισοπροπυλαμίνη	3, 5°	338	I22I
Λ			
Ιλαρυντικό (γελαστικό) αέριο (βλέπε υδροξείδιον του αζώτου)			
Αλκύλια μολύβδου, μίγματα με αλογόνους οργανικάς συνθέσεις π.χ. αιθυλικό υγρό (ETHYL FLUID)	6.I, I4°	663	I649
Μ			
Ρ-υδρυπεροξείδιο μενθανυλίου (με περιεχόμενο υπεροξειδίου μη υπερβαίνον το 95°/ο)	5.2, I4°	539	2I25
Μεθάνιο (φυγμένο)	2, 7°(β)	223	I972
Μεθανόλη (μεθυλική αλκοόλη, ξυλόπνευμα)	3, 5°	336	I230
Μεθοξυμεθάνιο (βλέπε διμεθυλαιθέρα)			

(α)	(β)	(γ)	(δ)
Οξικός μεθυλεστέρας	3, I°(α)	33	I23I
Ακρυλικό μεθύλιο	3, I°(α)	339	I9I9
Μεθυλάλη (METHYLAL)	3, I°(α)	33	I234
Μεθυλική αλκοόλη (βλέπε μεθανόλη)			
Μεθυλαμίνη	2, 3°(β Τ)	263	I06I
Μεθυλαμυλική αλκοόλη	3, 3°	30	2053
Μεθυλοβρωμίδιο (βρωμομεθάνιο)	2, 3°(α Τ)	263	I062
Μεθυλοβουταδιένιο (βλέπε ισοπρένιο)			
Μεθυλοχλωρίδιο (χλωρομεθάνιο)	2, 3°(β Τ)	236	I063
Μεθυλαιθυλική κετόνη	3, I°(α)	33	II93
Μυρμηκικός μεθυλεστέρας	3, I°(α)	33	I243
Μεθυλοϊσοβουτυλική κετόνη	3, I°(α)	33	I245
Μεθακρυλικόν μεθύλιον	3, I°(α)	339	I247
Μεθυλοπροπριονικός εστέρας	3, I°(α)	33	I248
Μεθυλοβινυλικός αιθέρας	2, 3°(γ Τ)	239	I087
Μικτά οξέα νιτρώσεως (θειϊκόν και νιτρικόν οξύ)			
- περιέχοντα άνω του 30°/ο καθαρού νιτρικού οξέος	8, 3°(α)	856	I796
- περιέχοντα όχι άνω του 30°/ο καθαρού νιτρικού οξέος	8, 3°(β)	886	I796
Μίγματα Α, ΑΟ, ΑΙΙ, Β και Γ (βλέπε μίγματα αερίων υδρογονανθράκων, υγροποιημένα)			
Μονοχλωροδιφθορομεθάνιον (βλέπε χλωροδιφθοριομεθάνιο)			

(α)	(β)	(γ)	(δ)
Μονομεθυλαμίνη (βλέπε μεθυλαμίνη)			
Υδάτινα διαλύματα μονομεθυλαμίνης)	3, 5°	336	I235
Ν			
Ναφθαλίνη εις λιωμένη κατάσταση	4.I, II°(γ)	44	2304
Φυσικόν αέριον (ψυγμένο)	2, 8°(β)	223	2043
Νιτρικό οξύ			
- περιέχον άνω του 70°/ο καθαρού οξέος	8, 2°(α)	856	2032
- περιέχον άνω του 55°/ο αλλά όχι άνω του 70°/ο καθαρού οξέος	8, 2°(β)	886	203I
Νιτροβενζόλιο	3, 4°	36	I662
Άζωτον (ψυγμένον)	2, 7°(α)	22	I977
Διοξείδιον του αζώτου NO_2 (υπεροξείδιο του αζώτου, τετροξείδιο του αζώτου N_2O_4)	2, 3°(α T)	265	I067
Υπεροξείδιο του αζώτου (βλέπε διοξείδιο του αζώτου)			
Τετροξείδιο του αζώτου (βλέπε διοξείδιο του αζώτου)			
Υποξείδιο του αζώτου N_2O	2, 5°(α)	25	I070
Ο			
Ατμίζον θειϊκό οξύ (OLEUM)	8, I°(α)	886	I83I
Οξυγόνον (ψυγμένον)	2, 7°(α)	225	I073
Π			
Παραλδεΰδη	3, I°(α)	33	I264

(α)	(β)	(γ)	(δ)
Οξικόν πεντύλιον (οξικόν αμύλιον)	3, 3°	30	II04
Υπερχλωρικό οξύ, σε υδάτινα διαλύματα:-			
- περιέχοντα άνω του 50°/ο αλλά όχι άνω του 72.5°/ο υπερχλωρικού οξέος	5,I, 3°	588	I873
- περιέχοντα όχι άνω του 50°/ο καθαρού οξέος	8, 4°	85	I802
Φαινόλη	6.I, I3°(γ)	68	I67I
Φωσγένιο	2, 3°(α T)	266	I076
Οξυχλωριούχος φωσφόρος (βλέπε φωσφορυλοχλωρίδιο)			
Τριχλωριούχος φωσφόρος	8, II°(α)	88	I809
Φωσφόρος, λευκός ή κίτρινος	4.2, I°	436	I38I
Φωσφορυλοχλωρίδιο (οξυχλωριούχος φωσφόρος)	8, II°(α)	88	1810
Καυστική ποτάσσα	8, 32°	88	I8I4
Κάλιον	4.3, I°(α)	X423	2257
Διάλυμα χλωρικού καλίου	5.I, 4°(α)	50	2427
Προπάνιο	2, 3°(β)	23	I978
N-Προπανόλη (προπυλική αλκοόλη)	3, 5°	33	I274
Προπιοναλδεΰδη	3, I°(α)	33	I275
Προπαν-2-ολ (ισοπροπυλική αλκοόλη)	3, 5°	33	I2I9
Οξικόν προπύλιον	3, I°(α)	33	I276
Προπυλική αλκοόλη (βλέπε N-προπανόλη)			
Προπυλένιον	2, 3°(β)	23	I077
Προπυλενιοδιαμίνη	8, 35°	83	2258

(α)	(β)	(γ)	(δ)
Προπυλενιοξείδιο	3, I°(α)	336	I280
Πυριδίνη	3, 5°	36	I282
R			
RI2 (βλέπε διχλωροδιφθοριομεθάνιο)			
RI3 (βλέπε χλωροτριφθοριμεθάνιο)			
R2I (βλέπε διχλωροφθοριομεθάνιο)			
R22 (βλέπε χλωροδιφθοριομεθάνιο)			
RII4 (βλέπε διχλωροτετραφθοριαμεθάνιο)			
Σ			
Τετραχλωριούχο πυρίτιο	8, II°(α)	88	I8I8
Καυστικό νάτριο	8, 32°	88	I824
Νάτριον	4.3, I°(α)	X423	I428
Διάλυμα χλωρικού νατρίου	5.I, 4°(α)	50	2428
Διάλυμα χλωριώδους νατρίου	5.I, 4°(α)	50	I908
Στυρένιον	3, 3°	30	2055
Διοξείδιον του θείου	2, 3°(α T)	26	I079
Θειϊκόν οξύ			
- περιέχον άνω του 85°/ο καθαρού οξέος	8, I°(α)	88	I830
- περιέχον άνω του 75°/ο αλλά όχι άνω του 85°/ο καθαρού οξέος	8, I°(β)	88	I830
- περιέχον όχι άνω του 75°/ο καθαρού οξέος	8, I°(γ)	88	I830
- άχρηστο, τελείως απονιτρωμένο	8,I°(δ)	88	I832

(α)	(β)	(γ)	(δ)
Θειϊκό και νιτρικό οξύ (βλέπε μικτά οξέα νιτρώσεως)			
Θειϊκός αιθέρας (βλέπε διεθυλαιθέρας)			
Θείον εις λιωμένη κατάσταση	4.I, 2°(β)	44	2448
Θειώδες οξύ, άνυδρον (βλέπε διοξείδιο του θείου)			
Τριοξείδιο του θείου	8, 9°	885	I829
Θειοχλωρίδιο (SULPHURYL CHLORISE)	8, II°(α)	88	I834
T			
Τετρααιθυλικός μόλυβδος	6.I, I4°	663	I649
Πυριτικόν τετρααιθύλιον (πυριτικό αιθύλιο)	3, 3°	30	I292
TETRAHYDROFURAN	3, 5°	33	2056
Τετραμεθυλικός μόλυβδος	6.I, I4°	663	I649
Θειονυλοχλωρίδιο (THIONYL CHLORIDE)	8, II°(α)	88	I836
Τετραχλωριούχο τιτάνιον	8, II°(α)	88	I838
Τολουόλιο	3, I°(α)	33	I294
Τριαιθυλαμίνη	3, 5°	336	I296
Τριαιθυλενική τετραμίνη	8, 35°	80	2259
Τριμαιθυλαμίνη	2, 3°(β T)	236	I083
Διαλύματα τριμαιθυλαμίνης	3, 5°	336	I297
266-υδροϋπεροξείδιο τριμεθυλονορπινανύλιο, με περιεχόμενον υπεροξειδίου μη υπερβαίνον το 95°/o	5.2, I5°	539	2I62
Τριπροπυλαμίνη	8, 35°	83	2260
Τουρπεντίνης	3, 3°	30	I299

(α)	(β)	(γ)	(δ)
V (Β)			
Οξικό βινύλιο	3, I°(α)	33	I30I
Χλωριούχο βινύλιο (βινυχλωρίδιο)	2, 3°(γ)	239	I086
W			
Ξυλόπνευμα (βλέπε μεθανόλη)			
X (Ξ)			
Ξυλόλιο	3, 3°	30	I307
Ξυλενόλη	6.I, 22°(β)	60	226I

250.00I

Αριθμοί προσδιορισμού θα εικονίζωνται επί της πινακίδος (ελάσματος) ως σημειούνται κατωτέρω:

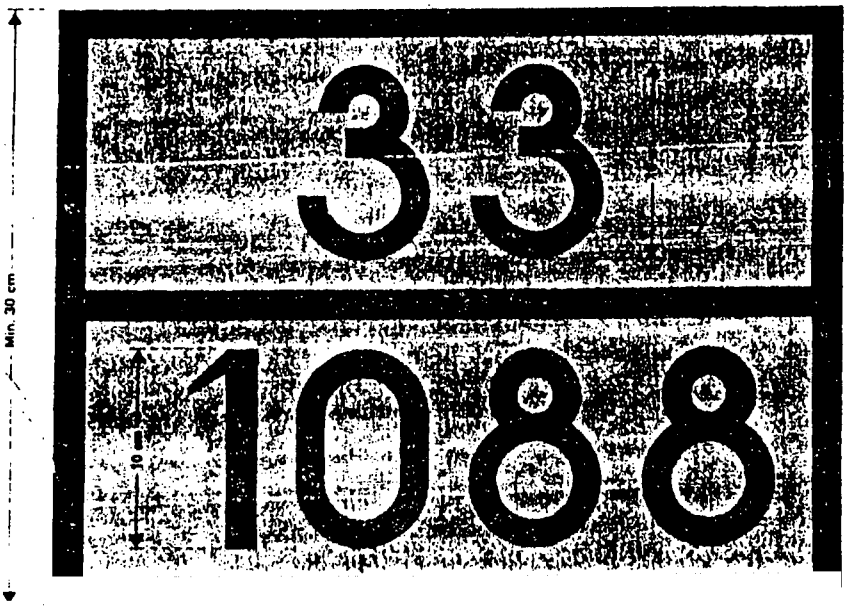
33 Αριθμός προσδιορισμού κινδύνου (2 ή τρία νούμερα)

I088 Αριθμός προσδιορισμού ύλης (4 νούμερα)

Φόντο πορτοκαλλί.

Πλαίσιον, οριζόντιος γραμμή και αριθμοί μαύρα, πάχους I5 Μm (χιλ.)

250.002-
250.999



Άρθρο δεύτερο

Η αποδοχή κάθε νεότερης αναθεώρησης των διατάξεων της Συμφωνίας που κυρώνεται με το νόμο αυτό, καθώς και η ρύθμιση τεχνικών και λεπτομερειακών ζητημάτων εφαρμογής της, γίνεται με απόφαση του αρμόδιου, κατά περίπτωση Υπουργού ή με κοινή απόφαση των συναρμοδίων, κατά περίπτωση, Υπουργών, δημοσιευόμενη στην Εφημερίδα της Κυβερνήσεως.

Άρθρο τρίτο

Η ισχύς του παρόντος αρχίζει από τη δημοσίευσή του στην Εφημερίδα της Κυβερνήσεως, της δε Συμφωνίας κατά τα προβλεπόμενα από το άρθρο 6 αυτής.

Παραγγέλλομε τη δημοσίευση του παρόντος στην Εφημερίδα της Κυβερνήσεως και την εκτέλεσή του ως νόμου του Κράτους.

Αθήνα, 18 Δεκεμβρίου 1987

Ο ΠΡΟΕΔΡΟΣ ΤΗΣ ΔΗΜΟΚΡΑΤΙΑΣ
ΧΡΗΣΤΟΣ ΑΝΤ. ΣΑΡΤΖΕΤΑΚΗΣ

ΟΙ ΥΠΟΥΡΓΟΙ

ΕΞΩΤΕΡΙΚΩΝ
ΚΑΡΟΛΟΣ ΠΑΠΟΥΛΙΑΣ

ΜΕΤΑΦΟΡΩΝ & ΕΠΙΚΟΙΝΩΝΙΩΝ
ΚΩΣΤΑΣ ΜΠΑΝΤΟΥΒΑΣ

Θεωρήθηκε και τέθηκε η Μεγάλη Σφραγίδα του Κράτους.

Αθήνα, 21 Δεκεμβρίου 1987

Ο ΕΠΙ ΤΗΣ ΔΙΚΑΙΟΣΥΝΗΣ ΥΠΟΥΡΓΟΣ
ΑΓΑΜΕΜΝΩΝ ΚΟΥΤΣΟΓΙΩΡΓΑΣ

ΑΠΟ ΤΟ ΕΘΝΙΚΟ ΤΥΠΟΓΡΑΦΕΙΟ