OPS/AIR MASTER
(LIB)

DGP/14

International Civil Aviation Organization

DANGEROUS GOODS PANEL

FOURTEENTH MEETING

Montreal, 12-22 October 1993

REPORT FOLDER

The material in this report has not been considered by the Air Navigation Commission. The views expressed therein should be taken as advice of a panel of experts to the Air Navigation Commission but not as representing the views of the Organization. After the Air Navigation Commission has reviewed this report, a supplement setting forth the action taken by the Air Navigation Commission thereon will be issued to this report.

LETTER OF TRANSMITTAL

To: The President, Air Navigation Commission

From: The Chairwoman, Fourteenth Meeting of the Dangerous Goods Panel (DGP/14)

I have the honour to submit the report of the fourteenth meeting of the ICAO Dangerous Goods Panel (DGP/14) held in Montreal, from 12 to 21 October 1993.

K. Warner
Chairwoman

Montreal
21 October 1993

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* Recommendations annotated "RSPP" relate to proposals for amendment of Standards, Recommended Practices, Procedures for Air Navigation Services or guidance material in an Annex.

DANGEROUS GOODS PANEL (DGP)

REPORT OF THE FOURTEENTH MEETING

Montreal, 12 to 21 October 1993

PART I – ORGANIZATION OF THE MEETING

1. DURATION

The fourteenth meeting of the Dangerous Goods Panel was opened by Mr. M.W. Wilkes, President of the Air Navigation Commission in Montreal at 0930 hours on 12 October 1993. The Secretary General of ICAO attended the opening session and welcomed the panel members and their advisers to Montreal. The meeting finished on 21 October 1993.

2. ATTENDANCE

The meeting was attended by thirteen members and thirty-one advisers as shown in the following list:

Member	Advisers	Nominated by
P.A. Lecomte		Belgium
M. Sastre	L. Hume K. Kendall G.S. Lawson	Canada
Y. Torres	P.E. Soubrier	France
J. Schiller	W.E. Karl	Germany
D. Scandurra	S. Benassai	Italy
T. Shinohara	T. Kiuchi S. Mikawa H. Watanabe	Japan
R.J. Putters	H.N. van der Maat	Kingdom of the Netherlands
V.M. Ivliev	V. Anisimov Y. Piatanov P.M. Zelinsky	Russian Federation

Member	Advisers	Nominated by
J.A. Puente		Spain
K.R. Warner	E. Cheng J. Gee G.A. Leach K.J. Westnott	United Kingdom
F. Wybenga	F.J. Black R.F. Boyle C. Strombom	United States
J. Abouchaar	R. Elbourne A. McCulloch N.M. McCulloch	International Air Transport Association (IATA)
L.J. Farris	W.G. Kingston P. Rex W.A. Schuurman G.E. Sprenkle	International Federation of Air Line Pilots' Associations (IFALPA)
	E.A. Altemos C.A. Clark L. Pickett D.G. Warden	Hazardous Materials Advisory Council (HMAC)
Others		
A. Melos Ajauri Barros		Brazil
R. Abdallah		Representative of Lebanon on the Council of ICAO

3. OFFICERS AND SECRETARIAT

Miss K. Warner was elected Chairwoman of the fourteenth meeting and Mr. P.A. Lecomte was elected Vice-Chairman. The Secretary of the meeting was Dr. Katherine Rooney.

4. LANGUAGES

The discussions were conducted in English, French, Russian and Spanish. The report was issued in English, French, Russian and Spanish.

5. TERMS OF REFERENCE

To recommend changes to maintain the Technical Instructions for the Safe Transport of Dangerous Goods by Air in an up-to-date condition and to carry out other tasks related to the ICAO dangerous goods programme as directed by the Air Navigation Commission.

6. WORK PROGRAMME

1) Recommend changes to the Technical Instructions so as to ensure that it remains an up-to-date, comprehensive and readily usable document which will facilitate safe and expeditious transport of dangerous goods by air and that it is compatible, as far as practicable, with the recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods and of other involved agencies of the United Nations and also taking into account the interests of intermodal compatibility.

2) Advise the Air Navigation Commission on the need for Annex amendments or any other matters pertaining to the safe transport of dangerous goods, as appropriate.

Agenda Item 1: Development of recommendations for amendments to the Technical Instructions for incorporation in the 1995/1996 edition.

1.1 AMENDMENTS TO THE TECHNICAL INSTRUCTIONS (TI)

1.1.1 The meeting developed amendments to the 1993-1994 edition of the Technical Instructions which are shown in the Attachment to the report on this agenda item. These include changes necessary to align the Technical Instructions with the Eighth Revised Edition of the *United Nations Recommendations for the Transport of Dangerous Goods*. Also included are numerous changes to improve the clarity of the TI and to take account of problems that have arisen during the use of the TI. Detailed discussion of these amendments is given below. The meeting agreed that these amendments should be incorporated in the 1995-1996 edition of the document.

1.1.2 It consequently developed the following recommendation:

RECOMMENDATION 1/1 – AMENDMENT TO THE TECHNICAL INSTRUCTIONS

That amendments to the 1993-1994 edition of the Technical Instructions contained in the Attachment to the report on this agenda item be incorporated in the 1995-1996 edition of the Technical Instructions.

1.2 REPORT OF THE DGP WORKING GROUP OF THE WHOLE PANEL MEETING (EDINBURGH, DGP-WG92)

1.2.1 The panel reviewed the report of the Edinburgh Working Group meeting as presented in WP/2. It was agreed that this was a true representation of the proceedings of the working group apart from one reference in paragraph 7 which read Part 3;1.1.16 and which should have been Part 3;1.1.6 d).

1.2.2 In relation to paragraph 2.3, the Secretary informed the panel that agreement had been reached between the Secretary General of ICAO and the Director General of IATA through an exchange of letters in December 1992 modifying paragraphs 4 and 9 of the Letter of Understanding.

1.2.3 Regarding paragraph 3.3, the panel confirmed it is their specific wish that an invitation be extended to CEFIC and HMAC to participate in all future working group and panel meetings in order that the panel could draw upon their expertise when updating the Technical Instructions.

1.2.4 It consequently developed the following recommendation:

RECOMMENDATION 1/2 – ATTENDANCE OF THE EUROPEAN COUNCIL OF CHEMICAL MANUFACTURERS' FEDERATION (CEFIC) AND THE HAZARDOUS MATERIALS ADVISORY COUNCIL (HMAC) AT DANGEROUS GOODS PANEL MEETINGS

That CEFIC and HMAC should be invited to attend all future meetings of the panel and its working groups in an appropriate capacity.

1.2.5 The Secretary pointed out that although the panel required more information before an opinion on operational controls for Type C packages could be given, IAEA believed that this lay within the province of ICAO. Further discussion would take place upon presentation of WP/32 and WP/33.

1.2.6 In relation to paragraph 16.2, the panel strongly urged that the Air Navigation Commission re-confirm their acceptance of Recommendation 1/7 of DGP/12 – "to achieve closer co-operation in the field of dangerous goods between ICAO, UNCOE and IAEA; and to ensure the multi-modal development of international regulations for the transport of dangerous goods; it is essential that ICAO be represented at all relevant meetings of the UN Committee, its Sub-Committee and IAEA."

1.2.7 The meeting consequently developed the following recommendation:

RECOMMENDATION 1/3 – ICAO REPRESENTATION AT MEETINGS OF THE UNITED NATIONS COMMITTEE OF EXPERTS (UNCOE) AND THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

That the Air Navigation Commission re-affirms its view that it is essential that ICAO be represented at relevant meetings of the UNCOE and IAEA.

1.2.8 The panel was informed that the consequential changes as mentioned in paragraph 27 had been included in the report of the Cairo Working Group meeting.

1.2.9 In relation to the proposals for Machinery or apparatus containing dangerous goods, it was announced that a working group would be held to discuss the different solutions presented in WP/3 and WP/13 (Revised and as modified) so that one proposal could be put before the panel for discussion. It was decided that the principles as outlined in WP/13 (Revised and as modified) should form the basis of the single proposal to be discussed by the panel but that certain ideas contained in WP/3 should be included (e.g. Proper Shipping Name). It was believed that the simpler approach of using extensive cross-references and more realistic quantity limits was preferable to creating a specific section in the Technical Instructions for this item.

1.2.10 As all of the amended pages of the Technical Instructions and of the Supplement were included in WP/59, only the remaining amended pages (French language edition of the TI) and the

Foreword to the *Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods* (Doc 9481) were examined. It was pointed out that the Proper Shipping Name for UN 3171 (on page A1-1-31 of the French language edition of the TI) had been changed.

1.3 REPORT OF THE DGP WORKING GROUP OF THE WHOLE PANEL MEETING (CAIRO, DGP-WG93)

1.3.1 The panel reviewed the narrative section of the report of the Cairo Working Group meeting as presented in WP/59. The following corrections were made:

a) the spelling of the IFALPA adviser on page 1 was amended to W.A. Schuurman;

b) an additional paragraph 3.1.5 was added to page 9:

"3.1.5 A verbal proposal to amend a cross-reference to a Proper Shipping Name by including the roman numeral II (Ammonium tetrachloromercurate (II), see **Mercury ammonium chloride)** was not accepted by a majority of the working group even though this meant that the Technical Instructions were not exactly following the UN Recommendations. It was confirmed that this decision meant all Proper Shipping Names and cross-references would be aligned to those in Table 2-14 of the English language edition of the Technical Instructions. It was decided that the Secretary should inform UNCOE of the decision not to follow the UN Recommendations."

c) the reference to subsidiary risk labels in paragraph 21 was deleted as the paper had referred to classification.

1.3.2 The amended pages of the Technical Instructions were examined. These included changes agreed to at the Edinburgh and Cairo Working Group meetings, changes identified by the Secretary when using the published Eighth Revised Edition of the UN Recommendations and changes which had since been identified and which would be included in a corrigendum to be issued by the UN. These amended pages are listed in the Attachment to this agenda item.

1.3.3 It was decided that the word "inorganic" be added in light type immediately after the Proper Shipping Name for **Arsenic compound, liquid, n.o.s.** (UN 1556) and **Arsenic compound, solid, n.o.s.** (UN 1557) to help differentiate these entries from the new one for Organic compound (UN 3280). The UN would be notified of the need to consider the wording of the existing entries now that UN 3280 has been created.

1.3.4 In light of the decision at the Cairo Working Group meeting to change the word "poisonous" to "toxic", the Secretary queried whether the word "poison" in column 5 of Table 2-14 should also be changed. The panel unanimously agreed to retain the word "poison" for the label name.

1.3.5 One member queried if the quantities in columns 10 and 12 of Table 2-14 for UN 3268 referred to the net or to the gross mass. The proposer of the original paper confirmed that it referred to net quantity. It was agreed that a sentence be added to Special Provision A56 to clarify this.

1.3.6 The Secretary confirmed the use of megapascals as a unit of pressure for UN 1040.

1.3.7 A query was raised as to the allocation of numbers to special provisions. It was confirmed that:

a) if the special provision text referred to a new subject matter, the next new number should be used;

b) if the special provision text referred to a related item, the same number be used;

c) if the special provision text was being deleted, the number be retained for the next biennium and the phrase "Not used" be inserted.

1.3.8 It was agreed that a sentence which had been accepted at the Cairo Working Group meeting be inserted as a second paragraph in Packing Instruction 622.

1.3.9 WP/66, with some amendments, replaced the relevant pages in WP/59 when discussing Attachment 1.

1.3.10 The Secretary was asked to make all necessary amendments to Attachment 2 to take into account agreed changes in Table 2-14 and the change from "poisonous" to "toxic".

1.3.11 A member queried the difference for the Proper Shipping Name for UN 0393 as given in Table 2-14 and Table S-2-6 and the UN Recommendations. It was agreed that the word "cast" be deleted.

1.3.12 One member wished to make the point that:

a) as the panel had agreed to the inclusion of a new Proper Shipping Name "Regulated medical waste", it implied that "unregulated" medical waste also existed;

b) the work of the panel should be technical and that the Secretary should be authorized to make editorial changes.

Another member suggested that some problems should now be resolved with the appointment of a full-time Secretary to the panel and that the volume of changes generated by UNCOE was expected to decrease in the coming years. The Chairwoman suggested that if authorization were to be given to the Secretary, clearly defined guidelines would need to be established.

1.3.13 A decision had been made at the Cairo Working Group meeting to recommend to the Air Navigation Commission that subparagraph f) to the definition of "Serious injury" in Annex 13 be deleted (WP/59, paragraph 19.3). A member of the Secretariat explained that the Air Navigation Commission's original request in 1981 to align the definition in Annex 13 and Annex 18 was based on the technical consideration that in an occurrence within the applicability of both Annex 13 and Annex 18, the injury classification could not be different.

1.3.13.1 The Working Group of the Whole Panel meeting in March 1987 had confirmed that subparagraph f) was required in Annex 13 as it was worded in Annex 18 and that the Air Navigation Commission had, in October 1987, agreed that the definition, as it existed in Annex 18, and was proposed for Annex 13, should remain unchanged.

1.3.13.2 It was pointed out that Annex 13 contains specifications addressed to Contracting States on the responsibility for instituting and conducting an investigation and that it was the prerogative of that State to organize and use whatever technical expertise was needed for that investigation.

1.3.13.3 The proposer repeated the arguments for deletion of subparagraph f) in Annex 13 as given in WP/59, paragraphs 19.1 and 19.2 and pointed out that there could well be a misuse of an air accident investigator's time examining an accident involving verified exposure to injurious radiation. Another member supported these views.

1.3.13.4 A member commented that unless there was a problem in a real-life situation, he agreed with the comments of the Secretariat.

1.3.13.5 A member of the Secretariat explained that if a user of Annex 13 had a problem with a dangerous goods accident, they would go to Annex 18 because the Annexes must be taken together as a whole. It was suggested that when the *Manual of Aircraft Accident Investigation* (Doc 6920) is updated next year, new text on dangerous goods will be developed for inclusion. This text will be offered to the panel for approval.

1.3.13.6 It was pointed out that the Air Navigation Commission and the Council placed great importance on maintaining one definition per term whenever possible. A proposal to maintain the recommendation to the Air Navigation Commission was not accepted.

1.4 CLASSIFICATION

1.4.1 A proposal in WP/36 to clarify a note relating to a gas in Division 2.2 was accepted.

1.4.2 In WP/37 it was suggested to change the explanation for "Other Regulated Substance" in Part 2;9.1. A number of members objected to the proposal since it sought to delete the qualification that the substance had to cause extreme annoyance so as to prevent flight crew from the correct performance of their duties. Other members commented that cabin crew were not included in the proposal and a modification was proposed to delete the word "flight".

1.4.2.1 There was some suggestion that the last part of the existing explanation be retained (i.e. reference to the substance preventing the correct performance of assigned duties), but it was then pointed out that this would yield two levels of criteria – one of extreme annoyance and/or discomfort to passengers and one of incapacitation for crew. It was decided not to change the explanation for "Other Regulated Substance".

1.4.3 In WP/67 (and as modified), it was pointed out that one of the new methods of providing pressurization of an aerosol was to use an inner capsule containing a compressed gas. It was queried

whether there was a need to amend Part 2;2.5.1; it was believed that the current definition adequately covered these new aerosols. This was accepted and the amendment to 2;2.5.1 was not pursued.

1.4.3.1 There was some concern that the receptacle must be capable of containing the additional pressure to which it would be subject should the capsule burst inside; an additional sentence was developed to cover this aspect. It was agreed that the proposed notes plus the additional sentence should appear as part of the provisions of the respective packing instructions.

1.4.3.2 A question was raised as to whether the word "metal" should be used to describe the capsule, since some parts of it are plastic. It was agreed to delete the word "metal" from before the word "capsule" in all the newly agreed additions to the packing instructions.

1.4.3.3 A proposal in WP/69 to make a minor amendment to corrosive criteria in Part 2; Chapter 8 was agreed.

1.5 TABLE 2-14 AND TABLE S-2-6

1.5.1 Minor amendments to the explanations for columns 9 and 10 of Table 2-14 as proposed in WP/38 were accepted.

1.5.2 It was agreed as proposed in WP/39 that the decision ratified at DGP/13 relating to the inclusion of a complete line entry for all alternative Proper Shipping Names should be implemented.

1.5.3 A proposal in WP/41 to permit the carriage of UN 3241 in limited quantities was accepted.

1.5.4 The inclusion of a new example of a technical name for a pesticide Proper Shipping Name was agreed.

1.5.5 It was agreed that an entry for **Refrigerating machines** containing flammable, non-toxic liquefied gas be reinstated in the Supplement.

1.5.6 A proposal to clarify a note relating to **Tear gas substances** under Table 2-14 was accepted.

1.5.7 The proposals in WP/43 to remove an inconsistency relating to UN 2956 in the Supplement were accepted; it was decided to treat UN 3251 in a similar manner.

1.5.8 A member who had requested assistance on the use of lined and unlined packages for explosives in WP/10 was informed that new proposals on explosive packaging requirements would be brought before the UN at the next session. These should resolve any present inconsistencies.

1.5.9 The proposal in WP/14 to clarify the special provisions required on the Dangerous Goods Transport Document was accepted subject to a modification.

1.5.10 In WP/30, the proposal to delete Particular Packing Requirement 2 for certain Class 8, Packing Group III liquids was accepted. The proposer of WP/61 indicated that his paper had now been dealt with.

1.5.11 In WP/45 it was suggested that the present requirement for shippers of drugs, medicine and cosmetics to indicate that the gross mass does not exceed 25 kg is misleading and should be deleted. It was suggested that both methods should be allowed so that the shipper had the choice of using whichever method was more convenient. It was pointed out that the present requirement might provide the crew with an inflated idea of the hazard. The proposal was accepted.

1.5.12 Having decided to delete A3 for UN 1202 at the Cairo Working Group meeting, WP/65 suggested that many diesel fuels, which are non-dangerous because of their flashpoint, would be subject to the Technical Instructions. It was agreed to re-insert A3 against these entries and that the UN be notified of this decision and asked to consider placing Special Provision 223 against the entry.

1.5.13 In WP/54 is was suggested that since operators would have difficulty in fulfilling the proposed requirements for A60, it should either be deleted or the substance which it affected, UN 2531, be forbidden for air transport. The panel was informed that the special provision had been developed for safety reasons. After some discussion, it was decided to forbid the carriage of UN 2531 in Table 2-14, to place A2 against it and to transfer the entry to the Supplement.

1.5.14 In WP/62, the problem of the quantity of ammonia in refrigerating machines which could be regarded as being non-dangerous, was addressed. The proposer explained that commonly, refrigerating machines containing ammonia transported by air contained UN 2672 (i.e. ammonia solution, 10-35% ammonia). It was suggested that a simple substitution of UN 2073 by UN 2672 in the lightface type of the UN 2857 entry, together with the proposed revised Special Provision A26 and a consequential change to the reference to UN 2073 in Packing Instruction 211, would provide a solution. Other suggestions included deleting the lightface type associated with UN 2857 or deleting the reference to UN 2073 in that lightface type. Some members suggested that a new entry be created to allow for this Class 8, Packing Group III ammonia solution as they believed that the UN would not accept an article of Class 8 to be included in Division 2.2. The proposer explained that the UN had been willing to include UN 2857 in the UN Special Provision 119 and had only agreed not to include it because the panel had asked to defer making any change. It was also pointed out that if a new entry were to be requested, it would take four years for the entry to be included in the Technical Instructions; it was believed that the expedient solution was to refer to UN 2672. It was pointed out that to be consistent with the Table 2-14 entry for UN 2857, the quantity unit used should be L. The proposals to amend Special Provision A26 and to substitute UN 2672 for UN 2073 in Table 2-14 for UN 2857 and in Packing Instruction 211 were accepted by a majority. The Secretary was asked to inform the UN and to ask that Special Provision 119 be aligned with Special Provision A26.

1.5.15 A proposal to add a new Special Provision for certain Refrigerating machines permitting them to be not subject to the TI was accepted. It was agreed that the UN be informed of this decision.

1.6 PACKING AND PACKAGINGS

1.6.1 In WP/4 a proposal to modify certain particular packing requirements to allow an additional secondary receptacle for a number of packing instructions was accepted after some modification following the withdrawal of the suggestion for Packing Instruction 311. It was pointed out that a similar modification of text in Packing Instruction 413 should be done; this was agreed. Another proposal to modify Particular Packing Requirement 2 was rejected as it was believed that it was an unnecessary relaxation of the regulations.

1.6.2 WP/51 pointed out the difference between the wording in the Technical Instructions and the UN Recommendations concerning the internal pressure test for single packagings. It was agreed that the Secretary ask the UN to reflect the reference to the minimum test pressure for air transport.

1.6.3 A proposal in WP/56 to modify the permitted inner packagings for UN 1458 was agreed.

1.6.4 A proposal in WP/68 to modify the permitted inner packagings for UN 1280 was agreed.

1.6.5 The proposal in WP/64 to add a note to 3;1.1.17 to indicate the problem of choosing packagings suitable for solids which become liquid during air transport was accepted subject to re-wording of the note by the Secretary.

1.6.6 The proposal in WP/44 to amend the requirement of "Q" values in certain circumstances was accepted.

1.6.7 It was suggested in WP/16 that the vacuum test method was an acceptable alternative method for pressure testing of packagings as it was believed that it best represented a loss of aircraft cabin pressure with a resulting pressure differential. Several members pointed out that the present wording permitted the use of vacuum testing. The proposer indicated that the reference to 75 kPa (for Class 3 or Division 6.1 liquids of Packing Group III level) was intended to be retained. On further discussion, it was agreed that the phrase "as prepared for shipment" be deleted as it was felt that it served no purpose since the packagings would have to be filled before testing. Another member pointed out that with the ability of some packagings to flex, the vacuum test method would not, in all cases, yield a 95 kPa pressure differential. After further discussion, several minor modifications were suggested. The proposal was, however, not accepted. As a result of the discussion, WP/17 was withdrawn and the proposer of WP/27 said it had been dealt with.

1.6.8 It was proposed in WP/63 that "grandfathering" provisions be provided for the new metal drum markings requirement. It was pointed out that drum manufacturers would need a grace period to handle the transition from old to new markings and to allow for the fact that these metal drums could be in use for a period of ten years. It was agreed that there was a need to set a limit date by which time manufacturers would cease to mark metal drums with the old markings. Some members suggested that a longer period to that proposed was necessary. It was pointed out, however, that the metal drum manufacturers had been closely involved with the UN. The proposed implementation date from 1 January 1995 was believed to be acceptable. The proposal was accepted by a large majority.

1.6.9 An apparent relaxation in the provisions concerning the transport of explosives when packed with life-saving appliances in accordance with Packing Instruction 905 was discussed. It was

agreed that this was not a problem as it was believed that these explosives would have been packed either by the manufacturer or by a reputable packing company.

1.6.10 The problem of "empty" packagings for **Nitrogen,** refrigerated liquid, being subject to the provisions of the Technical Instructions unless all parts of the packaging were at ambient temperature was discussed. A note permitting certain types of insulated packagings not to be subject to the Technical Instructions was agreed.

1.7 LIMITED QUANTITIES/EXCEPTED QUANTITIES

1.7.1 A suggestion in WP/19 to draw the UN's attention to three substances in Class 9 and include them in UN Table 15.2 was accepted. It was noted that some States could have problems allowing an "Environmentally hazardous substance", liquid or solid, in limited quantities at least until such time as the UN develops criteria for these substances.

1.7.2 In WP/35, it was proposed that a "Q" value, similar to that which exists for mixed packing of dangerous goods in UN packaging or in excepted quantities should be required for limited quantities. It was pointed out that the present system had been developed because no quantity limits were present in Table 2-14 for limited quantities; this has since changed.

1.7.2.1 Several members were not in favour. They believed it was unnecessary because the present system was perceived to be easier to use and the calculation of the "Q" value was difficult especially from a training viewpoint.

1.7.2.2 When a suggestion was made that the "Q" value system might be changed in favour of the present limited quantities system, the proposer explained that this had been the case a number of years ago and that the "Q" value system had since been developed.

1.7.2.3 Other members supported the proposal on the basis that it was preferable to have only one system which coped with mixed packing of limited and excepted quantities of dangerous goods and dangerous goods in UN packaging. A small majority agreed to the proposal.

1.7.3 In WP/40 it was proposed to allow organic peroxide of types D, E and F in limited quantities. During the discussion, the point was made that up to now organic peroxides (other than in various kits) had not been permitted in limited quantities. There had also been no demonstration of a need to permit them. It was, however, pointed out that only organic peroxides of a low hazard would be allowed. There was no majority for the proposal.

1.8 SPECIAL PROVISIONS

1.8.1 The proposal in WP/9 to clarify Special Provision A20 was agreed.

1.8.2 The proposal in WP/12 was agreed.

1.8.3 In WP/28, a suggestion was made to delete Special Provision A3 and insert a note in the Classification part of the Technical Instructions, on the basis that sufficient information already existed in the Technical Instructions to enable a trained person to decide whether a substance was regulated or not. It was pointed out that although a substance may not meet the criteria for a hazard class, it might be regulated based on human experience. It was also pointed out that the UN, before developing their equivalent special provision, had considered the inclusion of a general statement to cater for the possibility of non-regulation but eventually had decided to develop the provision. The proposal was not accepted.

1.9 SHIPPER'S RESPONSIBILITIES

1.9.1 The proposal in WP/7 to amend Packing Instruction 904 was agreed.

1.9.2 A proposal in WP/46 to require package markings to be legible was agreed, subject to a minor modification.

1.9.3 The proposal in WP/49 to amend Part 4;4.1.3 c) was not accepted after it was pointed out that many substances exist for which all sub-risks have not been identified. It was also pointed out that certain special provisions, e.g. A99, may require no label to be shown even though the subsidiary risk is identified.

1.9.4 In WP/47, a proposal was made to clarify that overpacks could not contain packages whose integrity had been compromised by damage. Concern was expressed that the proposed text could be interpreted to include packages, such as drums, with minor dents; this was felt to be unjustified. Some members commented that some explanation was needed of what was meant by "damage" since it was open to subjective judgement. It was pointed out, however, that the word was already used, without further explanation, in several places in the Technical Instructions. Several members spoke in favour of the proposal and, with minor modification, it was accepted.

1.9.4.1 During discussion of the other proposals in WP/47, revised text, which avoided use of the word "damage" was agreed. It was decided that this revised text should be applied to the proposal previously agreed, since it was felt to be an improvement.

1.9.5 In WP/48 (and as modified), it was proposed whenever an overpack was used that an indication of this be given to the operator. Several members felt that the present system, requiring the shipper to confirm on the overpack when packages within an overpack had UN specification markings, was preferable and was also helpful to acceptance staff. The proposal was not accepted by a small majority.

1.9.6 In WP/70, it was suggested that in the case of **Chemical kits**, the requirement for subsidiary risk labelling, as contained in Special Provision A44, could be modified so as to reduce redundant labels. Although some concern was expressed that the philosophy might be extended to other items, a majority of members agreed with the principle for chemical kit labelling. Revised wording of the amendment to Special Provision A44 was offered; this was accepted by a large majority. One member asked that the UN be informed that ICAO was not following the principles of subsidiary risk

labelling. It was pointed out that chemical kits were not contained within the UN Recommendations; there was no agreement to the request.

1.9.7 A proposal to clarify the mass units to be used in **Chemical kits** was accepted.

1.10 PROVISION OF INFORMATION

1.10.1 This paper suggested that the requirement that information be provided to passengers in baggage claim areas was unnecessary as it was believed to be ineffective and possibly impossible to enforce from a compliance viewpoint. Several members argued that any information on dangerous goods, regardless of where it is located, is useful. The proposal was withdrawn.

1.11 TECHNICAL INSTRUCTIONS – GENERAL

1.11.1 The proposal in WP/55 to align the French edition of the TI with the English edition for paragraph 2;11.2.2 was agreed.

1.11.2 The first proposal in WP/58 referred to an apparent discrepancy between the French and English language editions of the TI. The French-speaking panel members disagreed with the proposal to align the French text with that of the English language edition because in French, the term "white Phosphorus" also designates "yellow Phosphorus". It was agreed to make no change to the French text. The second proposal in WP/58 was agreed.

1.12 INFECTIOUS SUBSTANCES

1.12.1 A proposal to add notes to Division 6.2 in Part 2;6.1 was accepted.

1.12.2 The transport of blood samples having a relatively low probability of containing infectious substances and the problem facing operators checking these shipments which are neither specifically identified nor labelled was identified. It was explained that a new national law states that importation of blood products is subject to authorization and that a State variation on this subject would be forthcoming. A number of members pointed out that UNSCOE is preparing to discuss new papers on this topic. It was suggested that the member ask his State's UNSCOE representative to prepare a paper detailing the problem; it was also suggested to await the UN decision.

1.12.3 In WP/60 (and as modified), the problems concerning the transport of infected blood were explained. A number of members agreed that realistic quantity limits were needed, but it was suggested that this applied to blood or blood products. A proposal was made to amend Special Provision A81 to reflect this change in quantity limits applicable to blood or blood products. It was pointed out that this amendment was too great a change from being too restricted to being too liberal. However, the panel was reminded that packagings had to meet the stringent requirements of Packing Instruction 602. A further suggestion was made to place a limit on outer packaging; this was accepted. The proposer commented that this special provision was not applicable to infectious substances carried in air mail. Further text was developed and accepted.

1.12.4 A proposal was made to remove the operator's responsibility in relation to advance arrangements for infectious substances. It was agreed that arrangements between the shipper and consignee were outside the control of the operator. It was suggested that the proposed text in paragraph 1.2.1 be amended to reflect this situation; the proposal was agreed as amended.

1.13 OPERATOR'S RESPONSIBILITIES

1.13.1 In WP/26, a proposal was made not to subject UN 1230 to segregation requirements. Several members supported the proposal in principle, but believed that it would not be practicable for operators. A revised proposal permitting flexibility in the application of the poison subsidiary risk label was made by another member; this was accepted. The Secretary was asked to notify the UN of the panel's decision and to ask that the UN reconsider its recommendation.

1.13.2 In WP/8, a proposal was made to permit a shipper to load a unit load device with magnetized material. One member commented that there was still a large number of old generation aircraft which are very sensitive to magnetized material. The proposer pointed out that if the shipper was allowed to load the unit load device, an additional safety measure would result because the shipper would be able to align the magnetized material correctly so as to minimize the effect. Some members suggested that the proposal was acceptable in principle but only if text for the shipper's responsibility was inserted in Part 4;1.1(h). The proposal, modified by the deletion of some text, was agreed. The Secretary was asked to amend Part 4;1.1(h) to show the shipper's responsibility.

1.14 EMERGENCY RESPONSE

1.14.1 It was proposed in WP/5 that for those items which have not been assigned a UN number, an identification number be given to help facilitate the location of emergency response information. One member suggested that these items could probably be assigned to existing UN numbers; it was pointed out, however, that the panel had recently decided that they should remain as entries not assigned with a UN number because they were special to air transport. Although agreeing with the philosophy, one member wished to see the identification number required on other documentation, such as the provision of information to the pilot-in-command. The proposal was not accepted by a small majority.

1.14.2 In WP/25 and WP/72 (and as modified), the principles behind two ideas involving emergency response information were explained. In WP/25, it was proposed that the Emergency Response Guide no longer be published, that the drill codes be incorporated into Table 2-14 and the remaining information be placed in the Technical Instructions. In WP/72 (as modified), a proposal was made on fulfilling the new UN Recommendation on the provision of emergency response information by requesting the operator to ensure the information is provided and by requesting the shipper to have available the necessary information. A number of members said that they were not in favour of WP/25 as there was a need to have flexibility in providing the emergency response information separately to the pilot-in-command. The proposal in WP/25 was not accepted.

1.14.2.1 Further discussion of WP/72 (as modified) then centered on whether the information required was for an in-flight emergency only or whether it should cover emergency response by ground staff. On confirmation that the proposal referred to an in-flight emergency, a number of members said

they believed that reference to the Emergency Response Guide would be sufficient. The proposals regarding the operator's requirement was not accepted; the remaining proposal had depended on its acceptance and so was not discussed. It was agreed there was a need to include text in the Technical Instructions referring to the Emergency Response Guide – a member offered to prepare a revised proposal.

1.14.2.2 A revised proposal regarding the provision of emergency response information was accepted subject to a modification of the provision concerning documents other than the *Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods* (Doc 9481). It was pointed out that sufficient supplies of Doc 9481 should be printed in order to cope with the potential increase in demand, resulting from operators using it to fulfil the requirement.

1.15 CONSUMER COMMODITIES

1.15.1 It was proposed to introduce a new entry "**Consumer commodities**" to replace the entries for "**Cosmetics, n.o.s., etc.**", "**Drugs, n.o.s., etc.**" and "**Medicines, n.o.s., etc.**". It was pointed out that the quantities in Packing Instruction 910 had been increased to allow for realistic quantities. It was agreed that the Proper Shipping Name need not include "**N.O.S., in small inner packagings**". The proposal was accepted as modified. A member pointed out that to be consistent with earlier decisions, the entry should be "Consumer commodity". This was agreed with the consequential modifications to be made by the Secretary.

1.16 LITHIUM BATTERIES

1.16.1 Two different approaches to the inclusion of provisions for "Lithium Batteries" in the Technical Instructions were suggested. It was decided that the principles of the two approaches be examined and that a decision be taken as to which approach should be adopted.

1.16.1.1 In WP/71, it was pointed out that this implemented the new requirements adopted by UNCOE, which included the addition of new detailed testing recommendations and the extension of the range of non-regulated cells and batteries. The second approach suggested that more user-friendly requirements were needed, that the distinction between liquid and solid cathode was not relevant and that the distinction between "**Lithium batteries contained in equipment**" and "**Lithium batteries packed with equipment**" was of an artificial nature and therefore not desirable. Several members supported WP/71; *the proposer of the second approach withdrew the proposal.*

1.16.1.2 One member sought clarification on the distinction between those batteries "contained in equipment" and those "packed with equipment". It was explained that the former referred to equipment in which lithium batteries were installed, whereas the latter referred to those where the batteries were needed for the operation of the equipment but were packed within the same packaging. It was queried whether a lithium battery with a liquid cathode could be packed with equipment; the proposer explained that if the battery were of the non-dangerous type, as defined in Special Provision A45, it would not be subject to the Technical Instructions. The meaning of the phrase "gas-tight gaskets" was queried; the proposer explained that the UN had adopted that phrase from ICAO. All of the proposals, with minor editorial corrections, were accepted.

1.16.2 A member asked for a definition of the word "waterproof" and for clarification on the intent of the related requirement in Packing Instruction 912. After it was accepted that the meaning was as defined in a dictionary, discussion centered on how to convey the meaning so as to allow a shipper to fulfil the requirement by alternative means. One member proposed additional text to be inserted after the word "waterproof"; this was unanimously accepted.

1.17 RADIOACTIVE MATERIAL

1.17.1 In WP/32, the text of IAEA TECDOC 702 was presented as a basis for discussion of WP/33. In WP/33, a number of problems with the present conclusions in the TECDOC were raised. These included analysis of the impact speed which appeared to be based on assumption but not on technical data. One member pointed out that the aircraft crash appeared to be data based on pre-1971 data and that modern aircraft accidents had much higher speeds of impact. A further difficulty lay in the proposed sequential nature of the theoretical "fireball" test followed by a possibly non-theoretical fire test. The Secretary was requested to ask IAEA to provide guidance on the origin of the impact speed and crush test and for clarification on the sequential nature of the fire/fireball tests. It was pointed out that the criticality issue had not yet been resolved at IAEA and that ICAO would await further developments.

1.17.1.1 Discussion next centered on operational controls which IAEA believed lay within the province of ICAO to develop. It was pointed out that until these packages were developed, it would be impossible to develop operational controls. One member requested that IAEA be asked if account had been taken of the possibility of the loss of a Type "C" package in deep water for a long period of time. Another member suggested that there was no justification for this request in that for Type "B" packages, the present immersion test requirements is 15 m for an 8 hour period, whilst the proposed test requires 200 m for a 1 hour period. It was hoped that the International Maritime Organizations's (IMO) attention had been drawn to this issue. It was pointed out, however, that IMO might feel that this was an air issue and, as such, should be addressed by ICAO. It was agreed at this time not to seek further information on the immersion test.

1.17.2 A member informed the panel of the illegal carriage of radioactive material on board aircraft. The Secretary said that the ICAO Aviation Security Branch was informed of the problem; it was agreed that this was an airport security matter.

1.18 CHEMICAL WEAPONS SAMPLES

1.18.1 Introduction

1.18.1.1 Information regarding the aims of the proposed Organization for the Prohibition of Chemical Weapons (OPCW) was supplied. A new Chemical Weapons Convention was concluded in September 1992, which is expected to be implemented in January 1995. To date 152 States have signed the Convention and four have deposited their instruments of ratification with the Secretary General of the United Nations. A Preparatory Commission has been established and a Provisional Technical Secretariat set up to assist the Commission in developing the detailed procedures required to ensure the effective implementation of the Convention.

1.18.1.2 Upon entry into force of the Convention, the State Parties to it will be members of OPCW. A key element of the Convention will be the verification regime, which will be implemented by OPCW's Technical Secretariat. The verification measures will rely partly on the ability to take, transport (but only when on site analysis is not possible) and analyze samples that may be collected in the course of inspection activities to determine whether such samples contain traces of chemicals produced for purposes prohibited by the Convention. Only if ambiguities arise will samples be taken off-site for analysis. Verification of the Convention will thus require, in certain circumstances, the consignment of very small quantities of samples, in which the active ingredient would be present in milligram to gram quantities. It is not expected in the first few years after entry into force of the Convention that consignments by air transport would exceed a few hundred in any one year and that the number would drop in subsequent years.

1.18.1.3 Some of the chemicals likely to be present in the samples may be Packing Group I inhalation poisons (either liquid or solid). It is suggested that it would be best to separately identify those which are being consigned in accordance with the Chemical Weapons Convention.

1.18.1.4 The panel had previously considered a request to provide for the air transport of chemical agents' samples consigned for analysis and decided that their carriage would be inappropriate on civil aircraft. However, the request pre-dated the conclusion of the Convention in September 1992 and no specific proposal had been made at that time. It is now suggested that since the Convention has been concluded and a verification regime established under the auspices of the United Nations, it would be appropriate for the panel to make provision in the Technical Instructions for the air transport of chemical samples in support of ensuring compliance with the Chemical Weapons Convention.

1.18.1.5 Following the introduction, a number of queries were raised. It was confirmed that all shipments of such samples will be the responsibility of the Director General of OPCW, in accordance with relevant regulations. It was stated that samples would generally be of two types, reference and environmental and would be appropriately diluted when possible. Although a protocol on dilution had not yet been developed, various laboratory standards had been adopted.

1.18.1.6 It was pointed out that although prior approval must be obtained, this could either be from the appropriate authority of the State of Origin or from the Director General of OPCW. This was to ensure that in cases of obstructiveness from a State of Origin, transportation could still be authorized.

1.18.1.7 It was also confirmed that only chemical samples were concerned, not biological or radioactive. These samples could be of soil or vegetation in instances of alleged use of chemical weapons. In response to queries regarding the possible collection of air samples, it was stated that they would generally be solid as there was limited usefulness of air samples. It was noted that the Preparatory Commission would contact UNCOE after the panel meeting to inform them of decisions reached.

1.18.1.8 It was asked whether these samples could be included as munitions of war. It was explained that according to Article 35 to the Chicago Convention, individual States can decide what constitutes this according to their own legislation. It was queried why it was proposed to use civil aircraft and not military.

1.18.1.9 It was pointed out that civilian aircraft fly more frequently and regularly and that in the case of a challenge inspection, political sensitivity would be heightened resulting in an urgency to analyze

the samples as quickly as possible. A member commented that the use of foreign military aircraft could result in lengthy negotiations before permission would be granted. For these reasons, it was believed that civil aircraft should be used.

1.18.1.10 A member asked that the panel decide on the principle of including provisions for chemical sample transportation. Another member pointed out that 152 States have signed the Convention and that if the panel were satisfied with the safety aspects of the proposal, then the implementation of the Convention should not be stifled. The proposal was accepted by a large majority.

1.18.2 **Discussion**

1.18.2.1 The first proposal was for the addition of two new entries in Table 2-14 with a new special provision listed against these entries. One member queried why all the information was not contained in the Technical Instructions since the Supplement (to which the user was directed) was primarily of interest to States, not to shippers or operators. It was, however, pointed out that as the operator would be able to check the package using the accompanying document of approval and as the information for these entries was of specialized use only, the Supplement was the most appropriate location. A member queried which Proper Shipping Name entry should be used if a gas sample was being transported. It was suggested that sufficient diluent could be added to ensure that it was liquid. It was also suggested that since the proposed packaging was suitable for either liquid or solid, the text of the Proper Shipping Name be amended so that only one entry be created with the words "liquid or solid" in lightface type following the name. The proposal, as amended, was agreed. An editorial correction removing "Packing Group I" in column 8 as the substance was "Forbidden/Forbidden" was made.

1.18.2.2 The second proposal contained the text of the proposed special provision. A number of members raised the problem of subsidiary risk labelling. Some members suggested that subsidiary risk labels should be applied if the substance met the criteria for other classes or divisions. It was also suggested that if a diluent were used, the diluent itself might pose additional hazards. A proposal requiring the use of subsidiary risk labelling was not accepted by a large majority. It was agreed that as the substance was automatically assigned to Division 6.1, Packing Group I, and that given the size of the samples and the elaborate proposed packaging, subsidiary risk labelling was of little significance. A member pointed out that the panel was being inconsistent in its subsidiary risk labelling requirements. A proposal to add text stating that subsidiary risk labelling was not required was accepted.

1.18.2.3 A member queried the addition of the chain of custody procedures text. It was also queried as to how approval could be given either by the competent authority of the State of Origin or by the Director General of OPCW. The member asked if the ICAO Dangerous Goods Panel should be discussing this issue as there appeared to be issues regarding sovereignty raised. It was confirmed by the Secretary that it had been established that as the issue related to the proposed transport of dangerous goods, the panel, as a group of experts, should discuss the matter.

1.18.2.4 A proposal to include the text regarding the chain of custody and security procedures as a note to the Special Provision was accepted. It was further agreed to make the requirement regarding a copy of the approval document as a separate paragraph at the end of the Special Provision.

1.18.2.5 The third proposal to add an entry in Table S-2-6 of the Supplement, corresponding to that in Table 2-14, was agreed.

1.18.2.6 The fourth proposal related to the detailed packing instruction. It was explained that specific packaging for transporting these samples had been developed independently in two States. It was agreed that a sentence relating to the packaging design at the end of the second paragraph was superfluous; it was deleted. It was further agreed to add an additional sentence regarding security seals.

1.18.2.7 A member suggested that presentation of the text be amended so as to clarify the requirements; this was agreed. The proposer confirmed that reference to a pressure test had been inadvertently omitted; text was developed by the proposer and agreed. A number of further modifications were suggested and agreed – these included the deletion of "environmental samples" in a) i) 1) ii) and the use of activated granular charcoal in all references to absorbent material. The maximum quantity reference was corrected to 80 grams.

1.18.2.8 A number of members queried the use of the word "overpack". One member suggested that the packaging was quadruple packaging; otherwise the requirements for overpack markings would have to be included. After further discussion, the proposer suggested to replace all references to "outer" by "intermediate" and all references to "overpack" by "outer packaging". This was agreed. The use of a thermal test was queried. It was explained that it had been added as an added measure of safety when the packagings were being developed. A member stated that the text was only necessary for those materials which can be dispersed in the event of fire and since organic substances of Division 6.1 are decomposed by fire, there was no need for the thermal test. In relation to (b), it was suggested that a reference to no leakage, similar to that in (a) be included. It was pointed out that the details in (b) referred to sophisticated leak testing. Reference to the 50 ml sample size was queried; a proposal to retain 50 ml without any equivalent in grams was accepted.

1.18.2.9 A question was raised regarding the steel drum outer packaging markings. It was confirmed that these were marked as packagings for solids. The packing instruction, as amended, was accepted.

1.19 MOLTEN AND HOT SUBSTANCES

1.19.1 In WP/34, proposals were made to make provision for the air transport of molten substances and to forbid the transport of "hot" substances unless exempted. It was pointed out that for proposals 3, 5 and 6, the UN Recommendation referred to a substance offered for transport in a molten state rather than a substance likely to become molten during air transport; the text was amended to reflect this.

1.19.1.1 One member expressed concern that the temperature quoted for molten substances in the solid state (240°C) was very close to that at which aircraft aluminium starts to lose strength (approximately 250°C) and that overheating warning systems are set at this temperature. It was pointed out that competent authority approval would be needed for the transport of these substances.

1.19.1.2 One member asked that the words "of liquid" be deleted in the phrase "a solid according to the definition 'of liquid' in 1;3.1" (proposal 3). It was pointed out that the difficulty lay in the fact

that no definition of solid was present in 1;3.1. A minor modification was suggested; this was agreed. Proposals 1 to 7 (except 4) were accepted as amended. It was agreed that proposal 4 was no longer necessary.

1.20 DANGEROUS GOODS IN MACHINERY OR APPARATUS

1.20.1 The members examined the revised proposal from the working group for the inclusion of dangerous goods in machinery or apparatus. It was noted that a conservative approach had been taken regarding the quantities permitted. The first proposal to provide two new Proper Shipping Names in Table 2-14 was accepted.

1.20.1.1 A member queried the inclusion of the words "in receptacles" and suggested that a further phrase "containing dangerous goods not in receptacles" be added. During the ensuing discussion, a number of members felt that the reference to receptacles be deleted in the special provision. This proposal, with a minor modification, was accepted.

1.20.1.2 Discussion next centered on the proposed packing instruction. A member suggested that reference to aerosols of Divisions 2.1 and 2.2 and chemical and first-aid kits of Division 5.2 be excluded from the 1;2.6.1.2 reference to limited quantities, but that reference to magnetized material be included. It was pointed out that in the case of computers containing magnetized materials, the shipper, using the magnetized material entry would be directed to the relevant packing instruction, where details of shielding were given which could result in the item not being subject to the Technical Instructions. This proposal was not accepted by a large majority. It was decided that reference to receptacles be in the plural to overcome any problems relating to specific receptacles. A member said that the proposal did not allow for those dangerous goods in machinery or apparatus which were not contained in any receptacle but were located rather in the body or cavity of the item. He felt that this would have to be addressed. A suggestion to delete the word "metal" in the reference to Division 2.2 gases was accepted. It was also accepted that text, similar to that developed for subsidiary risk labelling of chemical kits, be added to the labelling requirements.

1.20.1.3 The requirement for package orientation labels to be included in the packing instruction rather than a general reference being given at a later time was explained. This was because it was being used for a different purpose than usual, i.e. to indicate the correct orientation of the liquid dangerous goods in the machinery rather than to indicate the upright position. Further modification to the labelling and marking requirements to allow them to be placed on the packagings were accepted.

1.20.1.4 The packing instruction, as modified together with consequential changes in 4;4.1.2 and 4;4.1.3(a), were accepted.

1.21 MISCELLANEOUS

1.21.1 A proposal to indicate in Part 9;1 the "forbidden" nature of "strike anywhere" matches was accepted. However, a second proposal requesting that competent authorities ask manufacturers of such matches to display a warning was not accepted. It was suggested that the onus was on the competent authorities to ensure that these items were not sold in airport duty-free shops.

1.21.2 It was proposed that the requirement for accessibility be modified so as to allow a pallet containing packages of the same dangerous goods not to be subject to this requirement. A number of members believed that the present separation requirements for certain dangerous goods would be removed by this modification and this could result in a decrease in safety. The proposal was not accepted.

1.21.3 Proposals were made to reflect the change made in the Eighth Revised Edition of the UN Recommendations from "poisonous" to "toxic". A member pointed out that all the implications should be considered before the changes were made, in particular, with reference to all existing packaging marked "Poisonous". It was suggested that a phase-in period up to 31 December 1996 be allowed. Another member suggested that as a first stage, the note relating toxic to poisonous could be reversed so as to reflect the change, a second stage might be the development of text to allow the use of "poisonous" in Proper Shipping Names. It was pointed out that a cross-reference "Poisonous, see Toxic" was now included in Table 2-14 and that the changes agreed for the Proper Shipping Names simply reflected the UN Recommendations. It was, however, pointed out that UNCOE stated that it is the responsibility of the individual modes to set implementation dates for incorporation of the Recommendations.

1.21.3.1 A proposal was made that the note relating the word "toxic" to "poisonous" be retained and the words reversed; this was agreed. A further proposal was made that "grandfathering" provisions be allowed for the use of "poisonous" in Proper Shipping Names for the next biennium; this was also agreed. A number of members suggested that this principle be extended to the entries for "**Drugs, n.o.s.**", "**Cosmetics, n.o.s.**", and "**Medicines, n.o.s.**"; it was further suggested to extend it to all entries. It was pointed out that if grandfathering provisions were extended in this way, it would lead to confusion as the operator would need to refer to two sets of instructions. A proposal to allow a two-year delay in implementation of the new consumer commodity entry was not accepted.

1.21.4 It was pointed out that a discrepancy existed between the English and French language editions of the Technical Instructions. It was also agreed that the English language edition was correct and that the UN be notified of the decision taken by the panel.

Editorial Note.– Spanish language edition also incorrect.

1.21.5 A cross-reference was accepted as being incorrect in the French language edition.

1.21.6 A proposal was made in WP/29 to include a list of competent authorities in the Technical Instructions. Several members agreed that it would be very useful information as frequently difficulties arose attempting to find competent authorities when authorizations were being sought. It was suggested that a list of contact points, similar to that in the IMDG Code, would be helpful. It was agreed that there may be a need to have several points of contact to include, for instance, competent authorities for the transport of radioactive material. However, most members thought that there should only be one point of contact since radioactive material competent authorities are listed in the IAEA Regulations. It was seen as important for the point of contact to include full address, telephone and facsimile numbers. The members felt that the information could be sought by a State letter to all Contracting States explaining the reason why the information was being sought. It was agreed that it would be preferable to place the list in the Technical Instructions rather than in the Supplement because the latter was primarily of interest only to States, whereas the former was of use to everybody. It was agreed that the list should be included as a new attachment with introductory text indicating that it was for guidance only and was not necessarily comprehensive.

1.21.6.1 The meeting consequently developed the following recommendation:

RECOMMENDATION 1/4 – LIST OF COMPETENT AUTHORITIES

That ICAO prepare for publication in the Technical Instructions, a list of competent authorities in States to whom enquiries concerning the transport of dangerous goods can be addressed.

1.21.7 The problem of the failure of a single metal packaging (1A1) was presented. It was proposed that for all single metal packagings with a capacity of less than 30 L, rigid overpacks must be used. Although a number of members sympathized with the problem, it was felt that the proposal was too general in its scope. It was also felt that more information was needed before such a decision could be taken and that if it were agreed, other types of packaging which might not give the same level of safety would be used. Some members suggested that although the proposal was somewhat excessive, the panel should recognize that an incident had occurred and rather than wait for four years, that an alternative suggestion be made.

1.21.7.1 The proposal regarding the use of overpacks for single metal packagings was not accepted by a majority. Another proposal to inform UNCOE of the problem was accepted. It was pointed out that in the late 1970's, the UN had discussed puncture test criteria and minimum wall thickness requirements and had, at that time, decided that specifications were not needed. A member suggested that those panel members who had representatives at UNCOE should inform them of the problem and so aid discussion.

1.21.8 Proposals to make minor amendments to the Dangerous Goods List were agreed with a modification to that for Special Provision A94. It was accepted that the text of UN Special Provision 242 be used instead of the proposed text. The proposals regarding Special Provision A60 and Packing Instruction 821 were considered as having been dealt with.

1.21.9 It was agreed that a definition for "Refrigerating machines" be offered to the UN for inclusion in Special Provision 119. It was also agreed to include reference to air conditioning units in the definition.

1.21.10 A member raised the problem of cytotoxic substances not being regulated. The problem had been discussed at UNSCOE where it was decided not to include a recommendation at present. It was agreed that the issue might be discussed at a meeting of the Convention of the Transboundary Movements of Hazardous Wastes and to await any decision taken then.

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ATTACHMENT TO THE REPORT ON AGENDA ITEM 1

Note. – The reason for each recommended change is indicated by a letter from the following code:

A – alignment with UN Recommendations;

B – alignment with IAEA Regulations;

C – alignment with WHO recommendations;

D – alignment with UPU recommendations;

E – alignment with ISO Standards;

F – response to difficulty reported by industry or by State administrations;

G – accommodation of new chemicals, improved packagings or new techniques;

H – correction of error or removal of an inconsistency;

J – improved clarity or ease of use;

K – expert opinion that requirement needs to be changed to improve safety; and

L – consequential amendments.

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FOREWORD

RELATIONSHIP TO ANNEX 18 TO THE CHICAGO CONVENTION

The broad principles governing the international transport of dangerous goods by air are contained in Annex 18 to the Convention on International Civil Aviation - *The Safe Transport of Dangerous Goods by Air.* These Technical Instructions amplify the basic provisions of Annex 18 and contain all the detailed instructions necessary for the safe international transport of dangerous goods by air. Interested persons may purchase copies of Annex 18 from ICAO at the following address:

International Civil Aviation Organization
Attention: Document Sales Unit
1000 Sherbrooke Street West, Suite 400
Montreal, Quebec
Canada H3A 2R2

VARIATIONS FROM THE TECHNICAL INSTRUCTIONS

In accordance with the provisions of Annex 18, 2.5, Contracting States are required to notify ICAO of those cases where they have adopted provisions different from those contained in these Instructions. The variations which have been notified by States are listed in Attachment 3, together with notified variations from airline operators.

UPDATING PROCEDURE

It is intended that the Technical Instructions be kept up to date by an ICAO body of experts. For this purpose the ICAO Dangerous Goods Panel will continue to meet periodically to review comments received from States and interested international organizations, to consider any changed recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods or the International Atomic Energy Agency, and to prepare revised editions of the Technical Instructions. Amendments recommended by the Dangerous Goods Panel will be reviewed by the Air Navigation Commission. The Council of ICAO will then consider, with a view to approval, the amended version of the Technical Instructions and authorize their publication.

OPERATIONAL USE OF THE TECHNICAL INSTRUCTIONS

This edition of the Technical Instructions is required to be used for operations from 1 January 1995 and will remain valid until 31 December 1996 or until such later time as a new edition becomes valid.

GENERAL BASIS FOR THE TECHNICAL INSTRUCTIONS

The general approach to regulating the transport of dangerous goods by air is that used by the United Nations Committee of Experts on the Transport of Dangerous Goods (as published in UN Documents ST/SG/AC.10/1, as amended, and ST/SG/AC.10/11, as amended) and the Regulations for the Safe Transport of Radioactive Material of the International Atomic Energy Agency (Safety Series No. 6) as amended. It takes into account international and national regulations that may exist. The method has been modified as necessary to meet the particular requirements of air transport. In general, dangerous goods are divided into various classes or divisions according to the hazard they present. Some dangerous goods are too dangerous to be carried by aircraft, others may be carried on cargo aircraft only and some are acceptable on both passenger and cargo aircraft. A detailed list of individual commodities is published which indicates the class or division into which each commodity falls as well as its acceptability for transport by air and the relevant packaging requirements, quantity limitations and other provisions. Since such a list cannot be exhaustive, it also incorporates various categories of 'not otherwise specified' entries which indicate how unlisted commodities can be dealt with.

13. Prepare the consignment in accordance with all the relevant requirements of paragraphs 9-12 above.

14. Ensure all the appropriate labels and markings are affixed to or printed on the packages according to Part 4, Chapters 2 and 3.

15. Make any appropriate advance arrangements in accordance with Part 4, Chapter 1.

16. Prepare the transport documents and complete and sign the dangerous goods transport document in accordance with Part 4, Chapter 4.

17. Offer the complete consignment for transport by air.

THE SUPPLEMENT TO THE TECHNICAL INSTRUCTIONS

A Supplement to the Technical Instructions provides information on the safe transport of dangerous goods by air that is primarily of interest to States. Publishing this information in a separate document eliminates from the Technical Instructions material which the average user has neither the need nor the desire to know. The size and complexity of the Technical Instructions is thereby reduced and its comprehensibility enhanced. Examples of the subjects dealt with in the Supplement are guidance for the issue of certain exemptions or approvals by States and the reporting of dangerous goods accidents and incidents to ICAO by Contracting States.

The Supplement is published at the same time as the Technical Instructions, and is distributed to the aviation administrations of all the Contracting States of ICAO. However, it is recognized that there may be occasions when the information in the Supplement might be helpful to other readers. Copies can be purchased from the Regional Offices of ICAO or from the Headquarters of ICAO using the following address:

International Civil Aviation Organization
Attention: Document Sales Unit
1000 Sherbrooke Street West, Suite 400
Montreal, Quebec
Canada H3A 2R2

THE 199~~3~~5-199~~5~~6 EDITION

The Technical Instructions have been amended to make them as up to date as possible and to clarify, where necessary, the intent of the requirements. Account has been taken of comments received from users throughout the world. This has resulted in numerous minor changes in all parts of the book.

It is intended, for the time being, to continue issuing new versions of the Technical Instructions biennially. This is the ~~fourth~~ fifth biennial edition of the Technical Instructions and it will be valid for two years, i.e. from 1 January 199~~3~~5 to 31 December 199~~5~~6 or until such later time as a new edition becomes valid.

The requirements have been amended so as to align them, as far as possible, with the ~~Seventh~~ Eighth Revised Edition of the United Nations Recommendations on the Transport of Dangerous Goods.

In 1990 the International Atomic Energy Agency published a revised edition of its Regulations for the Safe Transport of Radioactive Material (IAEA Safety Series 6), 1985 Edition (as amended 1990). These revised regulations have been incorporated into the Technical Instructions.

~~To facilitate the use of the provisions for Dangerous Goods in Limited Quantities (see Part 1, 2.6), a new series of Packing Instructions, using the prefix 'Y', has been included in Part 3. These 'Y' Packing Instructions, and the associated quantity limitations, are noted in the list of dangerous goods (Table 2-14) against appropriate entries.~~

~~A list of 'not otherwise specified' (n.o.s.) and generic proper shipping names has been added as Attachment 1, Chapter 2. This should assist users to find the most appropriate entry for those dangerous goods not mentioned by name in Table 2-14. Provisions for the transport of dangerous goods in portable tanks have been included in Part S.3, Chapter 12 of the Supplement referred to above.~~

Chapter 2

LIMITATION OF DANGEROUS GOODS ON AIRCRAFT

Parts of this Chapter are affected by State Variations CA 4, CH 1, FR 2, JP 23, US 3, US 33; see Table A-1

2.1 DANGEROUS GOODS FORBIDDEN FOR TRANSPORT BY AIR UNDER ANY CIRCUMSTANCE

The dangerous goods described hereunder must not be carried on aircraft under any circumstance:

a) explosives which ignite or decompose when subjected to a temperature of 75°C for 48 hours;

b) explosives containing both chlorates and ammonium salts;

c) explosives containing mixtures of chlorates with phosphorus;

d) solid explosives which are classified as extremely sensitive to mechanical shock;

e) liquid explosives which are classified as moderately sensitive to mechanical shock;

f) any substance or article, as presented for transport, which is liable to produce a dangerous evolution of heat or gas under the conditions normally encountered in air transport; and

g) flammable solids and organic peroxides having, as tested, explosive properties and which are packed in such a way that the classification procedure would require the use of an explosives label as a subsidiary risk label.

Note.— Certain dangerous goods known to meet the description above have been included in the Dangerous Goods List (Table 2-14) with the word 'Forbidden' shown in columns 2 and 3. It must be noted, however, that it would be impossible to list all dangerous goods which are forbidden in aircraft under any circumstances. Therefore, it is essential that appropriate care be exercised to ensure that no goods meeting the above description are offered for transport.

2.2 DANGEROUS GOODS FORBIDDEN FOR TRANSPORT BY AIR UNLESS EXEMPTED

The dangerous goods described hereunder must not be carried on aircraft unless exempted by the States concerned under the provisions of Part 1;1.1:

a) unless otherwise provided, articles and substances (including those described as 'not otherwise specified') that are identified in columns 9 and 10 or 11 and 12 of the Dangerous Goods List (Table 2-14) as being forbidden;

c) ~~b)~~ radioactive material contained in vented Type B(M) packages, radioactive material contained in packages which require external cooling by an ancillary cooling system, radioactive material contained in packages subject to operational controls during transport, packages containing radioactive liquid pyrophoric material and radioactive material which is also explosive; and

d) ~~c)~~ infected live animals.

2.3 EXCEPTIONS FOR DANGEROUS GOODS OF THE OPERATOR

2.3.1 The provisions of these Instructions do not apply to the following:

a) articles and substances which would otherwise be classed as dangerous goods but which are required to be aboard the aircraft in accordance with the pertinent airworthiness requirements and operating regulations or that are authorized by the State of the operator to meet special requirements;

(b) substances that are offered for transport in a liquid state at temperatures equal to or exceeding 100°C, or in a solid state at temperatures equal to or exceeding 240°C;

b) aerosols, alcoholic beverages; perfumes, colognes, safety matches and liquefied gas lighters carried aboard a passenger aircraft by the operator for use or sale on the aircraft during the flight or series of flights, but excluding disposable gas lighters and those lighters liable to leak when exposed to reduced pressure;

c) dry ice intended for use in food and beverage service aboard the aircraft.

2.3.2 Unless otherwise authorized by the State of the operator, articles and substances intended as replacements for those referred to in 2.3.1 a) above must be transported in accordance with the provisions of these Instructions, except that when consigned by operators:

a) containers specially designed for the transport of aircraft spares and supplies may be used, provided such containers are capable of at least meeting the requirements for the packagings specified in these Instructions for the articles and substances packed in the containers; and

b) in addition, aircraft batteries are not subject to a gross mass quantity limitation.

2.4 DANGEROUS GOODS IN AIR MAIL

In accordance with the Universal Postal Union Convention dangerous goods, as defined in these Instructions with the exception of those listed below, are not permitted in the mail. National Postal Authorities should ensure that the provisions of the UPU Convention are complied with in relation to the transport of dangerous goods by air.

The following dangerous goods may be acceptable in mail for air carriage subject to the provisions of the National Postal Authorities concerned and these Instructions which relate to such material, except that the provisions concerning documentation (Part 4;4) do not apply to the radioactive material described in b):

a) *infectious substances and solid carbon dioxide (dry ice) when used as refrigerant for infectious substances; and*

b) radioactive material, the activity of which does not exceed one tenth of that listed in Table 2-11.

2.5 DANGEROUS GOODS IN EXCEPTED QUANTITIES

2.5.1 General

Small quantities of dangerous goods meeting the provisions of this paragraph are not subject to the other provisions of these Technical Instructions except for:

a) the definitions in Part 1; Chapter 3;

b) the classification and packing group criteria in Part 2;

c) the loading restrictions in Part 5;2.1;

d) the reporting of dangerous goods accidents, incidents and other occurrences in Part 5;4.4 and 4.5;

e) the training requirements in Part 6; and

f) in the case of a radioactive material, the requirements for radioactive material in excepted packages in Part 2;7.9 and Part 4;4.5.

2.5.2 Applicability

2.5.2.1 Excepted quantities of dangerous goods may only be carried in accordance with the limitations and provisions contained in this paragraph and must meet all the applicable requirements of those parts of the Technical Instructions listed in 2.5.1 above.

2.5.2.2 Only dangerous goods which are permitted on passenger aircraft and which meet the criteria of the following classes, divisions and packing groups (if appropriate) may be carried under these provisions for dangerous goods in excepted quantities:

Division 2.2	*Without subsidiary risk*
Class 3	All packing groups
Class 4	Packing Groups II and III but excluding all self-reactive substances
Division 5.1	Packing Groups II and III
Division 5.2	Only when contained in a chemical kit, first-aid kit ~~or polyester resin kit~~
Division 6.1	Packing Group I but excluding all substances with an inhalation toxicity, Packing Groups II and III
Class 8	Packing Groups II and III
Class 9	All substances and articles other than magnetized material

Substances and articles in the above classes, divisions and packing groups may also be radioactive material in excepted packages.

Note.— Many articles or substances, including the following, are NOT permitted under these excepted quantity provisions:

a) those forbidden for transport under any circumstances as provided for in 2.1;

b) those permitted only by exemption or approval;

c) those forbidden for transport on passenger aircraft in Table 2-14;

d) those in Class 1 or Divisions 2.1, 2.3 or 6.2;

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e) other than for temperature sensing devices, dangerous goods contained within a device which is an integral part of an ~~otherwise non-dangerous~~ article or device (e.g. mercury switches in electrical or other appliances).

which is not subject to these Instructions

2.5.3 Quantity limits

a) Inner packagings. The maximum quantity of dangerous goods in each inner packaging must be limited to:

1) 1 g or 1 mL for solids or liquids of Packing Group I or II in Division 6.1 or requiring a subsidiary risk poison label;

2) 30 g or 30 mL for solids or liquids other than those covered in 1) above; or

3) for gases, the quantity contained in a receptacle with a water capacity of 30 mL;

b) Outer packagings. The total net quantity of dangerous goods contained in each outer packaging must be limited to:

1) for other than Divisions 2.2 and 5.2:

Packing Group I — 300 g or 300 mL;

Packing Group II — 500 g or 500 mL;

Packing Group III — 1 kg or 1 L;

2) for Division 2.2 — 1 L; or

3) for Division 5.2 — 500 g or 250 mL.

Note.— The 1 L maximum quantity referred to in b) 2) above is intended to apply to the sum of the water capacities of each of the inner packagings contained in the outer packaging.

2.5.4 Packing requirements

Packagings, including their closures, used for the transport of dangerous goods in excepted quantities must be of good quality. Packaging materials which may come into contact with the substance or article must not react dangerously with the substance or article and must not adversely affect its packaging functions. In addition:

a) each inner packaging must be constructed of plastic having a minimum thickness of not less than 0.2 mm, or of glass, earthenware or metal. The materials of inner packagings must not contain substances which may react dangerously with the contents, form hazardous products or significantly weaken the packagings. The closure of each inner packaging with a removable closure must be held securely in place with wire, tape or other positive means. Any receptacle having a neck with moulded screw threads must have a leakproof threaded type cap completely resistant to the contents. Except for temperature sensing devices, inner packagings must not completely fill with liquid when at a temperature of 55°C;

b) each inner packaging must be securely packed in an intermediate packaging with cushioning material. The intermediate packaging must completely contain the contents in case of breakage or leakage, regardless of package orientation. For liquid dangerous goods, the intermediate packaging must contain sufficient absorbent material to absorb the entire contents of the inner packaging. In such cases, the absorbent material may be the cushioning material. Dangerous goods must not react dangerously with cushioning and absorbent material or adversely affect their properties;

c) the intermediate packaging must be securely packed in a strong, rigid outer packaging (wooden, fibreboard or other equally strong material);

d) the complete package must be capable of withstanding the tests specified under 2.5.5;

e) dangerous goods in excepted quantities must not be packed together in the same outer packaging if they react dangerously with each other and cause:

1) combustion and/or evolution of considerable heat;

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2) evolution of flammable, toxic ~~poisonous~~ or asphyxiant gases;

3) the formation of corrosive substances; or

4) the formation of unstable substances.

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f) when different dangerous goods are contained in one outer packaging, the quantities of different dangerous goods contained in one outer packaging must be calculated using the formula:

$$\frac{n_1}{M_1} + \frac{n_2}{M_2} + \frac{n_3}{M_3} + \cdots \frac{n_X}{M_X} \leq 1$$

where n_1, n_2 etc., are the net quantities of the different dangerous goods contained in the same outer packaging and M_1, M_2 etc., are the maximum net quantities permitted for the appropriate packing group by 2.5.3 b);

g) each package must be of such size that there is adequate space to apply all necessary markings; and

h) overpacks may be used and may also contain packages of dangerous goods or ~~non-dangerous~~ goods (not subject to these Instructions) provided there are no packages enclosing different substances that might react dangerously with each other.

2.5.5 Package tests

Tests must be carried out on packages prepared as if for transport. Inner packagings must be filled to not less than 95 per cent of their capacity for solids or 98 per cent for liquids. The substances to be transported in the packaging may be replaced by other substances except where this would invalidate the results of the tests. For solids, when another substance is used, it must have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. In the drop tests for liquids, when another substance is used, its relative density (specific gravity) and viscosity should be similar to those of the substance to be transported.

The complete package, as demonstrated by testing, must be capable of withstanding, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:

a) the following free drops onto a rigid, non-resilient flat and horizontal surface from a height of 1.8 m:

1) for a packaging with six sides (i.e. a box shape):

— one drop flat on the bottom;

— one drop flat on the top;

— one drop flat on the long side;

— one drop flat on the short side; and

— one drop on a corner at the junction of three intersecting edges;

2) for a cylindrical packaging (i.e. a drum shape):

— one drop diagonally on the chime or on a circumferential seam or an edge; and

— one drop on the weakest part not tested by the first drop, e.g. a closure.

Note.— Each of the above tests may be performed on different but identical packages.

b) a force applied to the top surface for a duration of 24 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the test sample).

2.5.6 Marking and certification

2.5.6.1 Each package prepared according to these provisions must be durably and legibly marked with the words 'Dangerous goods in excepted quantities' and with the name and address of the shipper. If the package is included in an overpack, these markings must be clearly visible or appear on the overpack.

2.5.6.2 Each package prepared according to these provisions must be accompanied by a statement certifying that the package has been prepared in accordance with the provisions for dangerous goods in excepted quantities. This statement may be attached to or printed on the outside of the package.

2.5.6.3 In addition to the languages which may be required by the State of origin, English should be used.

2.5.7 Marking of air waybill

When an air waybill is issued it must contain the words 'Dangerous goods in excepted quantities' and when excepted radioactive material is involved, the additional words 'Radioactive material, excepted package. . .' as required in Part 4;4.5 a) to d), as appropriate.

2.5.8 Baggage and airmail

Dangerous goods in excepted quantities are not permitted in or as checked or carry-on baggage nor in the mail.

2.6 DANGEROUS GOODS IN LIMITED QUANTITIES

Note.— The UN Recommendations contain provisions for limited quantities of dangerous goods. These recognize that many dangerous goods when in reasonably limited quantities present a reduced hazard during transport and can safely be carried in good quality packagings of the types specified in the Recommendations but which have not been tested and marked accordingly. The provisions contained in this paragraph are based on those in the UN Recommendations and allow limited quantities of dangerous goods to be transported in packagings which, although not tested and marked in accordance with Part 7 of these Instructions, do meet the construction requirements of that part.

2.6.1 Applicability

2.6.1.1 Limited quantities of dangerous goods may only be carried in accordance with the limitations and provisions of paragraph 2.6 and must meet all the applicable requirements of the Technical Instructions unless otherwise provided for below.

2.6.1.2 Only dangerous goods which are permitted on passenger aircraft and which meet the criteria of the following classes, divisions and packing groups (if appropriate) may be carried under these provisions for dangerous goods in limited quantities:

Divisions 2.1 and 2.2	Aerosols
Division 2.2	Gases without subsidiary risk but excluding refrigerated liquefied gases
Class 3	Packing Groups II and III
Division 4.1	Packing Groups II and III but excluding all self-reactive substances irrespective of packing group
Division 4.3	Packing Groups II and III, solids only
Division 5.1	Packing Groups II and III
Division 5.2	Only when contained in ~~a polyester resin kit~~ a chemical kit or a first-aid kit
Division 6.1	Packing Groups II and III
Class 8	Packing Groups II and III but excluding UN Nos. 2794, 2795 and 3028
Class 9	Only Ammonium nitrate fertilizers (UN 2071) and Dibromodifluoromethane (UN 1941)

Note.— Many articles or substances, including the following, are NOT permitted under these limited quantity provisions:

a) those permitted only on cargo aircraft;

b) those in Packing Group I;

c) those in Class 1 or 7 or Divisions 2.1 (other than aerosols), 2.3 or 6.2;

d) those in Division 4.2 or with a subsidiary risk 4.2.

2.6.1.3 The limitations and provisions of paragraph 2.6 for the transport of dangerous goods in limited quantities apply equally to both passenger and cargo aircraft.

2.6.2 Packing and packagings

2.6.2.1 The general packing requirements of Part 3;1.1 applicable to passenger aircraft must be met except that the requirements of Part 3;1.1.2 do not apply. (e.g. 1.1.8d) and 1.1.17 16

2.6.2.2 Packagings, including closures, which have been used more than once (i.e. they have been refilled and are being reshipped after having previously been emptied) must be inspected thoroughly and must be in such condition that they will protect their contents and perform their containment functions as efficiently as new packagings. Cushioning and absorbent materials if used previously must remain capable of performing their primary functions.

2.6.2.3 Single packagings, including composite packagings, are not permitted.

2.6.2.4 Limited quantities of dangerous goods must be packed in accordance with the applicable limited quantity packing instruction identified by the prefix letter 'Y' indicated in Column 9 of Table 2-14.

Note.— The packing instruction prefixed with the letter 'Y' bears the same number as the packing instruction applicable to normal quantities permitted by passenger aircraft for the entry concerned or packing group of that entry.

2.6.2.5 Inner packagings must meet the requirements of Part 7;3.2. Outer packagings must be so designed that they meet the construction requirements in Part 7;3.1 which apply to the type of outer packaging to be used for the article or substance.

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2.6.3.1.1 Where the different dangerous goods in the outer packaging consist only of those with the same UN number and packing group the calculation in 2.6.3.3(a) does not need to be made. However, the total net quantity in the package must not exceed the maximum net quantity according to Table 2-14.

2.6.3 Quantity limitations

2.6.3.1 The net quantity per package must not exceed the quantity specified in Column 10 of Table 2-14 against the packing instruction number identified by the prefix letter 'Y' in Column 9.

2.6.3.2 The gross mass per package must not exceed 30 kg.

2.6.3.3 When different dangerous goods are contained in one outer packaging, the quantities of such dangerous goods must be so limited that:

~~a) for classes other than Classes 2 and 9, the total net quantity in the package does not exceed the lowest net quantity per package allowed for any of the dangerous goods in the package, and~~

b) for Classes 2 and 9:

1) when packed together without goods of other classes, the gross mass of the package does not exceed 30 kg; or

~~2) when packed together with goods of other classes, the gross mass of the package does not exceed 30 kg and the maximum net quantity of goods other than in Classes 2 or 9 in the package is limited as provided in a) above.~~

2.6.4 Package testing

2.6.4.1 Each package offered for transport must be capable of withstanding a 1.2 m drop test on to a rigid, nonresilient, flat and horizontal surface, in the position most likely to cause damage. The criteria for passing the test is that the outer packaging must not exhibit any damage liable to affect safety during transport and there must be no leakage from the inner packaging(s).

2.6.4.2 Each package offered for transport must be capable of withstanding, without breakage or leakage of any inner packaging and without significant reduction of effectiveness, a force applied to the top surface for a duration of 24 hours equivalent to the total weight of identical packages if stacked to a height of 3 m (including the test sample).

2.6.5 Package marking

2.6.5.1 Packages containing limited quantities of dangerous goods must be marked as required by the applicable paragraphs of Part 4; Chapter 2, except that Part 4;2.4.4 does not apply.

2.6.5.2 Packages containing limited quantities of dangerous goods must be marked to indicate that they contain 'limited quantities' in addition to the markings required by 2.6.5.1.

2.6.6 Dangerous goods transport document

The dangerous goods transport document required by Part 4;4.1 must contain a statement to indicate that the consignment contains limited quantities of dangerous goods.

(2) when packed together with goods of other classes, the gross mass of the package does not exceed 30 kg and the total net quantity in the package of goods other than in Classes 2 or 9 does not exceed the value of 1 when calculated according to (a) above. "

~~Where a package contains both liquids and solids, the liquid volumetric measures shall be converted to mass units in order to determine the lowest net quantity per package allowed;~~

(a) for classes other than Classes 2 and 9, the total net quantity in the package does not exceed the value of 1, where "Q" is calculated using the formulae:

$$Q = \frac{n_1}{M_1} + \frac{n_2}{M_2} + \frac{n_3}{M_3} \ldots$$

where n_1, n_2 etc, are the net quantities of the different dangerous goods and M_1, M_2, etc, are the maximum net quantities for these different dangerous goods shown in Table 2-14 against the relevant "Y" packing instructions; and "

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Flash point. The lowest temperature of a liquid at which flammable vapour is given off in a test vessel in sufficient concentration to be ignited in air when exposed momentarily to a source of ignition.

Note.— Some test methods are listed in Part 2;3.3.

Flammable. Note.— The word flammable has the same meaning as inflammable in the English language.

Flight crew member. A licensed crew member charged with duties essential to the operation of an aircraft during flight time.

Freight container. See unit load device.

Note.— For the definition of freight container for radioactive material, see Part 7;7.1.

Gross mass. The total mass of the package.

Incompatible. Describing dangerous goods which, if mixed, would be liable to cause a dangerous evolution of heat or gas or produce a corrosive substance.

International System of Units (SI). A rational and coherent system of units which provides the basis for the units of measurement used for air and ground operations as contained in Annex 5 to the Convention on International Civil Aviation.

Net quantity. The mass or volume of the dangerous goods contained in a package excluding the mass or volume of any packaging material, except in the case of explosive articles and of matches where the net mass is the mass of the finished article excluding packagings.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Overpack. An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.

Note.— A unit load device is not included in this definition.

Package. The complete product of the packing operation consisting of the packaging and its contents prepared for transport.

Note.— For the definition of package for radioactive material, see Part 7;7.1.

Packaging. Receptacles and any other components or materials necessary for the receptacle to perform its containment function and to ensure compliance with the minimum packing requirements of these Instructions.

Note.— For the definition of packaging for radioactive material, see Part 7;7.1.

Packing. The art and operation by which articles or substances are enveloped in wrappings and/or enclosed in packagings or otherwise secured.

Packing group. See Part 3, Introductory Note 2.

Passenger aircraft. An aircraft that carries any person other than a crew member, an operator's employee in an official capacity, an authorized representative of an appropriate national authority or a person accompanying a consignment.

Pilot-in-command. The pilot responsible for the operation and safety of the aircraft during flight time.

Portable tanks. For the definition of portable tanks, see Part S-3, Chapter 12 of the Supplement.

Proper shipping name. The name to be used to describe a particular article or substance in all shipping documents and notifications and, where appropriate, on packagings.

Note.— These names are indicated in bold face characters in the Dangerous Goods List (Table 2-14).

Pyrophoric liquid. A liquid which may ignite spontaneously when exposed to air the temperature of which is 55°C or below.

Pyrotechnic substance. A mixture or compound designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as the result of non-detonative, self-sustaining, exothermic, chemical reactions.

Receptacles. Containment vessels for receiving and holding substances or articles, including any means of closing.

Serious injury. An injury which is sustained by a person in an accident and which:

a) requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or

b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or

c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or

d) involves injury to any internal organ; or

e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or

f) involves verified exposure to infectious substances or injurious radiation.

State of origin. The State in the territory of which the cargo was first loaded on an aircraft.

Liquid dangerous goods. Unless otherwise provided for in these Instructions, dangerous goods with a melting point or initial melting point of 20°C or lower at a pressure of 101.3 kPa must be considered as liquids. A viscous substance for which a specific melting point cannot be measured is considered a liquid if it is so determined when subjected to the ASTM D 4359-90 test or to the test for determining fluidity (penetrometer test) prescribed in Appendix A.3 of the United Nations publication ECE/TRANS/100 (Vol.1) (ADR) with the modifications that the penetrometer must conform to ISO standard 2137-1985 and that the test must be used for viscous substances of any class.

Introductory Notes

Note 1.— Classes

Dangerous goods are defined as those which meet the criteria for the various classes of articles or substances given in the following chapters. The classes have been arranged for convenience by the type of risk involved and the order in which they appear does not imply a relative degree of danger. In some classes, dangerous goods are further separated into divisions.

Note 2.— Wastes

Wastes should be transported under the requirements of the appropriate class considering their hazards and the criteria of the Instructions. Wastes not otherwise subject to these Instructions but covered under the 'Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)' may be transported under Class 9.

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Note 3.- Environmentally hazardous substances
Many of the substances listed in Classes 1 to 9 are deemed, without additional labelling, as being environmentally hazardous.

Initiation, means of.

1) A device intended to cause the detonation of an explosive (e.g. detonator, detonator for ammunition, detonating fuze).

2) The term 'with its own means of initiation' means that the contrivance has its normal initiating device assembled to it and this device is considered to present a significant risk during transport but not one great enough to be unacceptable. The term does not apply, however, to a contrivance packed together with its means of initiation provided the device is packaged so as to eliminate the risk of causing detonation of the contrivance in the event of accidental functioning of the initiating device. The means of initiation can even be assembled to the contrivance provided there are protective features such that the device is very unlikely to cause detonation of the contrivance in conditions which are associated with transport.

3) For the purposes of classification, any means of initiation without two effective protective features should be regarded as Compatibility Group B; an article with its own means of initiation, without two effective protective features would be Compatibility Group F. On the other hand a means of initiation which itself possesses two effective protective features would be Compatibility Group D; and an article with a means of initiation which possesses two effective protective features would be Compatibility Group D or E. Means of initiation adjudged as having two effective protective features must have been approved by the appropriate national authority. A common and effective way of achieving the necessary degree of protection is to use a means of initiation which incorporates two or more independent safety features.

Mass explosion. Explosion which affects almost the entire load virtually instantaneously.

Table 2-1. Compatibility group assignment

Substance or article to be classified	*Hazard division*	*Compatibility group*
Primary explosive substance	1.1	A
Article containing a primary explosive substance and not containing two or more effective protective features	1.1; 1.2; 1.4	B
Propellant explosive substance or other deflagrating explosive substance or article containing such explosive substance	1.1; 1.2; 1.3; 1.4	C
Secondary detonating explosive substance or black powder or article containing a secondary detonating explosive substance, in each case without means of initiation and without a propelling charge or article containing a primary explosive substance and containing two or more effective protective features	1.1; 1.2; 1.4; 1.5	D
Article containing a secondary detonating explosive substance, without means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids)	1.1; 1.2; 1.4	E
Article containing a secondary detonating explosive substance, with its own means of initiation, with a propelling charge (other than one containing a flammable liquid or gel or hypergolic liquids) or without a propelling charge	1.1; 1.2; 1.3; 1.4	F
Pyrotechnic substance, or article containing a pyrotechnic substance, or article containing both an explosive substance and an illuminating, incendiary, tear- or smoke-producing substance (other than a water-activated article or one containing white phosphorus, phosphides, a pyrophoric substance, a flammable liquid or gel, or hypergolic liquids)	1.1; 1.2; 1.3; 1.4	G
Article containing both an explosive substance and white phosphorus	1.2; 1.3	H
Article containing both an explosive substance and a flammable liquid or gel	1.1; 1.2; 1.3	J
Article containing both an explosive substance and a toxic chemical agent	1.2; 1.3	K

Some articles, such as detonators for blasting, detonator assemblies for blasting and primers, cap type, are included, even though they do not contain primary explosives.

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Chapter 2
CLASS 2 - GASES

2.1 GENERAL

2.1.1 A gas is a substance which:

a) at 50°C has a vapour pressure greater than 300 kPa; or

b) is completely gaseous at 20°C at a standard pressure of 101.3 kPa.

2.1.2 The transport condition of a gas is described according to its physical state as:

a) compressed gas — a gas (other than in solution) which when packaged under pressure for transport is entirely gaseous at 20°C;

b) liquefied gas — a gas which when packaged for transport is partially liquid at 20°C;

c) refrigerated liquefied gas — a gas which when packaged for transport is partially liquid because of its low temperature;

d) gas in solution — compressed gas which when packaged for transport is dissolved in a solvent.

2.1.3 This class comprises *compressed gases; liquefied gases; gases in solution; refrigerated liquefied gases; mixtures of gases;* mixtures of one or more gases with one or more vapours of substances of other classes; articles charged with a gas; tellurium hexafluoride; aerosols.

Note.— ~~It is not intended to include in Class 2 gases that are offered for transport at ambient temperature and at a pressure within the packaging not exceeding 105 kPa absolute, provided that the gas is non-flammable, non-poisonous and non-corrosive. Neither is it intended to include carbonated beverages.~~ It is not intended to include carbonated beverages in Class 2.

2.2 DIVISIONS

Substances of Class 2 are assigned to one of three divisions based on the primary hazard of the gas during transport.

Division 2.1 Flammable gases.

Gases which at 20°C and a standard pressure of 101.3 kPa:

a) are ignitable when in a mixture of 13 per cent or less by volume with air; or

b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit. Flammability must be determined by tests or by calculation in accordance with methods adopted by ISO (see ISO Standard 10156/1990). Where insufficient data are available to use these methods, tests by a comparable method recognized by the appropriate national authority must be used.

Note.— Aerosols (UN 1950) must be regarded as being in Division 2.1 when the criteria in 2.5.2 are met.

Division 2.2 Non-flammable, non-toxic gases.

Gases which are transported at a pressure not less than 280 kPa at 20°C, or as refrigerated liquids, and which:

a) are asphyxiant — gases which dilute or replace the oxygen normally in the atmosphere; or

b) are oxidizing — gases which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does; or

c) do not come under the other divisions.

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3.2.1.3 Substances classified as flammable liquids due to their being transported or offered for transport at elevated temperatures are included in Packing Group III.

Chapter 3

CLASS 3 - FLAMMABLE LIQUIDS

3.1 DEFINITION OF CLASS 3

~~Liquids or mixtures of liquids or liquids containing solids in solution or in suspension which give off a flammable vapour at temperatures of not more than 60.5°C closed cup test or not more than 65.6°C open cup test.~~

3.2 PACKING GROUP CRITERIA

3.2.1.1 Table 2-2 should be used for the determination of the packing group of a liquid that presents a risk due to flammability. For liquids whose only hazard is flammability, the packing group for the material is the packing group shown in the table below. For a liquid possessing an additional hazard(s), the packing group determined from Table 2-2 and the packing group based on the severity of the additional hazard(s) should be considered. In such cases, the table of precedence of hazard characteristics appearing in Table 2-12 should be used to determine the correct classification of the liquid. However, the most stringent packing group based on the different hazards of the liquid must then be the packing group for the liquid.

Table 2-2. Packing group based on flammability

Packing group	*Flash point (closed-cup)*	*Initial boiling point*
I	–	≤35°C
II	<23°C	>35°C
III	≥23°C, ≤60.5°C	>35°C

3.2.1.2 Viscous substances having a flash point below 23°C may be placed in Packing Group III in conformity with 3.2.2.

3.2.2 Grouping of flammable viscous substances with a flash point of less than 23°C

3.2.2.1 The hazard group of paints, varnishes, enamels, lacquers, adhesives, polishes and other viscous flammable substances of Class 3 with a flash point of less than 23°C is determined by reference to:

a) the viscosity expressed as the flow time in seconds;

b) the closed-cup flash point;

c) a solvent separation test; and

d) the size of the receptacle.

3.2.2.2 *Criteria for inclusion in Group III*

Viscous flammable liquids such as paints, enamels, varnishes, adhesives and polishes with a flash point of less than 23°C are ~~grouped in Group III provided that~~ included in Packing Group III provided that:

a) less than 3 per cent of the clear solvent layer separates in the solvent separation test;

b) the mixture contains not more than 5 per cent of substances in Group I or Group II of Division 6.1 or Class 8, or not more than 5 per cent of substances in Group I, Class 3 requiring a Division 6.1 or Class 8 subsidiary label;

3.1.1 Flammable liquids are liquids or mixtures of liquids or liquids containing solids in solution or suspension (for example paints, varnishes, lacquers, etc, but not including substances otherwise classified on account of their dangerous characteristics) which give off a flammable vapour at temperatures of not more than 60.5°C closed-cup test or not more than 65.6°C open cup test, normally referred to as the flash point.

3.1.2 Liquids described in 3.1.1 above with a flash point of more than 35°C need not be considered as flammable liquids for the purposes of these Instructions, if:

a) they do not sustain combustion when subjected to the method of testing for combustibility given in Part 8, Chapter 3; or

b) their fire point according to ISO 2592 is greater than 100°C; or

c) they are miscible solutions with a water content of more than 90% by mass.

3.1.3 Notwithstanding 3.1.1 and 3.1.2 above, liquids offered for transport at temperatures at or above their flash point are considered as flammable liquids.

3.1.4 Substances that are transported or offered for transport at elevated temperatures in a liquid state and which give off a flammable vapour at a temperature at or below the maximum transport temperature are also considered to be flammable liquids.

Note. - The mixture need not bear the Division 6.1 or Class 8 subsidiary risk label.

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c) the viscosity and flash point are in accordance with the following table:

Flow time in seconds		Flash point in degrees Celsius
4 mm cup	8 mm cup	
over 20	–	over 17
over 60	–	over 10
over 100	–	over 5
over 160	–	over – 1
over 220	over 17	over – 5
–	over 40	no lower limit

d) the capacity of the receptacle used does not exceed 30 L.

3.2.2.3 *Test methods*

a) *Viscosity test.* The flow time in seconds is determined at 23°C using the ISO standard cup with a 4 mm jet (ISO 2431-1984). Where ~~the flow time exceeds 200 seconds, a second test is carried out using the ISO standard cup but modified to take a jet of 8 mm diameter.~~

b) *Flash point.* The closed-cup flash point is determined according to the ISO method ISO 1523-1983 for paints and varnishes. Where the temperature of the flash point is too low for the use of water in the water bath the following modifications should be made:

1) use ethylene glycol in the water bath or other suitable similar container;

2) where appropriate, a refrigerator may be used to cool the sample and apparatus to below the expected flash point required by the method. For lower temperatures, the sample and equipment should be cooled to a suitable temperature, for example, by the addition of solid carbon dioxide slowly to the ethylene glycol, the sample being similarly cooled in a separate container of ethylene glycol;

3) in order to obtain reliable flash points, it is important that the recommended rate of temperature rise for the sample during testing is not exceeded. Depending on the size of the water bath and the amount of ethylene glycol it contains, it may be necessary partially to insulate the water bath to achieve a slow enough rate of temperature rise.

c) *Solvent separation test.* This test is carried out at 23°C using a 100 mL measuring cylinder of the stoppered type of approximately 250 mm total height and of a uniform internal diameter of approximately 30 mm over the calibrated section. The paint should be stirred to obtain a uniform consistency, and poured in up to the 100 mL mark. The stopper should be inserted and the cylinder left standing undisturbed for 24 hours. After 24 hours, the height of the upper separated layer should be measured and the percentage of this layer, as compared with the total height of the sample, calculated.

3.3 DETERMINATION OF FLASH POINT

The following is a list of documents describing methods used in some States for determining the flash point of substances in Class 3:

Germany (DIN Post Box 1107, D-1000 Berlin 30)

- Standard DIN 51755 (flash points below 65°C)
- Standard DIN 51758 (flash point 65°C to 165°C)
- Standard DIN 53213 (for varnishes, lacquers and similar viscous liquids with flash points below 65°C)

France

Instructions annexed to the Ministerial Decree (France) of 26 October 1925 issued under the authority of the Ministère du commerce et de l'industrie (*Journal officiel* of 29 October 1925)

Russian Federation (State Committee of the Russian Federation Council of Ministers for Standardization, 113813, GSP, Moscow, M-49 Leninsky Prospect, 9)

- GOST 12.1.044-84

United Kingdom (British Standards Institution, Linford Wood, Milton Keynes, MK14 6LE)

- British Standard BS 2000 Part 34
- British Standard BS 2000 Part 170

United States of America (American Society for Testing Materials, 1916 Race Street, Philadelphia, PA 19103)

- ASTM D 56-87
- ASTM D 3278-~~78~~ 89
- ASTM D 93-~~80~~ 90

A

Flow time t in seconds	Jet diameter in mm	Flash point in °C *(closed-cup)*
$20 < t \leq 60$	4	above 17
$60 < t \leq 100$	4	above 10
$20 < t \leq 32$	6	above 5
$32 < t \leq 44$	6	above -1
$44 < t \leq 100$	6	above -5
$100 < t$	6	-5 and below

A

the flow time exceeds 100 seconds, a further test is carried out using the ISO standard cup with a 6 mm jet.

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4.1.2.2 *Classification of flammable solids*

4.1.2.2.1 Flammable solids must be classified in Division 4.1 in accordance with the test methods and criteria given in Part 8;1.1.

4.1.2.2.2 Solids which may cause fire through friction must be classified in Division 4.1 by analogy with existing entries (e.g. matches) until definitive criteria are established.

4.1.2.3 *Assignment of new flammable solids to packing groups*

4.1.2.3.1 Readily combustible solids (other than metal powders), which are tested in accordance with the test methods and criteria in Part 8;1.1.2, must be assigned to Packing Group II if the burning time is less than 45 seconds and the flame passes the wetted zone. Packing Group II must be assigned to powders of metal or metal alloys if the zone of reaction spreads over the whole length of the sample in five minutes or less.

4.1.2.3.2 Readily combustible solids (other than metal powders) must be assigned to Packing Group III if the burning time is less than 45 seconds and the wetted zone stops the flame propagation for at least four minutes. Packing Group III must be assigned to metal powders if the reaction spreads over the whole length of the sample in more than five minutes but not more than ten minutes.

4.1.2.3.3 Solids which may cause fire through friction must be assigned to a packing group by analogy with existing entries or in accordance with any appropriate special provision (see Table 2-15).

4.1.3 Self-reactive and related substances

4.1.3.1 *Definition*

Self-reactive substances are thermally unstable substances liable to undergo a strongly exothermic decomposition even without the participation of oxygen (air).

~~Self-reactive substances are substances liable to undergo (at normal or elevated temperatures) a strongly exothermic decomposition caused by excessively high transport temperatures.~~ The following substances must not be considered to be self-reactive substances of Division 4.1:

- explosives according to the criteria of Class 1;
- oxidizing substances according to the assignment procedure in Part 2;5.2;
- organic peroxides according to the criteria of Division 5.2;
- substances where their heat of decomposition is less than 300 J/g; or
- substances where their self-accelerating decomposition temperature is greater than 75°C/ for a 50 kg package.

Note.— The heat of decomposition can be determined by using any method recognized internationally, e.g. differential scanning calorimetry and adiabatic calorimetry.

Any substance which shows the properties of a self-reactive substance must be classified as such, even if this substance gives a positive test result for inclusion in Division 4.2, according to Part 8; 1.2.2.

4.1.3.2 *Properties*

The decomposition of self-reactive substances can be initiated by heat, contact with catalytic impurities (e.g. acids, heavy-metal compounds, bases), friction or impact. The rate of decomposition increases with temperature and varies with the substance. Decomposition, particularly if no ignition occurs, may result in the evolution of toxic gases or vapours. For certain self-reactive substances, the temperature must be controlled. Some self-reactive substances may decompose explosively, particularly if confined; this characteristic may be modified by the addition of diluents or by the use of appropriate packagings. Some self-reactive substances burn vigorously. Self-reactive substances include some of the following types of compounds:

- aliphatic azo compounds ($-C-N=N-C-$);
- organic azides ($-C-N_3$);
- diazonium salts ($-CN_2^+Z^-$);
- N-nitroso compounds ($-N-N=O$); and
- aromatic sulphohydrazides ($-SO_2-NH-NH_2$).

Substances with other reactive groups and some mixtures of substances may have similar properties.

4.1.3.3 *Classification of self-reactive substances*

4.1.3.3.1 Self-reactive substances are classified according to the degree of danger. They must be transported under the appropriate generic self-reactive substance entry appearing in Table 2-14 (UN Nos. 3221 to 3240). The entries specify:

- the self-reactive substance type (B to F)
- the physical state (i.e. liquid/solid)
- when temperature control is required

Note.— Self-reactive substances which require temperature control during transport are forbidden for transport by air unless exempted (see Part 1;2.2).

4.1.3.1.2 "Related substances" are distinguished from self-reactive substances by having a self-accelerating decomposition temperature greater than 75°C. They are liable to undergo, as are self-reactive substances, a strongly exothermic decomposition. They are also liable, in certain packagings, to meet the criteria for explosive substances in Class 1.

4.1.3.3.2 Except as provided in 4.1.3.3.3, prior to transport, the allocation of the self-reactive substance to the appropriate generic entry listed in Table 2-14 must be approved by the appropriate authority of the State of manufacture. In addition to an indication of the generic entry under which the self-reactive is allocated, the approval must include any additional relevant transport conditions as well as the test results upon which the allocation to the appropriate generic entry has been based.

4.1.3.3.3 Notwithstanding the provisions of 4.1.3.3.2, self-reactive substances that were listed by name in the 1991-1992 edition may be allocated to the appropriate generic entry in Table 2-14 without prior approval of the appropriate authority of the State of manufacture, provided that the generic entry to which the self-reactive substance is allocated is that indicated for the particular self-reactive substance in Table 14.1 of the current edition of the Recommendations of the UN Committee of Experts on the Transport of Dangerous Goods (UN Document ST/SG/AC.10/1). This table is reproduced in 4.4 below.

4.1.3.4 *Desensitization of self-reactive substances*

In order to ensure safety in transport, self-reactive substances may be desensitized by the use of a diluent. When a diluent is used, the self-reactive substance must be tested with the diluent present in the concentration and form to be used in transport.

4.1.4 Desensitized explosives

Desensitized explosives are substances which are wetted with water or alcohols or diluted with other substances to suppress their explosive properties.

4.2 SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION (DIVISION 4.2)

4.2.1 General

The following types of substances are classified in Division 4.2:

a) pyrophoric substances; and

b) self-heating substances.

4.2.2 Properties

Self-heating of substances, leading to spontaneous combustion, is caused by reaction of the substance with oxygen (in the air) and the heat developed not being conducted away sufficiently rapidly to the surroundings. Spontaneous combustion occurs when the rate of heat production exceeds the rate of heat loss and the auto-ignition temperature is reached. Two types of substances can be distinguished with spontaneous combustion properties:

a) substances, including mixtures and solutions (liquid or solid), which even in small quantities ignite within five minutes of coming into contact with air. These substances are the most liable to spontaneous combustion and are called pyrophoric substances;

b) other substances which in contact with air without energy supply are liable to self-heating. These substances will ignite only when in large amounts (kilograms) and after long periods of time (hours or days) and are called self-heating substances.

4.2.3 Assignment to Division 4.2

4.2.3.1 Pyrophoric liquids and solids must be classified in Division 4.2 in accordance with the test methods and criteria in Part 8;1.2.1.

4.2.3.2 Self-heating substances must be assigned to Division 4.2 in accordance with the test method and criteria in Part 8;1.2.2.

4.2.4 Assignment of packing groups

4.2.4.1 Packing Group I must be assigned to all pyrophoric liquids and solids.

4.2.4.2 Packing Group II must be assigned to self-heating substances which give positive results when tested with the 25 mm cube sample.

4.2.4.3 Packing Group III must be assigned to self-heating substances which give positive results when tested with the 100 mm cube sample but which give a negative result with a 25 mm cube sample.

Self reactive substances, other than type G, which also give a positive result according to Part 8; 1.2.2, must be classified in Division 4.1 and not Division 4.2.

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4.3 SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES (DIVISION 4.3)

4.3.1 General

Substances which, in contact with water, emit flammable gases must be classified in Division 4.3 in accordance with the test method and criteria in Part 8;1.3. The term 'water-reactive' is used to describe these substances.

4.3.2 Properties

Certain substances in contact with water emit flammable gases which can form explosive mixtures with air. Such mixtures are easily ignited by all ordinary sources of ignition, for example, naked lights, sparking handtools or unprotected light bulbs. The resulting blast wave and flames may endanger people and the environment. The test method in Part 8;1.3 must be used to determine whether the reaction of a substance with water leads to the development of a dangerous amount of gases which may be flammable. It must not be applied to pyrophoric substances.

4.3.3 Assignment of packing groups

4.3.3.1 Packing Group I must be assigned to any substance which reacts vigorously with water at ambient temperatures and demonstrates generally a tendency for the gas produced to ignite spontaneously, or which reacts readily with water at ambient temperatures such that the rate of evolution of flammable gas is equal to or greater than 10 L/kg of substance over any one minute.

4.3.3.2 Packing Group II must be assigned to any substance which reacts readily with water at ambient temperatures such that the maximum rate of evolution of flammable gas is equal to or greater than 20 L/kg of substance per hour, and which does not meet the criteria for Packing Group I.

4.3.3.3 Packing Group III must be assigned to any substance which reacts slowly with water at ambient temperatures such that the maximum rate of evolution of flammable gas is equal to or greater than 1 L/kg of substance per hour, and which does not meet the criteria for Packing Groups I or II.

4.4 LIST OF PREVIOUSLY ASSIGNED SELF-REACTIVE SUBSTANCES

L The following table is reproduced from Table 14.1 in the United Nations Recommendations on the Transport of Dangerous Goods (~~Seventh~~ Eighth revised edition), with irrelevant material removed.

UN Table 14.1 List of previously assigned self-reactive substances

Note.— The classification given in this table is based on the technically pure substance (except where a concentration of less than 100% is specified). For other concentrations, the substances may be classified differently following the procedures in 14.2.2.4 and 14.2.2.5 of the UN Recommendations on the Transport of Dangerous Goods.

Self-reactive substance	*Concentration (%)*	*Control temperature (°C)*	*Emergency temperature (°C)*	*UN No.*	*Notes*
Azodicarbonamide formulation type B	<100			3232	1) 2)
Azodicarbonamide formulation type C	<100			3234	3)
Azodicarbonamide formulation type D	<100			3236	4)
2,2'-Azodi (2,4-dimethyl-4-methoxyvaleronitrile)	100	+5	+5	3236	
2,2'-Azodi (2,4-dimethyl-valeronitrile)	100	+10	+15	3236	
2,2'-Azodi (ethyl 2-methylpropionate)	100	+20	+25	3235	
H 1,1'-Azodi (hexahydrobenzonitrile)	100			~~3226~~ 3226	
2,2'-Azodi (isobutyronitrile)	100	+40	+45	3234	
2,2'-Azodi (2-methylbutyronitrile)	100	+35	+40	3236	
Benzene-1,3-disulphohydrazide, as a paste	52			3226	

UN Table 14.1

Secretariat note. UN Table 14.1 - Place in ~~alphabetical~~ order

	Self-reactive substance	*Concentration (%)*	*Control temperature (°C)*	*Emergency temperature (°C)*	*UN No.*	*Notes*
	Benzene sulphohydrazide	100			3226	
H	4-(Benzyl(methyl)amino)-3-ethoxybenzenediazonium zinc chloride	100	+40	+45	~~3236~~ 3236	
H	4-(Benzyl(ethyl)amino)-3-ethoxybenzenediazonium zinc chloride	100	~~+40~~	~~+45~~	~~3236~~ 3226	
H	2-(2-Hydroxyethoxy)-1-(pyrrolidin-1-yl) benzene-4-diazonium zinc chloride	100	+45	+50	3236	
	3-(2-Hydroxyethoxy)-4-(pyrrolidin-1-yl) benzene diazonium zinc chloride	100	+40	+45	3236	
HA	4-Methylbenzenesulphonylhydrazide	100	+40	+45	~~3226~~ 3226	
	3-Methyl-4-(pyrrolidin-1-yl) benzenediazonium tetrafluoroborate	95	+45	+50	3234	
	N-Formyl-2-(nitromethylene)-1,3-perhydrothiazine	100	+45	+50	3236	
H	2-(n,n-Ethoxycarbonylphenylamino)-3-methoxy-4-(n-methyl-n-cyclohexylamino) benzenediazonium zinc chloride	63–92	+40	+45	3236	
H	2-(n,n-Ethoxycarbonylphenylamino)-3-methoxy-4-(n-methyl-n-cyclohexylamino) benzenediazonium zinc chloride	62	+35	+40	3236	
H	2-(n,n-Methylaminoethylcarbonyl)-4-(3,4-dimethylphenylsulphonyl) benzenediazonium hydrogen sulphate	96	+45	+50	3236	
	3-Chloro-4-diethylaminobenzenediazonium zinc chloride	100			3226	
	2-Diazo-1-naphthol-4-sulphochloride	100			3222	2)
	2-Diazo-1-naphthol-5-sulphochloride	100			3222	2)
	2,5-Diethoxy-4-morpholinobenzenediazonium zinc chloride	67–100	+35	+40	3236	
	2,5-Diethoxy-4-morpholinobenzenediazonium zinc chloride	66	+40	+45	3236	
	2,5-Diethoxy-4-morpholinobenzenediazonium tetrafluoroborate	100	+30	+35	3236	
	2,5-Diethoxy-4-(phenylsulphonyl) benzenediazonium zinc chloride	67	+40	+45	3236	
	2,5-Dimethoxy-4-(4-methylphenylsulphonyl) benzenediazonium zinc chloride	79	+40	+45	3236	
	4-Dimethylamino-6-(2-dimethylaminoethoxy) toluene-2-diazonium zinc chloride	100	+40	+45	3236	
	N,N'-Dinitroso-N,N'-dimethyl terephthalamide, as a paste	72			3224	
HA	N,N'-Dinitrosopentamethylene tetramine ~~with diluent type A~~	82			3224	5)
	Diphenyloxide-4,4'-disulphohydrazide	100			3226	
	4-Dipropylaminobenzenediazonium zinc chloride	100			3226	
	Sodium 2-diazo-1-naphthol-4-sulphonate	100			3226	
	Sodium 2-diazo-1-naphthol-5-sulphonate	100			3226	
	Tetramine palladium (II) nitrate	100	+30	+35	3234	

Notes:

1) Azodicarbonamide formulations which fulfil the criteria of S-2;4.3.1.2 b) of the Supplement.

2) 'EXPLOSIVE' subsidiary risk label required.

3) Azodicarbonamide formulations which fulfil the criteria of S-2;4.3.1.2 c) of the Supplement.

4) Azodicarbonamide formulations which fulfil the criteria of S-2;4.3.1.2 d) of the Supplement.

A 5) With a compatible diluent having a boiling point of not less than 150 °C.

A Add to UN Table 14.1

Self-reactive substance	*Concentration (%)*	*Control temperature (°C)*	*Emergency temperature (°C)*	*UN No.*
4-Nitrosophenol	100	+35	+40	3236

5.3 ORGANIC PEROXIDES (DIVISION 5.2)

5.3.1 Classification of organic peroxides

5.3.1.1 Organic substances meeting the definition of Division 5.2 given in 5.1 above must be classified in Division 5.2 unless the organic peroxide formulation contains:

- not more than 1.0 per cent available oxygen from the organic peroxides when containing not more than 1.0 per cent hydrogen peroxide; or
- not more than 0.5 per cent available oxygen from the organic peroxides when containing more than 1.0 per cent but not more than 7.0 per cent hydrogen peroxide.

Note 1.— The available oxygen content (per cent) of an organic peroxide formulation is given by the formula $16 \times \Sigma (n_i \times c_i / m_i)$

where n_i = *number of peroxygen groups per molecule of organic peroxide i;*

c_i = *concentration (mass in percentage) of organic peroxide i;*

and m_i = *molecular mass of organic peroxide i.*

Note 2.— An organic peroxide formulation not required to be classified in Division 5.2 may nevertheless, depending on its properties, fall within the definition of another class of dangerous goods.

5.3.1.2 All organic peroxides classified in Division 5.2 must be transported under the appropriate generic organic peroxide entry appearing in Table 2-14 (UN Nos. 3101 to 3120). The entries specify:

- the organic peroxide type (B to F);
- the physical state of the organic peroxide (liquid or solid); and
- if temperature control is required.

Note.— Organic peroxides requiring temperature control during transport are forbidden for transport by air unless exempted (see Part 1;2.2).

5.3.1.2.1 ~~Except as provided in 5.3.1.2.2, prior to transport, the allocation of the organic peroxide to the appropriate generic entry listed~~ in Table 2-14 must be approved by the appropriate authority of the State of manufacture. In addition to an indication of the generic entry under which the organic peroxide is allocated, the approval must include any additional relevant transport conditions as well as the test results upon which the allocation to the appropriate generic entry has been based.

5.3.1.2.2 Notwithstanding the provisions of 5.3.1.2.1, organic peroxides that were listed by name in the 1989-1990 edition of these Instructions may be allocated to the appropriate generic entry in Table 2-14 without prior approval of the appropriate authority of the State of manufacture provided that the generic entry to which the organic peroxide is allocated is that indicated for the particular organic peroxide in Table 11.3 of the current edition of the Recommendations of the UN Committee of Experts on the Transport of Dangerous Goods (UN Document ST/SG/AC.10/1). This table is reproduced at the end of this chapter, with irrelevant material removed.

5.3.2 Special risks associated with organic peroxides

5.3.2.1 Organic peroxides are liable to exothermic decomposition which can be started by heat, contact with impurities (e.g. acids, heavy metal compounds, amines), friction or impact. The rate of decomposition increases with temperature and varies with the peroxide formulation. Decomposition may result in the evolution of harmful or flammable gases or vapours. Some organic peroxides decompose explosively, particularly if confined. Many organic peroxides burn vigorously.

5.3.2.2 Contact of organic peroxides with the eyes should be avoided. Some organic peroxides will cause serious injury to the cornea, even after brief contact, or will be corrosive to the skin.

5.3.3 Desensitization of organic peroxides

In order to ensure safety during transport and handling, organic peroxides are in many cases desensitized by organic liquids or solids, inorganic solids or water. Table 11.3 of the current edition of the Recommendations of the UN Committee of Experts on the Transport of Dangerous Goods (ST/SG/AC.10/1) specifies when a desensitizing agent must be used, together with the percentage required.

A — Except as provided in 5.3.1.2.2, prior to transport, the allocation of new organic peroxides or new formulations or mixtures of currently assigned organic peroxides to the appropriate generic entry listed

A — this — Mixtures of the formulations in this Table may be classified as the same type of organic peroxide as that of the most dangerous component and be transported under the conditions of transport given for the type. However, as two stable components can form a thermally less stable mixture, the self-accelerating decomposition temperature (SADT) of the mixture must be determined and, if necessary, the control and emergency temperatures derived from the SADT in accordance with the criteria given in the Recommendations.

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The following table is reproduced from the United Nations Recommendations on the Transport of Dangerous Goods (~~seventh~~ eighth revised edition). Irrelevant material has been removed and the revisions shown in UN Document ST/SG/AC.10/C.3/8 have been incorporated.

UN Table 11.3 List of previously assigned organic peroxides

Organic peroxide	*Concentration (%)*	*Diluent type A (%)*	*Diluent type B (%) 1)*	*Inert solid (%)*	*Water (%)*	*Control temperature (°C)*	*Emergency temperature (°C)*	*UN No.*	*Notes*
Acetyl acetone peroxide	≤42	≥48			≥8			3105	2)
Acetyl acetone peroxide	≤32 as a paste							3106	~~2)~~ 20)
Acetyl benzoyl peroxide	≤45	≥55						3105	
Acetyl cyclohexanesulphonyl peroxide	≤82				≥12	−10	0	3112	3)
Acetyl cyclohexanesulphonyl peroxide	≤32		≥68			−10	0	3115	
tert-Amyl hydroperoxide	≤88	≥6			≥6			3107	
tert-Amyl peroxybenzoate	≤96	≥4						3105	
tert-Amyl peroxy-2-ethylhexanoate	≤100					+20	+25	3115	
tert-Amyl peroxyneodecanoate	≤77		≥23			0	+10	3115	
tert-Amyl peroxypivalate	≤77		≥23			+10	+15	3113	
tert-Amylperoxy-3,5,5-trimethylhexanoate	≤100							3101	3)
tert-Butyl cumylperoxide	~~≤100~~ >42-100							3105	
n-Butyl-4,4-di-(tert-butylperoxy) valerate	>52 – 100							3103	
n-Butyl-4,4-di-(tert-butylperoxy) valerate	≤52			≥48				3106	
tert-Butyl hydroperoxide	~~>72 – 90~~ >79-90				≥10			3103	~~14)~~ 13)
tert-Butyl hydroperoxide	≤80	≥20						3105	4) ~~14)~~ 13)
tert-Butyl hydroperoxide	≤72				≥28			3109	~~14)~~ 13)
tert-Butyl hydroperoxide + Di-tert-butylperoxide	<82 + >9				≥7			3103	~~14)~~ 13)
tert-Butyl monoperoxymaleate	>52 – 100							3102	3)
tert-Butyl monoperoxymaleate	≤52	≥48						3103	
~~tert-Butyl monoperoxymaleate~~	~~≤42 as a paste~~							~~3109~~	~~21)~~
tert-Butyl monoperoxyphthalate	≤100							3102	3)
tert-Butyl peroxyacetate	>52 – 77	≥23						3101	3)
tert-Butyl peroxyacetate	~~≤52~~ 32-52	≥48						3103	

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Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) 1)	Inert solid (%)	Water (%)	Control temperature (°C)	Emergency temperature (°C)	UN No.	Notes
tert-Butyl peroxybenzoate	>77 – 100	<22						3103	
tert-Butyl peroxybenzoate	>52 – 77	≥23						3105	
tert-Butyl peroxybenzoate	≤52			≥48				3106	
tert-Butyl peroxycrotonate	≤77	≥23						3105	
tert-Butyl peroxydiethylacetate	≤100					+20	+25	3113	
tert-Butyl peroxydiethylacetate + tert-Butyl peroxybenzoate	≤33 + ≤33	≥33						3105	
tert-Butyl peroxy-2-ethylhexanoate	>52 – 100					+20	+25	3113	
A tert-Butyl peroxy-2-ethylhexanoate	~~≤52~~ 32-52		≥48			~~+20~~ +30	~~+25~~ +35	3117	
tert-Butyl peroxy-2-ethylhexanoate + 2,2-Di-(tert-butylperoxy) butane	≤31 + ≤36		≥33			+35	+40	3115	
tert-Butyl peroxy-2-ethylhexanoate + 2,2-Di-(tert-butylperoxy) butane	≤12 + ≤14	>14		≥60				3106	
tert-Butyl peroxyisobutyrate	>52 – 77		>23			+15	+20	3111	3)
tert-Butyl peroxyisobutyrate	≤52		>48			+15	+20	3115	
tert-Butylperoxy isopropylcarbonate	≤77	≥23						3103	
tert-Butyl peroxyneodecanoate	>77 – 100					–5	+5	3115	
tert-Butyl peroxyneodecanoate	≤77		≥23			0	+10	3115	
3-tert-Butylperoxy-3-phenylphthalide	≤100							3106	
tert-Butyl peroxypivalate	>67 – 77	≥23				0	+10	3113	
A tert-Butyl peroxypivalate	~~≤67~~ 27-67		≥33			0	+10	3115	
tert-Butylperoxy stearylcarbonate	≤100							3106	
A tert-Butyl peroxy-3,5,5-trimethylhexanoate	~~≤100~~ 32-100							3105	
3-Chloroperoxybenzoic acid	>57 – 86			≥14				3102	3)
3-Chloroperoxybenzoic acid	≤57			≥3	≥40			3106	
A Cumyl hydroperoxide	≤90	≥10						3109	~~11)~~ 13) ~~19)~~ 18)
Cumyl peroxyneodecanoate	≤77		≥23			–10	0	3115	
Cumyl peroxypivalate	≤77		≥23			–5	+5	3115	

	Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) 1)	Inert solid (%)	Water (%)	Control temperature (°C)	Emergency temperature (°C)	UN No	Notes
A	Cyclohexanone peroxide(s)	≤91				≥9			3104	~~14)~~ 13)
A	Cyclohexanone peroxide(s)	≤72 as a paste							3106	5) ~~21)~~ 20)
	Cyclohexanone peroxide(s)	≤72	≥28						3105	5)
	Cyclohexanone peroxide(s)	≤32			≥68				Exempt	
A	Diacetone alcohol peroxides	≤57		≥26		≥8	~~+30~~ +40	~~+35~~ +45	3115	~~7)~~ 6)
A	Diacetyl peroxide	≤27		≥73			+20	+25	3115	~~14)~~ 7) 13)
	Di-tert-amyl peroxide	≤100							3107	
A	Dibenzoyl peroxide	~~>52~~ 51 – 100			≤48				3102	3)
	Dibenzoyl peroxide	>77 – 94				≥6			3102	3)
	Dibenzoyl peroxide	≤77				≥23			3104	
	Dibenzoyl peroxide	≤62			≥28	≥10			3106	
A	Dibenzoyl peroxide	>52 – 62 as a paste							3106	~~21)~~ 20)
A	Dibenzoyl peroxide	≤52 as a paste							3108	~~21)~~ 20)
	Dibenzoyl peroxide	>35 – 52			≥48				3106	
	Dibenzoyl peroxide	≤35			≥65				Exempt	
	Dibenzyl peroxydicarbonate	≤87				≥13	+25	+30	3112	3)
	Di-(4-tert-butylcyclohexyl) peroxydicarbonate	≤100					+30	+35	3114	
	Di-(4-tert-butylcyclohexyl) peroxydicarbonate	≤42 as a stable dispersion in water					+30	+35	3119	
A	Di-tert-butyl peroxide	~~≤100~~ >32-100							3107	
	2,2-Di-(tert-butylperoxy)butane	≤52	≥48						3103	
	1,1-Di-(tert-butylperoxy) cyclohexane	>80 – 100							3101	3)
	1,1-Di-(tert-butylperoxy) cyclohexane	>52 – 80	≥20						3103	
	1,1-Di-(tert-butylperoxy) cyclohexane	≤52	≥48						3105	
	1,1-Di-(tert-butylperoxy) cyclohexane	≤42	≥13		≥45				3106	
A	1,1-Di-(tert-butylperoxy) cyclohexane	≤27	≥36						3107	~~22)~~ 21)
A	2,2-Di-(4,4-di(tert-butylperoxy)cyclohexyl)-propane	≤42			≥58				3106	

	Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) 1)	Inert solid (%)	Water (%)	Control temperature (°C)	Emergency temperature (°C)	UN No.	Notes
	Di-n-butyl peroxydicarbonate	>27 – 52		≥48			– 15	– 5	3115	
	Di-n-butyl peroxydicarbonate	≤27		≥73			– 10	0	3117	
	Di-sec-butyl peroxydicarbonate	>52 – 100					– 20	– 10	3113	
	Di-sec-butyl peroxydicarbonate	≤52		≥48			– 15	– 5	3115	
	Di-(2-tert-butylperoxyisopropyl) benzene(s)	>42 – 100			≤57				3106	
	Di-(2-tert-butylperoxyisopropyl) benzene(s)	≤42			≥58				Exempt	
A	Di-(tert-butylperoxy)phthalate	~~>42 – 52~~ 43 – 52	≥48						3105	
A	Di-(tert-butylperoxy)phthalate	≤52 as a paste							3106	~~21)~~ 20)
	Di-(tert-butylperoxy)phthalate	≤42	≥58						3107	
	2,2-Di-(tert-butylperoxy)propane	≤52	≥48						3105	
	2,2-Di-(tert-butylperoxy)propane	≤42	≥13		≥45				3106	
A	1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	~~>57 – 100~~ 90 – 100							3101	3)
	1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	≤57			≥43				3106	
	1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	≤57	≥43						3107	
A	Dicetyl peroxydicarbonate	≤100					~~+30~~ ~~+20~~	~~+35~~ ~~+25~~	3116	
	Dicetyl peroxydicarbonate	≤42 as a stable dispersion in water					+ 30	+ 35	3119	
	Di-4-chlorobenzoyl peroxide	≤77				≥23			3102	3)
A	Di-4-chlorobenzoyl peroxide	≤52 as a paste							3106	~~21)~~ 20)
	Di-4-chlorobenzoyl peroxide	≤32			≥68				Exempt	
A	Dicumyl peroxide	>42 – 100			≤57				3110	12)
	Dicumyl peroxide	≤42			≥58				Exempt	
	Dicyclohexyl peroxydicarbonate	>91 – 100					+ 5	+ 10	3112	3)
	Dicyclohexyl peroxydicarbonate	≤91				≥9	+ 5	+ 10	3114	
A	Didecanoyl peroxide	≤100					~~+15~~ +30	~~+20~~ +35	3114	
	Di-2,4-dichlorobenzoyl peroxide	≤77				≥23			3102	3)
	Di-2,4-dichlorobenzoyl peroxide	≤52 as a paste with silicon oil							3106	
	Di-(2-ethylhexyl) peroxydicarbonate	>77 – 100					– 20	– 10	3113	
	Di-(2-ethylhexyl) peroxydicarbonate	≤77					– 15	– 5	3115	

Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) 1)	Inert solid (%)	Water (%)	Control temperature (°C)	Emergency temperature (°C)	UN No.	Notes
Di-(2-ethylhexyl) peroxydicarbonate	≤42 as a stable dispersion in water					−15	−5	3117	
Di-(2-ethylhexyl) peroxydicarbonate	≤42 as a stable dispersion in water (frozen)					−15	−5	3118	
Diethyl peroxydicarbonate	≤27		≥73			−10	0	3115	
2,2-Dihydroperoxypropane	≤27			≥73				3102	3)
Di-(1-hydroxycyclohexyl) peroxide	≤100							3106	
Diisobutyryl peroxide	>32 – 52		≥48			−20	−10	3111	3)
Diisobutyryl peroxide	≤32		≥68			−20	−10	3115	
Diisopropyl peroxydicarbonate	>52 – 100					−15	−5	3112	3)
Diisopropyl peroxydicarbonate	≤52		≥48			−10	0	3115	
Diisotridecyl peroxydicarbonate	≤100					−10	0	3115	
Dilauroyl peroxide	≤100							3106	
Dilauroyl peroxide	≤42 as a stable dispersion in water							3109	
Di-(2-methylbenzoyl) peroxide	≤87				≥13	+30	+35	3112	3)
2,5-Dimethyl-2,5-di-(benzoylperoxy) hexane	>82 – 100							3102	3)
2,5-Dimethyl-2,5-di-(benzoylperoxy) hexane	≤82			≥18				3106	
2,5-Dimethyl-2,5-di-(benzoylperoxy) hexane	≤82				≥18			3104	
2,5-Dimethyl-2,5-di-(tert-butylperoxy) hexane	>52 – 100							3105	
2,5-Dimethyl-2,5-di-(tert-butylperoxy) hexane	≤52			≥48				3106	
2,5-Dimethyl-2,5-di-(tert-butylperoxy) hexyne-3	>52 – 100							3103	
2,5-Dimethyl-2,5-di-(tert-butylperoxy) hexyne-3	≤52			≥48				3106	
2,5-Dimethyl-2,5-di-(2-ethylhexanoylperoxy)hexane	≤100					+20	+25	3115	
2,5-Dimethyl-2,5-dihydroperoxyhexane	≤82				≥18			3104	
2,5-Dimethyl-2,5-di-(3,5,5-trimethylhexanoylperoxy) hexane	≤77	≥23						3105	
Dimyristyl peroxydicarbonate	≤100					+20	+25	3116	
Dimyristyl peroxydicarbonate	≤42 as a stable dispersion in water					+20	+25	3119	

	Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) 1)	Inert solid (%)	Water (%)	Control temperature (°C)	Emergency temperature (°C)	UN No.	Notes
	Di-n-nonanoyl peroxide	≤100					0	+10	3116	
	Di-n-octanoyl peroxide	≤100					+10	+15	3114	
	Diperoxy azelaic acid	≤27			≥73		+35	+40	3116	
	Diperoxy dodecane diacid	>13 – 42			≥58		+40	+45	3116	
	Diperoxy dodecane diacid	≤13			≥87				Exempt	
	Di-(2-phenoxyethyl) peroxydicarbonate	>85 – 100							3102	3)
	Di-(2-phenoxyethyl) peroxydicarbonate	≤85				≥15			3106	
	Dipropionyl peroxide	≤27		≥73			+15	+20	3117	
	Di-n-propyl peroxydicarbonate	≤100					−25	−15	3113	
	Distearyl peroxydicarbonate	≤87			≥13				3106	
A	Disuccinic acid peroxide	>72 – 100							3102	3) 17)
A	Disuccinic acid peroxide	≤72				≥28	+10	+15	3116	~~18)~~
A	Di-(3,5,5-trimethylhexanoyl) peroxide	~~≤82~~ 38-82	≥18				0	+10	3115	
A	Di-(3,5,5-trimethyl-1,2-dioxolanyl-3) peroxide	≤52 as a paste					+30	+35	3116	~~21)~~ 20)
	Ethyl 3,3-di-(tert-amylperoxy) butyrate	≤67	≥33						3105	
	Ethyl 3,3-di-(tert-butylperoxy) butyrate	>77 – 100							3103	
	Ethyl 3,3-di-(tert-butylperoxy) butyrate	≤77	≥23						3105	
	Ethyl 3,3-di-(tert-butylperoxy) butyrate	≤52			≥48				3106	
	3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	>52 – 100							3102	3)
	3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	≤52	≥48						3105	
	3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	≤52			≥48				3106	
A	Isopropylcumyl hydroperoxide	≤72	≥28						3109	~~14)~~ 13)
A	p-Menthyl hydroperoxide	56 – 100							3105	~~14)~~ 13)
	p-Menthyl hydroperoxide	<56	>44						3109	
	Methylcyclohexanone peroxide(s)	≤67		≥33			+35	+40	3115	
A	Methyl ethyl ketone peroxide(s)	≤52	≥48						3101	3) ~~8)~~ ~~14)~~ 13)
A	Methyl ethyl ketone peroxide(s)	≤45	≥55						3105	~~10)~~ 9)
A	Methyl ethyl ketone peroxide(s)	≤40	≥60						3107	~~14)~~ 10)

	Organic peroxide	Concentration (%)	Diluent type A (%)	Diluent type B (%) 1)	Inert solid (%)	Water (%)	Control temperature (°C)	Emergency temperature (°C)	UN No.	Notes
A	Methyl isobutyl ketone peroxide(s)	≤62	≥19						3105	~~23)~~ 22)
A	Peroxyacetic acid, type D, stabilized	≤43							3105	~~14)~~ 13) ~~15)~~ 14) ~~20)~~ 19)
A	Peroxyacetic acid, type E, stabilized	≤43							3107	~~14)~~ 13) ~~16)~~ 15) ~~20)~~ 19)
A	Peroxyacetic acid, type F, stabilized	≤43							3109	~~14)~~ 13) ~~17)~~ 16) ~~20)~~ 19)
A	Pinanyl hydroperoxide	56 – 100							3105	~~14)~~ 13)
	Pinanyl hydroperoxide	<56	>44						3109	
	Tetrahydronaphthyl hydroperoxide	≤100							3106	
	1,1,3,3-Tetramethylbutyl hydroperoxide	≤100							3105	
	1,1,3,3-Tetramethylbutyl peroxy-2 ethylhexanoate	≤100					+20	+25	3115	
	2,4,4-Trimethylpentyl-2-peroxy phenoxyacetate	≤37		≥63			−10	0	3115	

Notes on Table 11.3:

1) Diluent type B may always be replaced by diluent type A.

2) Available oxygen ≤ 4.7%.

3) 'EXPLOSIVE' subsidiary risk label required.

4) Diluent may be replaced by Di-tert-butyl peroxide.

5) Available oxygen ≤ 9%.

L ~~6)~~ 7) With ≤ 9% hydrogen peroxide; available oxygen ≤ 10%.

L ~~8)~~ 8) Available oxygen > 10%.

L ~~9)~~ 10) Available oxygen ≤ 10%.

L ~~10)~~ 11) Available oxygen ≤ 8.2%.

L ~~13)~~ 14) 'CORROSIVE' subsidiary risk label required.

L ~~14)~~ 15) Peroxyacetic acid formulations which fulfil the criteria of S-2;5.2.3 d).

L ~~15)~~ 16) Peroxyacetic acid formulations which fulfil the criteria of S-2;5.2.3 e).

L ~~16)~~ 17) Peroxyacetic acid formulations which fulfil the criteria of S-2;5.2.3 f).

A Add pages 2-5-9A and 2-5-9B to UN Table 11.3 (in alphabetical order)

A Add the following new entries to UN Table II.3.

Organic peroxide	*Concentration (%)*	*Diluent type A (%)*	*Diluent type B (%)*	*Inert solid (%)*	*Water (%)*	*Control temp(°C)*	*Emergency temp (°C)*	*UN No.*	*Notes*
tert-Butyl cumyl peroxide	≤42			≥58				3106 ~~3105~~	
tert-Butyl hydro peroxide	≤79				>14			3107	13) 23)
tert-Butyl mono peroxymaleate	≤52 as a paste							3108	
tert-Butyl mono peroxymaleate	≤52			≥48				3108	
tert-Butyl peroxy acetate	≤32	≥68						3109	
tert-Butyl peroxy butylfumarate	≤52	≥48						3105	
tert-Butyl peroxy-2-ethylhexanoate	≤52			≥48		+20	+25	3118	
tert-Butyl peroxy-2-ethylhexanoate	≤32		≥68			+40	+45	3119	
tert-Butyl peroxy-2-ethylhexyl carbonate	≤100							3105	
1-(2-tert-Butyl peroxyisopropyl)-3-isopropenyl benzene	≤77	≥23						3105	
1-(2-tert-Butyl peroxyisopropyl)-3-isopropenyl benzene	≤42			≥58				3108	
tert-Butyl peroxy-2-methylbenzoate	≤100							3103	
tert-Butyl peroxy neodecanoate	≤42 as a stable dispersion in water					0	+10	3117	
tert-Butyl peroxy neodecanoate	≤42 as a stable dispersion in water (frozen)					0	+10	3118	
tert-Butyl peroxy pivalate	≤27		≥73			+30	+35	3119	
tert-Butyl peroxy-3,5,5-trimethyl hexanoate	≤32	≥68						3109	

A

3-Chloroperoxy benzoic acid	≤72			≥10	≥18		3106
Cumyl hydro peroxide	>90-98	≤10					3107 (13)
Dibenzoyl peroxide	>36-42	≥58					3107
Dibenzoyl peroxide	>36-42	≥18			≤40		3107
Di-tert-butyl peroxide	≤32	≥68					3109
Di-tert-butyl peroxyazelate	≤52	≥48					3105
1,1-Di-(tert-butyl peroxy)-3,5,5-trimethylcyclo hexane	>57-90	≥10					3103
Di-isopropyl benzene dihydro peroxide	≤82	≥5			≥5		3106 (24)
Di-(4-methyl benzoyl) peroxide	≤52 as paste with silicon oil						3106

H

2,5-Dimethyl-2,5-di(tert-butyl peroxy)hexane	≤52	≥48					3109
Di-(2-neodecanoyl peroxyisopropyl) benzene	≤52	≥48				-10	0 3115
Di-(3,5,5-trimethyl hexanoyl) peroxide	≤52 as a stable dispersion in water	~~≥48~~				+10	+15 3117
Di-(3,5,5-trimethyl hexanoyl) peroxide	≤38	≥62				+20	+25 3119
2,4,4-Trimethyl pentyl-2-peroxyneo decanoate	≤72		≥28			-5	+5 3115

H

2,5-Dimethyl-2,5-di(tert-butyl peroxy)hexane	≤ 47 as a paste	3108

2-5-10

L 17) ~~16)~~ Addition of water to this organic peroxide will decrease its thermal stability.

L 18) ~~19)~~ No 'CORROSIVE' subsidiary risk label required for concentrations below 80%.

L 19) ~~20)~~ Mixtures with hydrogen peroxide, water and acid(s).

L 20) ~~21)~~ With diluent type A, with or without water.

L 21) ~~22)~~ With ≥ 36%, by mass, Ethylbenzene in addition to diluent type A...

L 22) ~~23)~~ With ≥ 19%, by mass, Methyl isobutyl ketone in addition to diluent type A.

A 23) With < 6% di-tert-butyl peroxide.

A 24) With ≤ 8% 1-isopropylhydroperoxy-4-isopropylhydroxybenzene.

Chapter 6

CLASS 6 – ~~POISONOUS~~ (TOXIC) AND INFECTIOUS SUBSTANCES

6.1 DEFINITION OF CLASS 6

Class 6 is divided into two divisions as follows:

Division 6.1 ~~Poisonous~~ (Toxic) substances: Substances liable either to cause death or injury or to harm human health if swallowed, if inhaled or by skin contact.

Note.— In these Instructions '~~toxic~~' has the same meaning as '~~poisonous~~'.

Division 6.2 Infectious substances: Substances containing viable micro-organisms including a bacterium, virus, rickettsia, parasite, fungus, or a recombinant, hybrid or mutant, that are known or reasonably believed to cause disease in ~~animals or~~ humans or animals.

~~*Note.— Toxins from plant, animal or bacterial sources which do not contain any infectious substances or organisms or which are not contained in them should be considered for transport as UN 3172.*~~

6.2 ~~POISONOUS~~ (TOXIC) SUBSTANCES

6.2.1 Packing group criteria

6.2.1.1 The substances of Division 6.1, including pesticides, have been allocated among the three packing groups referred to in the introduction to Part 3, according to the degree of their toxic hazards in transport. In making this grouping, account has been taken of human experience in instances of accidental poisoning, and of special properties possessed by any individual substance, such as liquid state, high volatility, any special likelihood of penetration, and special biological effects. In the absence of human experience the grouping has been based on the available data from animal experiments. When a substance exhibits a different order of toxicity by two or more routes of administration, the highest degree of toxicity must be used to assign the packing group. The criteria for grouping according to oral and dermal toxicity and toxicity for inhalation of dusts and mists are provided in Table 2-3. The grouping of substances by virtue of inhalation of vapours must be assigned by applying the criteria in Table 2-4. When a substance exhibits a different order of toxicity by inhalation of mists and by inhalation of vapours, the highest degree of toxicity must be used to assign the packing group.

Table 2-3. Criteria for routes of administration other than inhalation of vapour

Packing group	*Oral toxicity* LD_{50} *(mg/kg)*	*Dermal toxicity* LD_{50} *(mg/kg)*	*Inhalation toxicity by dusts and mists* LC_{50} *(mg/L)*
I	≤5	≤40	≤0.5
II	>5, ≤50	>40, ≤200	>0.5, ≤2
III	solids: >50, ≤200 liquids: >50, ≤500	>200, ≤1 000	>2, ≤10

Note 1.— Genetically modified micro-organisms and organisms which do not meet the definition of an infectious substance should be considered for classification in Class 9 and assignment to UN 3245.

Note 2.— Toxins from plant, animal or bacterial sources which do not contain any infectious substances or organisms or which are not contained in them should be considered for classification in Division 6.1 and assignment to UN 3172.

Table 2-4. Criteria for inhalation of vapours

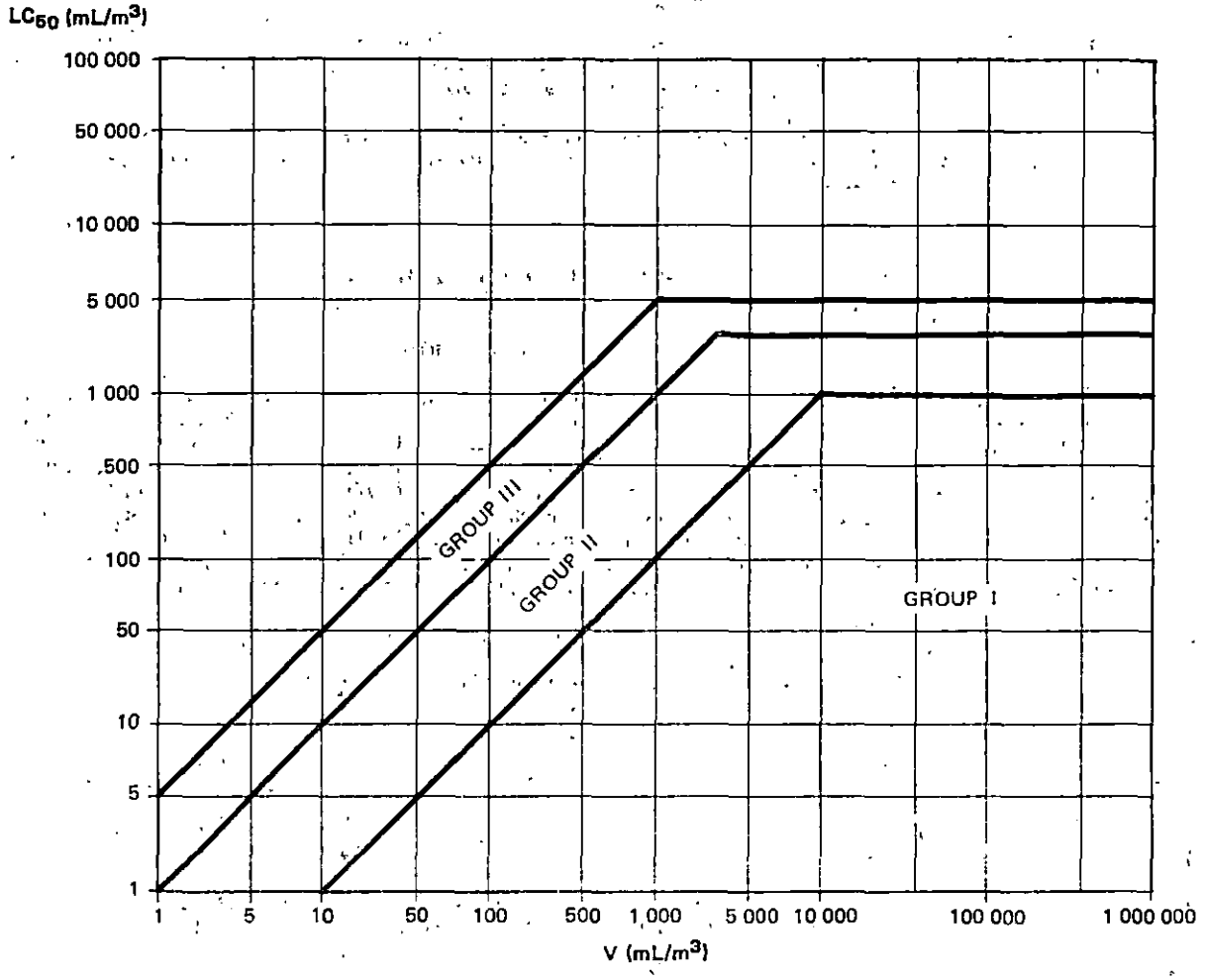
Packing Group I	$V \geqslant 10\ LC_{50}$ and $LC_{50} \leqslant 1\ 000$ mL/m³
Packing Group II	$V \geqslant LC_{50}$ and $LC_{50} \leqslant 3\ 000$ mL/m³ and the criteria for Packing Group I are not met
Packing Group III	$V \geqslant 0.2\ LC_{50}$ and $LC_{50} \leqslant 5\ 000$ mL/m³ and the criteria for Packing Groups I and II are not met

Note 1.— V is that saturated vapour concentration in air of the substance in mL/m³ at 20°C and standard atmospheric pressure.

Note 2.— Tear gas substances ~~are included in Group II even if their~~ having toxicity data ~~correspond~~ corresponding to Packing Group III values are nevertheless included in Packing Group II.

Note 3.— Grouping of substances by virtue of toxicity by inhalation of vapours may be estimated by applying the graphical representation of the above criteria provided in Figure 2-1.

Figure 2-1. Criteria for inhalation of vapours



6.2.1.2 The criteria listed in Tables 2-3 and 2-4 are derived from the following test methods:

a) LD_{50} for acute oral toxicity:

That dose of the substance administered which is most likely to cause death within 14 days in half of both male and female young adult albino rats. The number of animals tested must be sufficient to give a statistically significant result and be in conformity with good pharmacological practices. The result is expressed in mg/kg body mass.

b) LD_{50} for acute dermal toxicity:

That dose of the substance which, administered by continuous contact for 24 hours with the bare skin of albino rabbits, is most likely to cause death within 14 days in half of the animals tested. The number of animals tested must be sufficient to give a statistically significant result and be in conformity with good pharmacological practices. The result is expressed in mg/kg body mass.

c) LC_{50} for acute toxicity on inhalation:

That concentration of vapour, mist or dust which, administered by continuous inhalation for one hour to both male and female young adult albino rats, is most likely to cause death within 14 days in half of the animals tested. If the substance is administered to the animals as dust or mist, more than 90 per cent of the particles available for inhalation in the test must have a diameter of 10 microns or less, provided that it is reasonably foreseeable that such concentrations could be encountered by humans during transport. The result is expressed in mg/L of air for dusts and mists or in mL/m³ of air (parts per million) for vapours.

6.2.1.3 The criteria for inhalation toxicity of dusts and mists in 6.2.1.1 of this Part and Table 2-3 are based on LC_{50} data relating to 1 hour exposures, and where such information is available it should be used. However, where only LC_{50} data relating to 4 hour exposures to dusts and mists are available, such figures can be multiplied by four and the product substituted in the above criteria, i.e. LC_{50} (4 h) × 4 is considered the equivalent of LC_{50} (1 h).

The criteria for inhalation toxicity of vapours in 6.2.1.1 of this Part and Table 2-4 are based on LC_{50} data relating to 1 hour exposures, and where such information is available it should be used. However, where only LC_{50} data relating to 4 hour exposures to the vapours are available, such figures can be multiplied by two and the product substituted in the above criteria, i.e. LC_{50} (4 h) × 2 is considered the equivalent of LC_{50} (1 h).

6.2.1.4 When the LC_{50} for inhalation of vapours of a mixture of liquids is not available, the packing group for inhalation of vapours of the mixture must be determined in accordance with 6.2.1.4.1 or 6.2.1.4.2.

6.2.1.4.1 If LC_{50} data is available for each of the ~~poisonous~~ /toxic/ substances comprising a mixture, the packing group may be determined as follows:

a) Estimate the LC_{50} of the mixture using the formula:

$$LC_{50}\ (\text{mixture}). = \frac{1}{\sum_{i=1}^{n} \frac{f_i}{LC_{50_i}}}$$

where f_i = mole fraction of the i^{th} component substance of the liquid, and

where LC_{50i} = mean lethal concentration of the i^{th} component substance in mL/m³.

b) Estimate the volatility of each component substance using the formula:

$$V_i = P_i \times \frac{10^6}{101.3}\ \text{mL/m}^3$$

where P_i = partial pressure of the i^{th} component substance in kPa at 20°C and one atmosphere pressure.

c) Calculate the ratio of the volatility to the LC_{50} using the formula:

$$R = \sum_{i=1}^{n} \frac{V_i}{LC_{50_i}}$$

d) Using the calculated values LC_{50} (mixture) and R, the packing group for the mixture is determined:

Packing Group I	$R \geq 10$ and LC_{50} (mixture) ≤ 1000 mL/m³
Packing Group II	$R \geq 1$ and LC_{50} (mixture) ≤ 3000 mL/m³ and not meeting criteria for Group I
Packing Group III	$R \geq 1/5$ and LC_{50} (mixture) ≤ 5000 mL/m³ and not meeting criteria for Group I or II

6.2.1.4.2 In the absence of LC_{50} data on the ~~poisonous~~ toxic constituent substances, the mixture may be assigned a packing group based on the following simplified threshold toxicity tests. When these threshold tests are used, the most restrictive packing group must be determined and used for transporting the mixture.

a) A mixture is assigned to Packing Group I only if it meets both of the following criteria:

i) A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 1000 mL/m³ vaporized mixture in air. Ten albino rats (five male and five female) are exposed to the test atmosphere for one hour and observed for fourteen days. If five or more of the animals die within the fourteen-day observation period, the mixture is presumed to have an LC_{50} equal to or less than 1000 mL/m³.

ii) A sample of the vapour in equilibrium with the liquid mixture at 20°C is diluted with 9 equal volumes of air to form a test atmosphere. Ten albino rats (five male and five female) are exposed to the test atmosphere for one hour and observed for fourteen days. If five or more of the animals die within the fourteen-day observation period, the mixture is presumed to have a volatility equal to or greater than 10 times the mixture LC_{50}.

b) A mixture is assigned to Packing Group II only if it meets both of the following criteria, and the mixture does not meet the criteria for Packing Group I:

i) A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 3000 mL/m³ vaporized mixture in air. Ten albino rats (five male and five female) are exposed to the test atmosphere for one hour and observed for fourteen days. If five or more of the animals die within the fourteen-day observation period, the mixture is presumed to have an LC_{50} equal to or less than 3000 mL/m³.

ii) A sample of the vapour in equilibrium with the liquid mixture at 20°C is used to form a test atmosphere. Ten albino rats (five male and five female) are exposed to the test atmosphere for one hour and observed for fourteen days. If five or more of the animals die within the fourteen-day observation period, the mixture is presumed to have a volatility equal to or greater than the mixture LC_{50}.

c) A mixture is assigned to Packing Group III only if it meets both of the following criteria, and the mixture does not meet the criteria for Packing Groups I or II:

i) A sample of the liquid mixture is vaporized and diluted with air to create a test atmosphere of 5000 mL/m³ vaporized mixture in air. Ten albino rats (five male and five female) are exposed to the test atmosphere for one hour and observed for fourteen days. If five or more of the animals die within the fourteen-day observation period, the mixture is presumed to have an LC_{50} equal to or less than 5000 mL/m³.

ii) The vapour pressure of the liquid mixture is measured and if the vapour pressure is equal to or greater than 1000 mL/m³, the mixture is presumed to have a volatility equal to or greater than 1/5 the mixture LC_{50}.

6.2.2 Classification of pesticides

6.2.2.1 All active pesticide substances and their preparations for which the LC_{50} and/or LD_{50} values are known and which are classified in Division 6.1 must be classified under appropriate packing groups in accordance with the criteria given in 6.2.1. Substances and preparations which have subsidiary risks must be classified according to the Precedence of Hazards Table (Table 2-12).

6.2.2.2 If the LC_{50} or LD_{50} values of the active pesticide substance or preparation are not known but the active substance and its concentration are listed in Table 2-5, the pesticide substance or preparation must be classified in Division 6.1 and be assigned the packing group for the active substance and concentration in Table 2-5, unless there is a subsidiary risk. Active substances and preparations which are named in Table 2-5 but which have a subsidiary risk must be classified using the Precedence of Hazards Table (Table 2-12). Preparations containing the active substance in concentrations below the minimum stated in the Packing Group III columns in Table 2-5 are ~~considered non-dangerous.~~ not subject to these Instructions

6.2.2.3 If preparations of pesticides cannot be classified according to 6.2.2.1 and 6.2.2.2 and the LD_{50} value of their active substance is known, the LD_{50} value of such preparations can be obtained from the following formula:

$$LD_{50} \text{ value of preparation} = \frac{LD_{50} \text{ value of active substance} \times 100}{\text{percentage of active substance by mass}}$$

6.2.2.4 A classification according to 6.2.2.2 and 6.2.2.3 must not be carried out when a preparation contains additives which affect the over-all toxic hazard, or when a preparation contains several active substances. In such cases, the classification must be based on the LC_{50} and/or LD_{50} values of the preparation as a whole, determined according to the criteria in Table 2-3. If the LC_{50} and/or LD_{50} values are not known, the preparation must be classified under Packing Group I.

6.2.2.5 The assignment of the packing group in Table 2-5 is based only on the toxicity of the substance; in presenting this list, flammability has not been taken into account. Any substance or preparation must be assigned to at least Packing Group II if its flash point is less than 23°C, even if the toxicity data leads to a Packing Group III assignment. In that case the product must be carried under the provisions of Class 3.

UN No.	Substance	Packing group I	Packing group II	Packing group III solid	Packing group III liquid
2761, 2762, 2995, 2996	Lindane (γ BHC)			100-44	100-15
2783, 2784, 3017, 3018	Mecarbam		100->30	30-7	30-3
2779, 2780, 3013, 3014	Medinoterb		100->80	80-20	80-8
2783, 2784, 3017, 3018	Mephosfolan	100->25	25->5	5-0.5	5-0.5
2757, 2758, 2991, 2992	Mercaptodimethur		100->70	70-17	70-7
2777, 2778, 3011, 3012	*Mercury (II) (mercuric) compounds		according to toxicity criteria		
2777, 2778, 3011, 3012	*Mercury (I) (mercurous) compounds		according to toxicity criteria		
~~2588, 2902, 2903, 3021~~ 2771 2772 3005 3006	Metam-sodium			100-85	100-35
2783, 2784, 3017, 3018	Methamidophos		100->15	15-3	15-1.5
2757, 2758, 2991, 2992	Methasulfocarb			100-55	100-20
2783, 2784, 3017, 3018	Methidathion		100->40	40-10	40-4
2757, 2758, 2991, 2992	Methomyl		100->34	34-8	34-3
2783, 2784, 3017, 3018	*Methyltrithion			100-49	100-19
2783, 2784, 3017, 3018	Mevinphos	100->60	60->5	5-1	5-0.5
2757, 2758, 2991, 2992	Mexacarbate		100->28	28-7	28-2
2762, 2995, 2996	*Mirex				100-60
2757, 2758, 2991, 2992	*Mobam			100-35	100-14
2783, 2784, 3017, 3018	Monocrotophos		100->25	25-7	25-2.5
2772, 3005, 3006	Nabam				100-75
2784, 3017, 3018	Naled				100-50
2588, 2902, 2903, 3021	*Nicotine compounds and preparations		100->25	25-5	25-5
2588, 2902, 2903, 3021	Norbormide	100->88	88->8.8	8.8-2.2	8.8-0.8
2783, 2784, 3017, 3018	Omethoate			100-25	100-10
2786, 2787, 3019, 3020	Organotin pesticides		according to toxicity criteria		
2588, 2902, 2903, 3021	*Oxamyl		100->10	10-2.5	10-1
2783, 2784, 3017, 3018	Oxydemeton-methyl		100->93	93-23	93-9
2783, 2784, 3017, 3018	Oxydisulfoton	100->70	70->5	5-1.5	5-0.5
2783, 2784, 3017, 3018	*Paraoxon	100->35	35->3.5	3.5-0.9	3.5-0.35
2781, 2782, 3015, 3016	Paraquat		100->40	40-8	40-8
2783, 2784, 3017, 3018	Parathion	100->40	40->4	4-1	4-0.4
2783, 2784, 3017, 3018	Parathion-methyl		100->12	12-3	12-1.2
2761, 2762, 2995, 2996	*Pentachlorophenol		100->54	54-13	54-5
2783, 2784, 3017, 3018	Phenkapton			100-25	100-10
2783, 2784, 3017, 3018	Phenthoat			100-70	100-70
2783, 2784, 3017, 3018	Phorate	100->20	20->2	2-0.5	2->0
2783, 2784, 3017, 3018	Phosalone			100-60	100-24
2783, 2784, 3017, 3018	Phosfolan		100->15	15-4	15-1
2783, 2784, 3017, 3018	Phosmet			100-45	100-18
2783, 2784, 3017, 3018	Phosphamidon		100->34	34-8	34-3
2902, 2903, 3021	Pindone (and salts of)				100-55
2757, 2758, 2991, 2992	Pirimicarb			100-73	100-29
2783, 2784, 3017, 3018	Pirimiphos-ethyl			100-70	100-28
2757, 2758, 2991, 2992	Promecarb			100-35	100-14
2757, 2758, 2991, 2992	*Promurit (muritan)	100->5.6	5.6->0.56	0.56-0.14	0.56->0
2783, 2784, 3017, 3018	Propaphos		100->75	75-15	75-15
2757, 2758, 2991, 2992	Propoxur			100-45	100-18
2783, 2784, 3017, 3018	Prothoate		100->15	15-4	15-1
2784, 3017, 3018	Pyrazophos				100-45
2783, 2784, 3017, 3018	*Pyrazoxon	100->80	80->8	8->2	8-0.5
2783, 2784, 3017, 3018	Quinalphos		100->52	52-13	52-5
2588, 2902, 2903, 3021	*Rotenone			100-65	100-25
2783, 2784, 3017, 3018	*Salithion			100-60	100-25
2783, 2784, 3017, 3018	Schradan		100->18	18-9	18-3.6
2759, 2760, 2993, 2994	*Sodium arsenite		100->20	20-5	20-2
2588, 2902, 2903, 3021	*Strychnine	100->20	20->0		
2783, 2784, 3017, 3018	Sulfotep		100->10	10-2	10-1
2783, 2784, 3017, 3018	*Sulprofos			100-45	100-18

*Not ISO common name

UN No.	Substance	Packing group I	Packing group II	Packing group III solid	Packing group III liquid
2766, 2999, 3000	2,4,5-T				100-60
2783, 2784, 3017, 3018	Temephos			100-90	100-90
2783, 2784, 3017, 3018	TEPP	100->10	10->0		
2783, 2784, 3017, 3018	Terbufos	100->15	15->3	3-0.74	3-0.74
2764, 2997, 2998	Terbumeton				100-95
2588, 2902, 2903, 3021	*Thallium compounds		according to toxicity criteria		
2588, 2902, 2903, 3021	*Thallium sulphate		100->30	30-8	30-3
2783, 2784, 3017, 3018	Thiometon		100->50	50-10	50-5
2783, 2784, 3017, 3018	*Thionazin	100->70	70->5	5-1	5-0.5
2766, 2999, 3000	*Triadimefon				100-70
2783, 2784, 3017, 3018	Triamiphos		100->20	20-5	20-1
2783, 2784, 3017, 3018	Triazophos			100-33	100-13
2786, 2787, 3019, 3020	*Tributyltin compounds		according to toxicity criteria		
2770, 3003, 3004	Tricamba				100-60
2783, 2784, 3017, 3018	Trichlorfon			100-70	100-23
2783, 2784, 3017, 3018	Trichloronat		100->30	30-8	30-3
2786, 2787, 3019, 3020	*Triphenyltin compounds other than Fentin acetate and Fentin hydroxide		according to toxicity criteria		
2783, 2784, 3017, 3018	Vamidothion			100-30	100-10
3024, 3025, 3026, 3027	Warfarin (and salts of)	100->60	60->6	6-1.5	6-0.6

*Not ISO common name

6.3 INFECTIOUS SUBSTANCES

See page 2-6-8A

6.4 GENETICALLY MODIFIED MICRO-ORGANISMS AND ~~MICRO~~-ORGANISMS

~~For the purpose of the Instructions, genetically modified organisms and micro-organisms are divided into the following groups:~~

a) genetically modified micro-organisms which meet the definition of an infectious substance given in 6.1. They must be classified in Division 6.2 and assigned UN 2814 or UN 2900;

b) animals which contain, or are contaminated with, genetically modified micro-organisms or ~~micro~~-organisms that meet the definition of an infectious substance. They must not be transported by air unless exempted by the States concerned under the provisions of Part 1;1.1; ~~and~~

c) genetically modified organisms, which are known or suspected to be dangerous to humans, animals or the environment. They must not be transported by air unless exempted by the States concerned under the provisions of Part 1;1.1; and

~~*Note. — Except when authorized for unconditional use by the appropriate authorities of the countries of origin, transit and destination, genetically modified micro-organisms, which do not meet the definition of infectious substances and which are capable of altering animals, plants or microbiological substances in a way not normally the result of natural reproduction, should be assigned UN 3245.*~~

6.5 BIOLOGICAL PRODUCTS AND DIAGNOSTIC SPECIMENS

See page 2-6-9

~~6.4.1 Biological products are either finished biological products for human or veterinary use manufactured in accordance with the~~ requirements of national public health authorities and moving under special approval or licence from such authorities; or finished biological products shipped prior to licensing for development or investigational purposes for use in humans or animals, or products for experimental treatment of animals and which are manufactured in compliance with the requirements of national public health authorities. They also cover unfinished biological products prepared in accordance with the procedures of specialized government agencies. Live animal and human vaccines are considered biological products and not infectious substances.

6.4.2 ~~Diagnostic specimens are any human or animal material including, but not limited to, excreta, secreta, blood and its components, tissue and tissue fluids being shipped for purposes of diagnosis, but excluding live infected animals.~~

Genetically modified micro-organisms and organisms are micro-organisms and organisms in which genetic material has been purposely altered through genetic engineering in a way that does not occur naturally. They are divided into the following categories:

(d) except when authorised for unconditional use by the States of origin, transit and destination, genetically modified micro-organisms which do not meet the definition of infectious substances but which are capable of altering animals, plants or microbiological substances in a way which is not normally the result of natural reproduction must be classified in Class 9 and assigned to UN 3245.

6.5.3 For the purpose of these Instructions, biological products and diagnostic specimens are divided into the following groups:

a) those known or thought likely to contain infectious substances. Diagnostic specimens being transported to undergo confirmatory testing must be considered to fall within this group;

b) those where a relatively low probability exists that infectious substances are present. Diagnostic specimens being transported to undergo routine screening tests or for the purpose of initial diagnosis may be considered to fall within this group; and

c) those known not to contain infectious substances.

6.5.4 Biological products known to contain, or thought likely to contain, any infectious substances must meet all the requirements for infectious substances. Biological products referred to in 6.5.3 b) must meet all the provisions for infectious substances except when the following conditions are met:

a) the primary receptacles do not contain more than 50 mL;

b) the outer packaging does not contain more than 50 mL, when fragile primary receptacles are used, or 100 mL, when other than fragile primary receptacles are used;

c) the primary receptacles are leakproof; and

d) the packaging is in accordance with Packing Instruction 602, except that the design type tests provided in Part 7, Chapter 6 do not apply.

6.5.5 Diagnostic specimens known to contain, or thought likely to contain, any infectious substances must meet all the requirements for infectious substances. Diagnostic specimens referred to in 6.5.3 b) must meet all the provisions for infectious substances except when the following conditions are met:

a) the primary receptacles do not contain more than 100 mL;

b) the outer packaging does not contain more than 500 mL;

c) the primary receptacles are leakproof; and

d) the packaging is in accordance with Packing Instruction 602, except that the design type tests provided in Part 7, Chapter 6 do not apply.

6.5.1 Biological products are either finished biological products for human or veterinary use manufactured in accordance with the requirements of national public health authorities and moving, if required, under special approval or licence from such authorities, or biological products transported prior to licensing for development or investigational purposes or finished products for experimental treatment of humans or animals and which are manufactured in compliance with the requirements of national public health authorities. They also cover unfinished biological products prepared in accordance with the procedures of specialized government agencies.

6.5.2 Diagnostic specimens are any human or animal material including, but not limited to, excreta, secreta, blood and its components, tissue and tissue fluids being transported for diagnostic or investigational purposes, but excluding live infected animals.

6.6 CLINICAL WASTE AND MEDICAL WASTE

Wastes transported under UN 3291 are wastes derived from the medical treatment of animals ~~or humans~~ or from bio-research, where there is a relatively low probability that infectious substances are present. Waste infectious substances which can be specified must be assigned to UN 2814 or UN 2900. Decontaminated wastes which previously contained infectious substances may be considered as not subject to these Instructions unless the criteria of another Class or Division are met.

6.3 INFECTIOUS SUBSTANCES

6.3.1 Infectious substances are not subject to the provisions of these Instructions for Division 6.2 if the spread of disease to humans or animals exposed to such substances is considered unlikely.

6.3.2 Infectious substances must be considered for classification in Division 6.2 and for assignment to UN 2814 or UN 2900 after allocation to four risk groups based on criteria developed by the World Health Organization. The criteria, according to the level of risk of infection, are as follows:

(a) risk group IV (high individual risk, high community risk): micro-organisms that cause severe human or animal disease, which may present a high risk of spreading and there is usually no effective prophylaxis or treatment available;

(b) risk group III (high individual risk, low community risk): micro-organisms that cause severe human or animal disease, which may present a high risk of spreading but there is usually effective prophylaxis or treatment available;

(c) risk group II (moderate individual risk, limited community risk): micro-organisms that cause human or animal disease, which are unlikely to spread and there is usually effective prophylaxis or treatment available;

(d) risk group I (low individual and community risk): micro-organisms that are unlikely to cause human or animal disease.

6.3.3 Infectious substances in risk group I need not be considered as subject to the provisions of these Instructions.

6.3.4 Live vertebrate or invertebrate animals must not be used to consign infectious substances unless such substances cannot be consigned by any other means. Infected live animals must not be transported by air unless exempted in accordance with Part 1; 2.2.

Note 1. - Further explanation of the four risk groups can be found in the Laboratory Biosafety Manual, 1983, published by the World Health Organization.

Note 2. - "Risk groups" should not be confused with "packing groups"; there is no relationship between the two terms.

Chapter 8
CLASS 8 – CORROSIVES

8.1 DEFINITION OF CLASS 8

Substances which, in the event of leakage, can cause severe damage by chemical action when in contact with living tissue or can materially damage other freight or the means of transport are included in Class 8.

8.2 PACKING GROUP CRITERIA

See page 2-8-1A

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Allocation of substances in Class 8 to the packing groups referred to in the introduction to Part 3, Chapter 1 has been on the basis of experience, taking into account such additional factors as inhalation risk and reactivity with water (including the formation of hazardous decomposition products). Novel substances, including mixtures, can be judged by the length of time of contact necessary to produce visible necrosis in human skin as indicated by the test used. Such times may be determined by a suitable test based on the use of a potentially corrosive substance being applied directly to animal intact skin. Substances which are judged not to cause visible necrosis in human skin must still be considered for their potential to cause corrosion in metal surfaces. The test criteria for the three groups in this Class are:

Group I (very dangerous substances)

Substances that cause visible necrosis of the skin tissue at the site of contact when tested on the intact skin of an animal for a period of three minutes or less;

Group II (substances presenting medium danger)

Substances that cause visible necrosis of the skin tissue at the site of contact when tested on the intact skin of an animal for a period of more than 3 but not more than 60 minutes;

Group III (substances presenting minor danger)

Any one of the following:

a) substances that cause visible necrosis of the skin tissue at the site of contact when tested on the intact skin of an animal for a period of more than 60 minutes but not more than four hours;

b) substances which are judged not to cause visible necrosis in human skin but which exhibit a corrosion rate on steel or aluminium surfaces exceeding 6.25 mm a year at a test temperature of 55°C. For the purposes of testing steel, type P_3 (ISO 2604/IV-1975) or a similar type must be used and for the purposes of testing aluminium, non-clad types 7075-T6 or AZ5GU-T6 must be used.

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8.2 PACKING GROUP CRITERIA

8.2.1 Allocation of substances in Class 8 to the packing groups referred to in the introduction to Part 3, Chapter 1 has been on the basis of experience, taking into account such additional factors as inhalation risk and reactivity with water, including the formation of dangerous decomposition products. New substances, including mixtures, can be judged by the length of time of contact necessary to produce full thickness destruction of human skin. Substances which are judged not to cause full thickness destruction of human skin should still be considered for their potential to cause corrosion to certain metal surfaces.

8.2.2 Substances and preparations which meet the criteria of Class 8 and which have an inhalation toxicity by dusts and mists (LC_{50}) in Packing Group I but toxicity through oral ingestion or dermal contact of Packing Group III or less must be allocated to Class 8.

8.2.3 In allocating the packing group, account must be taken of human experience in instances of accidental exposure. In the absence of human experience the packing group must be based on data obtained from ~~animal~~ experiments in accordance with OECD Guideline 404 (OECD Guidelines for testing of chemicals No. 404 "Acute Dermal Irritation/Corrosion" 1992).

8.3 TEST CRITERIA FOR THE PACKING GROUPS

The test criteria for the three packing groups in this Class are:

Packing Group I (very dangerous substances)

Substances that cause full thickness destruction of intact skin tissue within an observation period up to 60 minutes starting after the exposure time of three minutes or less.

Packing Group II (substances presenting medium danger)

Substances that cause full thickness destruction of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than three minutes but not more than sixty minutes.

Packing Group III (substances presenting minor danger)

(a) Substances that cause full thickness destruction of intact skin tissue within an observation period up to 14 days starting after the exposure time of more than sixty minutes but not more than 4 hours;

(b) Substances which are judged not to cause full thickness destruction of intact skin tissue but which exhibit a corrosion rate on steel or aluminium surfaces exceeding 6.25 mm a year at a test temperature of 55°C. For the purposes of testing steel, type P3 (ISO 2604 (IV): 1975) or a similar type, and for testing aluminium, non-clad types 7075-T6 or AZ5GU-T6, must be used.

Chapter 9

CLASS 9 - MISCELLANEOUS DANGEROUS GOODS

9.1 DEFINITION OF CLASS 9

Articles and substances which during air transport present a danger not covered by other classes.

These include:

Magnetized material: Any material which, when packed for air transport, has a magnetic field strength of 0.159 A/m or more at a distance of 2.1 m from any point on the surface of the assembled package (see also Packing Instruction 902).

Other regulated substances: Any material which has anaesthetic, noxious or other similar properties such as could cause extreme annoyance or discomfort to a flight crew member so as to prevent the correct performance of assigned duties.

Some examples of articles in Class 9 are:

Engines, internal combustion
Life-saving appliances, self-inflating
~~Wheelchair, electric~~ Battery powered equipment or vehicle

Some examples of substances in Class 9 are:

Blue, brown or white asbestos
Carbon dioxide, solid (Dry ice)
Zinc dithionite.

Environmentally hazardous substances, liquid/solid, n.o.s.

Substances that are transported or offered for transport in a liquid state at temperatures equal to or exceeding 100°C and below their flash point, or in a solid state at temperatures equal to or exceeding 240°C. (These substances may only be carried under Part 1; 1.1)

Chapter 10

CLASSIFICATION OF SUBSTANCES AND ARTICLES WITH MULTIPLE HAZARDS

10.1 *Where a substance or article is not specifically listed by name in the Dangerous Goods List in Table 2-14 and there are two hazards* of Class 3, 4 or 8 or Division 5.1 (solids only) or 6.1 associated with its air transport in that it meets the definition for two of those Classes or Divisions as shown in Chapters 1 to 9, it must be classified in accordance with the Precedence of Hazards Table (Table 2-12).

10.2 The Precedence of Hazards Table (Table 2-12) *indicates which of two hazards must be regarded as the primary hazard.* The class or division which appears at the intersection of the two lines is the primary hazard and the other class or division is the subsidiary risk. The packing group of each of the hazards associated with a substance or article must be determined by reference to the criteria given for each of the classes or divisions concerned. However, the most stringent packing group based on the different hazards of a material must then be the packing group for the substance or article. The correct packing group to be used is also shown at the intersection of the two lines in Table 2-12.

~~10.3 Where a substance or article has more than one hazard, one of which is of minor danger (Packing Group III) in Division 6.1, this hazard need not be considered in determining the classification of the substance or article, except for pesticides. Where a pesticide has the hazards of Class 3, Packing Group III, and Division 6.1, Packing Group III, the primary hazard must be Division 6.1 and Packing Group III.~~

10.3 The proper shipping name of a substance or article when classified in accordance with 10.1 and 10.2 must be the most appropriate n.o.s. entry in the Dangerous Goods List in Table 2-14 for the Class or Division shown as the primary hazard.

10.4 *Substances or articles which meet, among other hazards,* the criteria for the following classes, divisions or particular types of hazards are not dealt with by Table 2-12 since these classes, divisions or particular types of hazards always take precedence:

a) Classes 1, 2 and 7 (except as provided for in 10.7);

b) Divisions 5.2 and 6.2;

c) self-reactive and related substances and desensitized explosives of Division 4.1;

d) *pyrophoric substances of* Division 4.2; and

e) substances of Division 6.1 with a Packing Group I vapour inhalation toxicity.

10.5 Where a substance or article, not specifically listed by name in the Dangerous Goods List (Table 2-14):

a) is a liquid with the hazards 3 and 5.1 or 4.3 and 5.1; or

b) has three or more hazards,

it is not covered by the Precedence of Hazards Table (Table 2-12) and the advice of the appropriate authority of the State of origin must be sought.

10.6 Radioactive material having other hazardous properties must always be classified in Class 7 and the greatest of the additional hazards must also be identified, other than for radioactive materials contained in excepted packages, where the other hazardous properties take precedence. It is also necessary to take into account the possible formation of products having dangerous properties by interaction of the materials with the atmosphere or with water.

10.7 An article which, apart from its other hazards, also meets the criterion for a magnetized material, must be identified in accordance with the provisions of this section and in addition as a magnetized material.

10.8 *Infectious substances having other hazardous properties must always be classified in Division 6.2 and the greatest of the additional* hazards must also be identified.

Table 2-12. Precedence of hazards and packing groups for Classes 3, 4 and 8 and for Divisions 5.1 (Solids) and 6.1

Class or division and packing group	*Class or division and packing group*																	
	4.2 II	4.2 III	4.3 I	4.3 II	4.3 III	5.1 I (s)	5.1 II (s)	5.1 III (s)	6.1 I (d)	6.1 I (o)	6.1 II	6.1 III	8 I (l)	8 I (s)	8 II (l)	8 II (s)	8 III (l)	8 III (s)
3 I						–	–	–	3,I	3,I	3,I	3, I	3,I	–	3,I	–	3,I	–
3 II						–	–	–	3,I	3,I	3,II	3, II	8,I	–	3,II	–	3,II	–
3 III						–	–	–	6.1,I	6.1,I	6.1,II	3, III *	8,I	–	8,II	–	3,III	–
4.1 II***	4.2,II	4.2,II	4.3,I	4.3,II	4.3,II	5.1,I	4.1,II	4.1,II	6.1,I	6.1,I	4.1,II	4.1, II	–	8,I	–	4.1,II	–	4.1,II
4.1 III	4.2,II	4.2,III	4.3,I	4.3,II	4.3,III	5.1,I	4.1,II	4.1,III	6.1,I	6.1,I	6.1,II	4.1, III	–	8,I	–	8,II	–	4.1,III
4.2 II			4.3,I	4.3,II	4.3,II	5.1,I	4.2,II	4.2,II	6.1,I	6.1,I	4.2,II	4.2, II	8,I	8,I	4.3,II	4.2,II	4.3,II	4.2,II
4.2 III			4.3,I	4.3,II	4.3,III	5.1,I	5.1,II	4.2,III	6.1,I	6.1,I	6.1,II	4.2, III	8,I	8,I	8,II	8,II	4.3,III	4.2,III
4.3 I						5.1,I	4.3,I	4.3,I	6.1,I	4.3,I	4.3,I	4.3, I	4.3,I	4.3,I	4.3,I	4.3,I	4.3,I	4.3,I
4.3 II						5.1,I	4.3,II	4.3,II	6.1,I	4.3,I	4.3,II	4.3, II	8,I	8,I	4.3,II	4.3,II	4.3,II	4.3,II
4.3 III						5.1,I	5.1,II	4.3,III	6.1,I	6.1,I	6.1,II	4.3, III	8,I	8,I	8,II	8,II	4.3,III	4.3,III
5.1 I**									5.1,I	5.1,I	5.1,I	5.1, I	5.1,I	5.1,I	5.1,I	5.1,I	5.1,I	5.1,I
5.1 II**									6.1,I	5.1,I	5.1,II	5.1, II	8,I	8,I	5.1,II	5.1,II	5.1,II	5.1,II
5.1 III**									6.1,I	6.1,I	6.1,II	5.1, III	8,I	8,I	8,II	8,II	5.1,III	5.1,III
6.1 I (d)													8,I	6.1,I	6.1,I	6.1,I	6.1,I	6.1,I
6.1 I (o)													8,I	6.1,I	6.1,I	6.1,I	6.1,I	6.1,I
6.1 II (i)													8,I	6.1,I	6.1,II	6.1,II	6.1,II	6.1,II
6.1 II (d)													8,I	6.1,I	8,II	6.1,II	6.1,II	6.1,II
6.1 II (o)													8,I	8,I	8,II	6.1,II	6.1,II	6.1,II
6.1 III													8,I	8,I	8,II	8,II	8,III	8,III

(l) liquid
(s) solid
(i) inhalation
(d) dermal
(o) oral
– an impossible combination

* ~~See 10.3~~ ← For pesticides only, the primary risk must be Division 6.1.

** The packing group for liquids with hazard 5.1 is to be assessed by analogy with listed substances in Table 2-14, allocating the substances to Packing Group I, great; II, medium; or III, minor danger.

***Substances of Division 4.1 other than self-reactive and related substances.

Note 1. -- *This table is based on the UN Precedence of Hazards Table.*

Note 2. -Substances meeting the criteria of Class 8 and with an inhalation toxicity by dusts and mists (LC_{50}) of Packing Group I should only be classified in Division 6.1 if the toxicity through oral ingestion or dermal contact is in Packing Group I or II. Otherwise the substance should be classified in Class 8 when appropriate - see 8.2.3.

Chapter 11
DANGEROUS GOODS LIST

Parts of this Chapter are affected by State Variation FR 1; see Table A-1

11.1 GENERAL

The Dangerous Goods List (Table 2-14) contains an alphabetically arranged list of specific articles and substances which experience has shown are likely to be offered for transport by air. When an article or substance is specifically listed by name in Table 2-14, it must be transported in accordance with the provisions in that Table which are appropriate for that article or substance. The list also includes a number of specific articles and substances whose transport by air is forbidden (see Part I, Chapter 2). As well as specified articles and substances, it also includes collective entries for generic groups or for 'not otherwise specified' substances (see 11.2). If a mixture or formulation has a name which appears in Table 2-14 but it does not meet the definition for the appropriate class shown in the Table or any other class because of the concentration, it is not subject to these requirements.

11.2 DANGEROUS GOODS NOT OTHERWISE SPECIFIED (N.O.S.)

11.2.1 Table 2-14 contains most of the specific articles and substances commonly offered for transport by air, but it is obviously impractical to include in it every possible article or substance that could be offered. Furthermore, although the list is regularly updated, there will be occasions when new substances will be offered for transport which do not appear in the list. To cover such dangerous goods as these, a number of generalized entries have been made in the list which refer to generic groups or to substances 'not otherwise specified' (n.o.s.), e.g. 'Alcohol, n.o.s.' or 'Flammable solid, n.o.s.'. Where a shipper wishes to offer an article or substance for transport and its specific name does not appear in Table 2-14, it must first be classified by comparing its properties with the criteria listed in Chapters 1 to 9. If it can thus be placed in one or more of the classes specified in Chapters 1 to 9 it must be declared under the class which according to the requirements of Chapter 10 of this Part is deemed to be the predominant hazard. The 'n.o.s.' or generic proper shipping name (within that primary hazard class) listed in Table 2-14, which most accurately describes the article or substance, must then be selected as the shipping description for the article or substance. For example, a substance of Class 3, not specifically listed by name in Table 2-14, but which is known to be an alcohol, must be declared under the description 'Alcohol, n.o.s.' rather than 'Flammable liquid, n.o.s.'. In addition, the descriptions followed by an asterisk in Table 2-14 must be supplemented with the technical name of the substance in parentheses immediately following the proper shipping name unless it is a controlled substance and a national law or international convention prohibits its disclosure. The technical name shown must be a recognized chemical name currently used in scientific and technical handbooks, journals and text. Trade names must not be used.

Example.— Caprylyl chloride will not be found in Table 2-14. It is a liquid which falls within the definition of Class 8 under Chapter 8, with no subsidiary risk. It will therefore be declared as 'Corrosive liquid, n.o.s. (Caprylyl chloride)'.

Note.— As an aid to choosing the most appropriate n.o.s. or generic name, all the n.o.s. entries and the main generic entries of Table 2-14 are listed in Attachment 1, Chapter 2.

11.2.2 For mixtures or solutions of one dangerous substance with one or more non-dangerous substances, see 11.4 of this Part. If the mixture or solution is excluded from the provisions of 11.4 in accordance with 11.4.1 b) to d), it must be described by the appropriate 'n.o.s.' entry from Table 2-14, and the technical name of the dangerous constituent must be indicated in parentheses if the n.o.s. entry used is followed by an asterisk in Table 2-14. For mixtures or solutions containing two or more dangerous goods, the technical name of at least the two constituents which most predominantly contribute to the hazard(s) of the mixture or solution must be shown excluding controlled substances when their disclosure is prohibited by national law or international convention. However, if the package containing the mixture is to be labelled with any subsidiary risk labels according to Part 4, one of the two technical names shown in parentheses must be the name of the constituent which compels the use of the subsidiary risk label. In both cases, 'contains' or other qualifying words such as 'mixture', 'solution', etc. may be added to indicate that it is not the pure substance or it is a mixture.

Example 1.— A mixture containing 2-Chloropropane (UN 2356, Class 3, Packing Group I) and a non-dangerous solvent is such that its flash point is below 23°C and its boiling point is above 35°C, thus the mixture is in the flammability range for Packing Group II. As the packing group has changed, the provisions of 11.4 do not apply and the mixture should be declared as 'Flammable liquid, n.o.s. (contains 2-Chloropropane)', (UN 1993, Class 3, Packing Group II).

Example 2.— A solid pesticide product contains 30% Dimefox. It will be declared as "Organophosphorus pesticide, solid, toxic (Dimefox), UN 2783."

Example 2.— Mixture for 'engine cleaner' will not be found in Table 2-14. It is a liquid mixture of gasoline and carbon tetrachloride with a flash point less than 23°C also meeting the definition of Division 6.1. It is classified as a Flammable liquid 3 with a subsidiary risk 6.1. It should be declared as '~~Flammable liquid, poisonous, n.o.s.~~ (Gasoline and Carbon tetrachloride mixture)', (UN 1992, Class 3, Subsidiary risk 6.1, Packing Group II).

11.2.3 Where there is any doubt as to whether a non-listed article or substance is permitted for transport by air, or under what conditions, the shipper and/or operator must consult an appropriate specialized agency.

Flammable liquid, toxic, n.o.s.

11.3 PROPER SHIPPING NAME

11.3.1 Column 1 of Table 2-14 contains the alphabetically arranged list of dangerous goods identified by their proper shipping names. The proper shipping name is considered to be that portion of the entry most accurately describing the goods, which is shown in bold face characters. Care must be exercised in the selection of the portion of the entry which constitutes the 'proper shipping names' of the dangerous goods. Portions of an entry which do not appear in bold face characters are not considered to be part of the proper shipping name.

11.3.2 Proper shipping names may be used in the singular or plural as appropriate. In addition, when qualifying words are shown as part of the proper shipping name, their sequence is optional. For instance, **'Flavouring extracts, liquid'** may optionally be used for **'Extracts, flavouring, liquid'**. However, the entry in column 1 reflects the preferred sequence.

11.3.3 The qualifying word **'liquid'** or **'solid'**, as appropriate, must be added to the proper shipping name from Table 2-14 when a substance specifically listed by name may, due to the differing physical states of the various isomers of the substance, be either a liquid or a solid (for example, **'Dinitrotoluenes, liquid'** or **'Dinitrotoluenes, solid'**).

11.3.5 Until 31 December 1996, where the word **"toxic"** appears in any proper shipping name listed in column 1 of Table 2-14, the word **"poisonous"** may be used in place thereof. [*Editorial Note.— Table 2-13 has been deleted.*]

11.4 MIXTURES AND SOLUTIONS CONTAINING ONE DANGEROUS SUBSTANCE

11.4.1 A mixture or solution containing a dangerous substance identified by name in Table 2-14 and one or more ~~non-dangerous~~ substances must be treated according to the requirements given for the dangerous substance unless: Not subject to these instructions

a) the mixture or solution is specifically identified by name in Table 2-14; or

b) the entry in Table 2-14 specifically indicates that it applies only to the pure substance; or

c) the hazard class or physical state or packing group of the solution or mixture is different from that of the dangerous substance; or

d) there is a significant change in the measures to be taken in emergencies.

11.4.2 For mixtures and solutions treated in accordance with 11.4.1, the qualifying word 'solution' or 'mixture', as appropriate, may be added to the proper shipping name.

Example.— A solution of Acetone is such that its flash point is below 23°C and its boiling point is above 35°C, and so it is in the same flammability range as pure Acetone (UN 1090, Class 3, Packing Group II). As neither the hazard class nor the packing group has changed, this solution should be declared as 'Acetone solution' (UN 1090, Class 3, Packing Group II).

11.5 ARRANGEMENT OF THE DANGEROUS GOODS LIST (TABLE 2-14)

11.5.1 The Dangerous Goods List (Table 2-14) is divided into 12 columns as follows:

Column 1 — 'Name' – this column contains the alphabetically arranged list of dangerous goods, identified by their proper shipping names in boldface characters (see 11.3 above). Also included, in lightface type, are other names by which certain articles and substances may be known; in such cases a cross-reference to the proper shipping name is given. An explanation of some of the terms used appears in Attachment 2.

Entries in this column have been arranged in alphabetical order; where names comprise more than one word, they have been alphabetized as if they were a single word. In deciding the correct order, numbers and the terms n.o.s., alpha-, beta-, meta-, omega-, sec-, tert-, a-, b-, m-, N-, n-, O-, o- and p-, have been ignored. Similarly, the word 'see' and any words following it have been ignored.

Column 2 — 'UN No.' – this column contains the serial number assigned to the article or substance under the United Nations classification system (where such numbers have been assigned). When the word 'Forbidden' appears across this column and column 3, it means that the dangerous goods covered by that particular entry meet the description of dangerous goods forbidden on aircraft under any circumstances, as provided in Part 1;2.1. It must be noted, however, that all dangerous goods meeting this description have not been included in the Dangerous Goods List.

is offered for air transport in the molten state (implicit)

11.3.4 When a substance, which is a solid according to the definition of "liquid" in 1; 3.1, ~~is likely to become molten during air transport due to the temperatures which may be encountered~~, the word "molten" must be added to the proper shipping name shown in Table 2-14, unless it is already included (an example of such a proper shipping name would be **"Alkylphenol, solid, nos, molten"**).

Column 3 'Class or division' – this column contains the class or division and in the case of Class 1, the compatibility group assigned to the article or substance according to the classification system described in Chapter 1.

Column 4 'Subsidiary risk' – this column contains the class or division number of any important subsidiary risks which have been identified by applying the classification found in Chapters 1 to 9. Requirements for the labelling of dangerous goods which have subsidiary risks are given in Part 4;3.2.

Column 5 'Labels' – this column specifies the class hazard label followed by the subsidiary risk label(s) (after the symbol '&') to be applied to each outside packaging and overpack. Subsidiary risk labels are not shown for all n.o.s. or generic articles and substances which possess more than one hazard. When such an article or substance has more than one hazard and no subsidiary risk label is indicated in column 5 of Table 2-14, subsidiary risk labels must be applied in accordance with Part 4;3.2.2. For magnetized material the required handling label is also shown. In the instances where no label is required the word 'None' will appear.

Column 6 'State variations' – this column contains references to entries in Attachment 3, which shows State variations from these Instructions (these appear under the designator and name of the State).

Column 7 'Special provisions' – this column contains a number referring to the appropriate entries in Table 2-15. Special provisions apply to all the packing groups permitted for a particular substance or article unless the wording makes it otherwise apparent.

Column 8 'UN packing group' – this column contains the UN packing group number (i.e. I, II or III) assigned to the article or substance. If more than one packing group is indicated for the entry, the packing group of the substance or formulation to be transported should be determined, based on its properties, through application of the hazard grouping criteria as provided in Chapters 1 to 10 of this part.

Column 9 'Passenger aircraft – Packing instruction' – this column refers to the relevant packing instructions listed in Part 3 for transport of the article or substance on a passenger aircraft. For some entries an alternative packing instruction is shown prefixed with the letter 'Y'. Such packing instructions are for limited quantities of dangerous goods.

Column 10 'Passenger aircraft – Maximum net quantity per package' – this column shows the maximum net quantity (mass or volume) of the substance allowed in each package for transport on a passenger aircraft. The mass quoted is the net mass unless otherwise indicated by a letter 'G'. Where a maximum net quantity appears beside a packing instruction prefixed by the letter 'Y', this indicates it is the maximum net quantity permitted in a packaging containing limited quantities of dangerous goods. The maximum quantity per package may be further limited by the type of packaging used.

Column 11 'Cargo aircraft – Packing instruction' – this gives information similar to that in column 9, but for articles or substances which may be transported on a cargo aircraft only.

Column 12 'Cargo aircraft – Maximum net quantity per package' – this gives information similar to that in column 10, but for articles or substances which may be transported on a cargo aircraft only. The mass quoted is the net mass unless otherwise indicated by a letter 'G'. The maximum quantity per package may be further limited by the type of packaging used. The maximum net quantities indicated do not apply to transport in portable tanks, as permitted in the Supplement to these Instructions, Part S-3, Chapter 12, with the approval of the appropriate authority of the State of origin.

Note 1.— Where an article or substance may not be carried on a passenger aircraft the word 'Forbidden' is written across columns 9 and 10. Where an article or substance may not be carried on any aircraft, the word 'Forbidden' is written across columns 11 and 12 as well as across columns 9 and 10.

Note 2.— Where the provisions of these Instructions do not apply to an article or substance the words 'Not restricted' appear in columns 9 and 10 and/or 11 and 12.

11.5.2 The following abbreviations or symbols are used in Table 2-14 and have the meanings shown:

Abbreviation	*Column*	*Meaning*
n.o.s.	1	Not otherwise specified
L	10 and 12	Litre(s)
kg	10 and 12	Kilogram(s)
G	10 and 12	Gross mass of package as prepared for transport
*	1	N.o.s. entry which requires the addition of a technical name according to 11.2.1
†	1	Entry for which there is an explanation in Attachment 2

Note 3. – Where an article or substance is packed according to the packing instruction and maximum net quantity per package given in columns 9 and 10 it may also be carried on a cargo aircraft. In such circumstances the package must not bear the 'Cargo aircraft only' label, referred to in Part 4; 3.2.10(a).

Table 2-14. Dangerous Goods List

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing Instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Accelierene, see **p-Nitrosodimethylaniline**											
Accumulators, electric, see **Batteries, etc.**											
Acetal	1088	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Acetaldehyde	1089	3		Liquid flammable		A1	I	Forbidden		304	30 L
Acetaldehyde ammonia	1841	9		Miscellaneous		A48	III	906	200 kg	906	200 kg
A **Acetaldehyde oxime**	2332	3		Liquid flammable			II	309 Y309	60 L 1 L 10	~~307~~ 310	~~60 L~~ 220
A **Acetic acid, glacial**	2789	8	3	Corrosive & Liquid flammable			II	809 Y809	1 L 0.5 L	813	30 L
A **Acetic acid solution,** more than 80% acid, by mass	2789	8	3	Corrosive & Liquid flammable			II	809 Y809	1 L 0.5 L	818	30 L
Acetic acid solution, more than 10% but not more than 80% acid, by mass	2790	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
A **Acetic anhydride**	1715	8	3	Corrosive & Liquid flammable			II	809 Y809	1 L 0.5 L	813	30 L
Acetic oxide, see **Acetic anhydride**											
Acetoin, see **Acetyl methyl carbinol**											
Acetone	1090	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Acetone cyanohydrin, stabilized	1541	6.1		Poison	US 1 US 34	A1	I	Forbidden		605	30 L
Acetone oils	1091	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A Acetonitrile; ~~see Methyl cyanide~~	1648	3		Liquid flammable			II	305 Y305	5L 1L	307	60L
Acetyl bromide	1716	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Acetyl chloride	1717	3	8	Liquid flammable & Corrosive			II	306 Y306	1 L 0.5 L	308	5 L
Acetyl cyclohexanesulphonyl peroxide, more than 82%, wetted with less than 12% water	Forbidden										
Acetylene dichloride see **Dichloroethylene**											
Acetylene, dissolved	1001	2.1		Gas flammable	US 30	A1		Forbidden		200	15 kg
Acetylene (liquefied)	Forbidden										

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Acetylene silver nitrate	Forbidden										
Acetylene tetrabromide, see **Tetrabromoethane**											
Acetylene tetrachloride, see **Tetrachloroethane**											
Acetyl iodide	1898	8		Corrosive			II	806 Y808	1 L 0.5 L	812	30 L
Acetyl methyl carbinol	2621	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Acetyl oxide, see **Acetic anhydride**											
Acid butyl phosphate, see **Butyl acid phosphate**											
Acid mixtures, hydrofluoric and sulphuric, see **Hydrofluoric acid and sulphuric acid mixtures**											
Acid mixtures, nitrating acid, see **Nitrating acid mixtures**											
Acid mixtures, spent, nitrating acid, see **Nitrating acid mixtures, spent**											
Acid, picric, see **Trinitrophenol**, etc.											
Acid potassium sulphate, see **Potassium hydrogen sulphate**											
Acid, sludge, see **Sludge acid**											
Acids, liquid, n.o.s., see **Corrosive liquid, ~~n.o.s.~~ acidic, etc**											
Acraldehyde, inhibited, see **Acrolein, inhibited**											
Acridine	2713	6.1		~~Poison~~ ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Acrolein dimer, stabilized	2607	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Acrolein, inhibited	1092	6.1	3	~~Poison~~ ~~Keep away from food~~				Forbidden		Forbidden	
Acrylamide	2074	6.1					III	619 Y619	100 kg 10 kg	619	200 kg
Acrylic acid, inhibited	2218	8	3	Corrosive & Liquid flammable			II	808 Y808	1 L 0.5 L	812	30 L
Acrylonitrile, inhibited	1093	3	6.1	Liquid flammable & Poison			I	Forbidden		303	30 L
Actinolite, see **White asbestos**, etc.											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Activated carbon, see **Carbon, activated**											
Activated charcoal, see **Carbon, activated**											
Actuating cartridge, explosive, see **Cartridges, power device**											
Adhesives containing flammable liquid	1133	3		Liquid flammable		A3 A7	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
A **Adiponitrile**	2205	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Aeroplane flares, see **Flares, aerial**											
Aerosols, flammable, n.o.s., containing toxic gas	1950	2.3	2.1					Forbidden		Forbidden	
Aerosols, flammable, n.o.s. (each not exceeding 1 L capacity)	1950	2.1		Gas flammable				203 Y203	75 kg 30 kg G	203	150 kg
Aerosols, flammable, n.o.s., containing substances in Division 6.1, Packing Group I or II (including tear gas devices)	1950	2.1	6.1					Forbidden		Forbidden	
A **Aerosols,** flammable, n.o.s. (each not exceeding 1 L capacity), containing substances in Division 6.1, Packing Group III	1950	2.1	6.1	Gas flammable & Poison				203 Y203	75 kg 30 kg G	203	150 kg
Aerosols, flammable, n.o.s., containing substances in Class 8, Packing Group I or II	1950	2.1	8					Forbidden		Forbidden	
Aerosols, flammable, n.o.s. (each not exceeding 1 L capacity), containing substances in Class 8, Packing Group III	1950	2.1	8	Gas flammable & Corrosive				203 Y203	75 kg 30 kg G	203	150 kg
A **Aerosols,** flammable, n.o.s. (each not exceeding 1 L capacity), containing substances in Division 6.1, Packing Group III and substances in Class 8, Packing Group III	1950	2.1	6.1 8	Gas flammable & Corrosive & Poison				203 Y203	75 kg 30 kg G	203	150 kg
Aerosols, non-flammable, n.o.s., containing toxic gas	1950	2.3						Forbidden		Forbidden	
Aerosols, non-flammable, n.o.s. (each not exceeding 1 L capacity)	1950	2.2		Gas non-flammable				203 or 204 Y203 or Y204	75 kg 30 kg G	203 or 204	150 kg
Aerosols, non-flammable, n.o.s., containing substances in Division 6.1, Packing Group I or II (other than tear-gas devices)	1950	2.2	6.1					Forbidden		Forbidden	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Aerosols, non-flammable, n.o.s. (each not exceeding 1 L capacity), containing substances in Division 6.1, Packing Group III	1950	2.2	6.1	Gas non-flammable & Poison				203 Y203	75 kg 30 kg G	203	150 kg
Aerosols, non-flammable, n.o.s., containing substances in Class 8, Packing Group I or II	1950	2.2	8					Forbidden		Forbidden	
Aerosols, non-flammable, n.o.s. (each not exceeding 1 L capacity), containing substances in Class 8, Packing Group III	1950	2.2	8	Gas non-flammable & Corrosive				203 Y203	75 kg 30 kg G	203	150 kg
Aerosols, non-flammable, n.o.s. (each not exceeding 1 L capacity), containing substances in Division 6.1, Packing Group III and substances in Class 8, Packing Group III	1950	2.2	6.1 8	Gas non-flammable & Corrosive & Poison				203 Y203	75 kg 30 kg G	203	150 kg
Aerosols, non-flammable, n.o.s. (tear gas devices)	1950	2.2	6.1	Gas non-flammable & Poison		A1		Forbidden		212	50 kg
Air, compressed	1002	2.2		Gas non-flammable				200	75 kg	200	150 kg
Aircraft evacuation slides, see **Life-saving appliances**											
Aircraft hydraulic power unit fuel tank (containing a mixture of anhydrous hydrazine and methyl hydrazine) (M86 fuel)	3165	3	6.1 8	Liquid flammable & Poison & Corrosive		A1 A48	I	Forbidden		301	42 L
Aircraft survival kits, see **Life-saving appliances**											
Air, refrigerated liquid, low pressure or pressurized	1003	2.2	5.1	Gas non-flammable & Oxidizer		A1		Forbidden		202	150 kg
Air, refrigerated liquid, non-pressurized	1003	2.2	5.1					Forbidden		Forbidden	
Alcohol, denatured, see **Alcohols, n.o.s.** or **Alcohols, toxic, n.o.s.**											
Alcoholic beverages containing more than 24% but not more than 70% alcohol by volume	3065	3		Liquid flammable		A9 A58	III	309 Y309	60 L 10 L	310	220 L
Alcoholic beverages containing more than 70% alcohol by volume	3065	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Alcohol, industrial, see **Alcohols, n.o.s.** or **Alcohols, toxic, n.o.s.**											
Alcohols, n.o.s.*	1987	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
	1	2	3	4	5	6	7	8	9	10	11	12
A	**Alcohols, toxic, n.o.s.***	1986	3	6.1	Liquid flammable & Poison		A3 ~~A68~~	I II III	Forbidden 305 Y305 309 Y309	 1 L 1 L 60 L 2 L	303 307 310	30 L 60 L 220 L
	Aldehyde, see **Acetaldehyde**											
	Aldehyde ammonia, see **Acetaldehyde ammonia**											
	Aldehydes, n.o.s.*	1989	3		Liquid flammable		A3	I II III	302 305 Y305 309 Y309	1 L 5 L 1 L 60 L 10 L	303 307 310	30 L 60 L 220 L
A	**Aldehydes, toxic, n.o.s.***	1988	3	6.1	Liquid flammable & Poison		A3 ~~A69~~	I II III	Forbidden 305 Y305 309 Y309	 1 L 1 L 60 L 2 L	303 307 310	30 L 60 L 220 L
	Aldol	2839	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
A	Self-heating, corrosive **Alkali metal alcoholates, n.o.s.***	3206	4.2	8	Spontaneous combustion & Corrosive		A3	II III	416 422	15 kg 25 kg	418 421	50 kg 100 kg
A	**Alkali metal alloys, liquid, n.o.s.**	1421	4.3		Danger if wet		A84	I	Forbidden		409	1 L
A	**Alkali metal amalgams, liquid**	1389	4.3		Danger if wet		A84	I	Forbidden		409	1 L
A	**Alkali metal amalgams, solid**	1389	4.3		Danger if wet		A84	I	Forbidden		412	15 kg
	Alkali metal amides	1390	4.3		Danger if wet		A84	II	416 Y416	15 kg 5 kg	418	50 kg
A	**Alkali metal dispersions**	1391	4.3		Danger if wet		A84	I	Forbidden		409	1 L
	Alkaline corrosive battery fluid, see **Battery fluid, alkali**											
	Alkaline corrosive liquid, n.o.s., see **Caustic alkali liquid, n.o.s.**											
A	Alkaline corrosive solid, n.o.s., see **Corrosive solid, ~~n.o.s.~~ basic, etc.**											
	Alkaline earth metal alcoholates, n.o.s.*	3205	4.2		Spontaneous combustion		A3	II III	416 422	15 kg 25 kg	418 421	50 kg 100 kg
A	**Alkaline earth metal alloys, n.o.s.**	1393	4.3		Danger if wet		A85	II	415 Y415	15 kg 5 kg	417	50 kg
A	**Alkaline earth metal amalgams**	1392	4.3		Danger if wet		A85	I	Forbidden		412	15 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A Alkaline earth metal dispersions	1391	4.3		Danger if wet		A85	I	Forbidden		409	1 L
A Alkaloid salts, liquid, n.o.s.*, ~~poisonous~~	3140	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A3	I	603	1 L	604	30 L
						A4	II	609	5 L	611	60 L
						A6		Y609	1 L		
						A32	III	611	60 L	618	220 L
								Y611	2 L		
A Alkaloid salts, solid, n.o.s.*, ~~poisonous~~	1544	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A3	I	606	5 kg	607	50 kg
						A5	II	613	25 kg	615	100 kg
						A6		Y613	1 kg		
						A32	III	619	100 kg	619	200 kg
								Y619	10 kg		
A Alkaloids, liquid, n.o.s.*, ~~poisonous~~	3140	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A3	I	603	1 L	604	30 L
						A4	II	609	5 L	611	60 L
						A6		Y609	1 L		
						A32	III	611	60 L	618	220 L
								Y611	2 L		
A Alkaloids, solid, n.o.s.*, ~~poisonous~~	1544	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A3	I	606	5 kg	607	50 kg
						A5	II	613	25 kg	615	100 kg
						A6		Y613	1 kg		
						A32	III	619	100 kg	619	200 kg
								Y619	10 kg		
Alkyl aluminium halides, see **Aluminium alkyl halides**											
A ~~Alkylamines~~, liquid, n.o.s.*, corrosive	2735	8		Corrosive		A3	I	807	0.5 L	809	2.5 L
							II	808	1 L	812	30 L
								Y808	0.5 L		
							III	818	5 L	820	60 L
								Y818	1 L		
A ~~Alkylamines~~, liquid, n.o.s.*, corrosive, flammable	2734	8	3	Corrosive & Liquid flammable		~~A69~~	I	807	0.5 L	809	2.5 L
							II	808	1 L	812	30 L
								Y808	0.5 L		
A ~~Alkylamines~~, n.o.s.*, flammable, corrosive	2733	3	8	Liquid flammable & Corrosive		A3	I	302	0.5 L	303	2.5 L
							II	305	1 L	307	5 L
								Y305	0.5 L		
							III	309	5 L	310	60 L
								Y309	1 L		
A Alkyl phenols, liquid, n.o.s. (including C_2-C_{12} homologues)	3145	~~8~~ 8		~~Keep away from food~~ Corrosive		A3	~~III~~	~~611~~	~~60 L~~	~~618~~	~~220 L~~
								~~Y611~~	~~2 L~~		
A Alkyl phenols, solid, n.o.s. (including C_2-C_{12} homologues)	2430	~~8~~ 8		~~Keep away from food~~ Corrosive		A3	~~III~~	~~619~~	~~100 kg~~	~~618~~	~~200 kg~~
								~~Y619~~	~~10 kg~~		
A Alkyl sulphonic acid, liquid with more than 5% free sulphuric acid	2584	8		Corrosive			II	808	1 L	812	30 L
								Y808	0.5 L		
A Alkyl sulphonic acid, liquid with not more than 5% free sulphuric acid	2586	8		Corrosive			III	818	5 L	820	60 L
								Y818	1 L		
A Alkyl sulphonic acid, solid with more than 5% free sulphuric acid	2583	8		Corrosive			II	814	15 kg	816	50 kg
								Y814	5 kg		

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I	810	1kg	811	25kg		I	807	0.5L	809	2.5L
II	814	15kg	816	50kg		II	808	1 L	812	30L
	Y814	5kg					Y808	0.5L		
III	822	25kg	823	100kg		III	818	5L	820	60L
	Y822	5kg					Y818	1L		

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Alkyl sulphonic acid, solid with not more than 5% free sulphuric acid	2585	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Allene, see **Propadiene**											
Allyl acetate	2333	3	6.1	Liquid flammable & Poison			II	305 Y305	1 L 1 L	307	60 L
Allyl alcohol	1098	6.1	3					Forbidden		Forbidden	
Allylamine	2334	6.1	3					Forbidden		Forbidden	
Allyl bromide	1099	3	6.1	Liquid flammable & Poison			I	Forbidden		303	30 L
Allyl chloride	1100	3	6.1	Liquid flammable & Poison			I	Forbidden		303	30 L
Allyl chlorocarbonate, see **Allyl chloroformate**											
Allyl chloroformate	1722	~~6.1~~ 8	~~3~~ 8	~~Corrosive~~	US 34	~~A1~~	~~1~~	Forbidden		~~Forbidden~~ 809	~~2.5 L~~
Allyl ethyl ether	2335	3	6.1	Liquid flammable & Poison			II	305 Y305	1 L 1 L	307	60 L
Allyl formate	2336	3	6.1	Liquid flammable & Poison			I	Forbidden		303	30 L
Allyl glycidyl ether	2219	3	~~6.1~~	Liquid flammable	JP 19		III	309 Y309	60 L 10 L	310	220 L
Allyl iodide	1723	3	8	Liquid flammable & Corrosive			II	306 Y306	~~1 L~~ 0.5 L	304	~~2.5 L~~ 5
Allyl isothiocyanate, inhibited	1545	6.1		Poison		A1	II	Forbidden		612	60 L
Allyltrichlorosilane, stabilized	1724	8	3	Corrosive & Liquid flammable		A1	II	Forbidden		813	30 L
Aluminium alkyl halides	3052	4.2						Forbidden		Forbidden	
Aluminium alkyl hydrides	3076	4.2						Forbidden		Forbidden	
Aluminium alkyls	3051	4.2						Forbidden		Forbidden	
Aluminium borohydride	2870	4.2	4.3					Forbidden		Forbidden	
Aluminium borohydride in devices	2870	4.2	4.3					Forbidden		Forbidden	
Aluminium bromide, anhydrous	1725	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Aluminium bromide solution	2580	8		Corrosive		A3	III	818 Y818	5 L 1 L	820	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing Instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Aluminium carbide	1394	4.3		Danger if wet			II	416 Y416	15 kg 5 kg	418	50 kg
Aluminium chloride, anhydrous	1726	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Aluminium chloride solution	2581	8		Corrosive		A3	III	818 Y818	5 L 1 L	820	60 L
Processing by-products											
Aluminium ~~dross other than wet or hot~~ †	3170	4.3		Danger if wet		A3 ~~A65~~ A102	II III	415 Y415 419 Y419	15 kg 5 kg 25 kg 10 kg	417 420	50 kg 100 kg
Aluminium dross, wet or hot †	Forbidden										
Aluminium ferrosilicon powder	1395	4.3	6.1	Danger if wet & Poison			II	415 Y415	15 kg 1 kg	417	50 kg
Aluminium hydride	2463	4.3		Danger if wet			I	Forbidden		412	15 kg
Aluminium nitrate	1438	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Aluminium phosphate solution, see **Corrosive liquid, n.o.s.**											
Aluminium phosphide	1397	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Aluminium phosphide pesticides	3048	6.1		Poison			I	Forbidden		616	15 kg
Aluminium powder, coated †	1309	4.1		Solid flammable		A3	II III	415 Y415 419 Y419	15 kg 5 kg 25 kg 10 kg	417 420	50 kg 100 kg
Aluminium powder, uncoated †	1396	4.3		Danger if wet		A3	II III	415 Y415 419 Y419	15 kg 5 kg 25 kg 10 kg	417 420	50 kg 100 kg
Aluminium resinate	2715	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Aluminium silicon powder, uncoated	1398	4.3		Danger if wet		A3 A53	III	419 Y419	25 kg 10 kg	420	100 kg
Amatols, see **Explosive, blasting, type B**											
Aminobenzene, see **Aniline**											
2-Amino benzotrifluoride, see **2-Trifluoromethylaniline**											
3-Amino benzotrifluoride, see **3-Trifluoromethylaniline**											
Aminobutane, see **n-Butylamine**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
2-Amino-4-chlorophenol	2673	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
A **2-Amino-5-diethylaminopentane**	2946	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
2-(2-Aminoethoxy)ethanol	3055	8		Corrosive			III	816 Y818	5 L 1 L	820	60 L
N-Aminoethylpiperazine	2815	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
1-Amino-2-nitrobenzene, see **Nitroanilines**											
1-Amino-3-nitrobenzene, see **Nitroanilines**											
1-Amino-4-nitrobenzene, see **Nitroanilines**											
A **Aminophenols** (o-,m-,p-)	2512	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
A Aminopropyldiethanolamine, see ~~Alkylamines, n.o.s.~~ liquid, corrosive,											
A n-Aminopropylmorpholine, see ~~Alkylamines, n.o.s.~~ liquid, corrosive,											
Aminopyridines (o-,m-,p-)	2671	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Ammonia, anhydrous, liquefied	1005	2.3	8	Gas toxic & Corrosive	US 30	A1		Forbidden		200	25 kg
A **Ammonia solutions**, relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia	2672	8		Corrosive		A64	III	819 Y819	5 L 1 L	813	60 L
A **Ammonia solutions**, relative density less than 0.880 at 15°C in water, with more than 50% ammonia	1005	2.3	8	Gas toxic & Corrosive	US30	A1		Forbidden		200	25 kg
A **Ammonia solutions**, relative density less than 0.880 at 15°C in water, with more than 35% but not more than 50% ammonia	2073	2.2		Gas non-flammable		A1		Forbidden		200	150 kg
Ammonium arsenate	1546	6.1		*Poison*			II	613 Y613	25 kg 1 kg	615	100 kg
Ammonium azide	Forbidden										
Ammonium bichromate, see **Ammonium dichromate**											
A Ammonium bifluoride, see **Ammonium hydrogen di fluoride**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ammonium bisulphate, see **Ammonium hydrogen sulphate**											
Ammonium bisulphite solution, see **Bisulphites, ~~inorganic,~~ aqueous solutions, n.o.s.**											
Ammonium bromate	Forbidden										
Ammonium chlorate	Forbidden										
Ammonium dichromate	1439	5.1		Oxidizer	US 1		II	508 Y508	5 kg 2.5 kg	511	25 kg
Ammonium dinitro-o-cresolate	1843	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Ammonium fluoride	2505	6.1		~~Poison Keep away from food~~	US 1		III	619 Y619	100 kg 10 kg	619	200 kg
Ammonium fluorosilicate	2854	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Ammonium fulminate	Forbidden										
Ammonium hydrate, see **Ammonia solutions**, etc.											
Ammonium hydrogen difluoride, solid	1727	8		Corrosive	US 1		II	815 Y815	15 kg 5 kg	817	50 kg
Ammonium hydrogen difluoride solution	2817	8	6.1	Corrosive & Poison		~~A3 A68~~	II III	809 Y809 819 Y819	1 L 0.5 L 5 L 1 L	813 821	30 L 60 L
Ammonium hydrogen sulphate	2506	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Ammonium hydrosulphide, solution, see **Ammonium sulphide solution**											
Ammonium hydroxide, see **Ammonia solutions**, etc.											
Ammonium metavanadate	2859	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Ammonium nitrate with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	0222	1.1D						Forbidden		Forbidden	
Ammonium nitrate with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	1942	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Ammonium nitrate explosives, see **Explosive, blasting, type B**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ammonium nitrate fertilizer, which is more liable to explode than ammonium nitrate with 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	0223	1.1D						Forbidden		Forbidden	
A **Ammonium nitrate fertilizers, n.o.s.**	2072	5.1		Oxidizer		A3	I	508	1 kg	511	15 kg
							II	508	5 kg	511	25 kg
								Y508	2.5 kg		
							III	516	25 kg	518	100 kg
								Y516	10 kg		
Ammonium nitrate fertilizers: uniform non-segregating mixtures of ammonium nitrate/ammonium sulphate, with more than 45% but not more than 70% ammonium nitrate and not more than 0.4% of total combustible material	2069	5.1		Oxidizer		A89	III	516	25 kg	518	100 kg
								Y516	10 kg		
Ammonium nitrate fertilizers: uniform non-segregating mixtures of ammonium nitrate with added matter which is inorganic and chemically inert towards ammonium nitrate, with not less than 90% ammonium nitrate and not more than 0.2% combustible material (including organic material calculated as carbon), or with more than 70% but less than 90% ammonium nitrate and not more than 0.4% total combustible material	2067	5.1		Oxidizer		A89	III	516	25 kg	518	100 kg
								Y516	10 kg		
Ammonium nitrate fertilizers: uniform non-segregating mixtures of ammonium nitrate with calcium carbonate and/or dolomite, with more than 80% but less than 90% ammonium nitrate and not more than 0.4% total combustible material	2068	5.1		Oxidizer		A89	III	516	25 kg	518	100 kg
								Y516	10 kg		
Ammonium nitrate fertilizers: uniform non-segregating mixtures of nitrogen/phosphate or nitrogen/potash types or complete fertilizers of nitrogen/phosphate/potash type, with more than 70% but less than 90% ammonium nitrate and not more than 0.4% total combustible material	2070	5.1		Oxidizer		A89	III	516	25 kg	518	100 kg
								Y516	10 kg		
Ammonium nitrate fertilizers: uniform non-segregating mixtures of nitrogen/phosphate or nitrogen/potash types or complete fertilizers of nitrogen/phosphate/potash type, with not more than 70% ammonium nitrate and not more than 0.4% total added combustible material or with not more than 45% ammonium nitrate with unrestricted combustible material	2071	9		Miscellaneous		A89	III	909	200 kg	909	200 kg
						A90		Y909	30 kg G		

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ammonium nitrate, liquid (hot concentrated solution)	2426	5.1						Forbidden		Forbidden	
Ammonium nitrite	Forbidden										
Ammonium perchlorate	0402	1.1D				A22		Forbidden		Forbidden	
Ammonium perchlorate	1442	5.1		Oxidizer	JP 18	A22	II	509 Y509	5 kg 2.5 kg	512	25 kg
Ammonium permanganate	Forbidden										
Ammonium persulphate	1444	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Ammonium picrate dry or wetted with less than 10% water, by mass	0004	1.1D						Forbidden		Forbidden	
Ammonium picrate, wetted with not less than 10% water, by mass	1310	4.1		Solid. flammable	BE 3	A40	I	416	0.5 kg	416	0.5 kg
Ammonium polysulphide solution	2818	8	6.1	Corrosive & Poison		A3. ~~A68~~	II	808 Y808	1 L 0.5 L	812	30 L
							III	818 Y818	5 L 1 L	820	60 L
Ammonium polyvanadate	2861	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Ammonium silicofluoride, see **Ammonium fluorosilicate**											
Ammonium sulphide solution	2683	8	3 6.1	Corrosive & Liquid flammable & Poison			II	808 Y808	1 L 0.5 L	812	30 L
Ammunition, blank, see **Cartridges for weapons, blank**											
Ammunition, fixed, semi-fixed or separate loading, see **Cartridges for weapons**, etc.											
Ammunition, illuminating with or without burster, expelling charge or propelling charge †	0171	1.2G						Forbidden		Forbidden	
Ammunition, illuminating with or without burster, expelling charge or propelling charge †	0254	1.3G						Forbidden		Forbidden	
Ammunition, illuminating with or without burster, expelling charge or propelling charge †	0297	1.4G		Explosive 1.4				Forbidden		123	75 kg
Ammunition, incendiary, liquid or gel, with burster, expelling charge or propelling charge †	0247	1.3J						Forbidden		Forbidden	
Ammunition, incendiary with or without burster, expelling charge or propelling charge †	0009	1.2G						Forbidden		Forbidden	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ammunition, smoke, white phosphorus with burster, expelling charge or propelling charge †	0245	1.2H						Forbidden		Forbidden	
Ammunition, smoke, white phosphorus with burster, expelling charge or propelling charge †	0246	1.3H						Forbidden		Forbidden	
Ammunition, sporting, see **Cartridges for weapons**, etc. (UN 0012; 0328; 0339)											
Ammunition, tear-producing with burster, expelling charge or propelling charge †	0018	1.2G	6.1 8					Forbidden		Forbidden	
Ammunition, tear-producing with burster, expelling charge or propelling charge †	0019	1.3G	6.1 8					Forbidden		Forbidden	
Ammunition, tear-producing with burster, expelling charge or propelling charge †	0301	1.4G	6.1 8	Explosive 1.4 & Poison & Corrosive				Forbidden		123	75 kg
Ammunition, tear-producing, non-explosive without burster or *expelling charge*, non-fuzed	2017	6.1	8	Poison & Corrosive		A1	II	Forbidden		600	50 kg
Ammunition, toxic* with burster, expelling charge or propelling charge †	0020	1.2K	6.1					Forbidden		Forbidden	
Ammunition, toxic* with burster, expelling charge or propelling charge †	0021	1.3K	6.1					Forbidden		Forbidden	
Ammunition, toxic (water-activated contrivances), see **Contrivances, water-activated**, etc.											
Ammunition, toxic, non-explosive without burster or expelling charge, non-fuzed	2016	6.1		Poison		A1	II	Forbidden		600	100 kg
Amorces, see **Fireworks** (*UN 0333, 0336, 0337*)											
Amyl acetates	1104	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Amyl acid phosphate	2819	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Amyl alcohols	1105	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
Amyl aldehyde, see **Valeraldehyde**											
A **Amylamine**	1106	3	8	Liquid flammable & Corrosive		A3	II III	305 Y305 309 Y309	1 L 0.5 L 5L 1L	307 310	5 60 L 60L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Amyl butyrates	2620	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Amyl chloride	1107	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
n-Amylene	1108	3		Liquid flammable			I	302	1 L	303	30 L
A **Amyl formates**	1109	3		Liquid flammable		~~A3~~	~~II~~	~~305~~ ~~Y305~~	~~5 L~~ ~~1 L~~	~~307~~	~~60 L~~
							III	309 Y309	60 L 10 L	310	220 L
Amyl mercaptan	1111	3		Liquid flammable			II	306 Y306	5 L 1 L	308	60 L
Amyl methyl ketone	1110	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
A **Amyl nitrate**	1112	3		Liquid flammable			II	309 Y309	60 L 10 L	~~307~~ 310	~~60 L~~ ~~220~~
Amyl nitrite	1113	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Amyltrichlorosilane	1728	8		Corrosive		A1	II	Forbidden		813	30 L
Anaesthetic ether, see **Diethyl ether**											
Anhydrous ammonia, see **Ammonia, anhydrous, liquefied**											
Anhydrous hydrazine, see **Hydrazine, anhydrous**											
Anhydrous hydriodic acid, see **Hydrogen iodide, anhydrous**											
Anhydrous hydrofluoric acid, see **Hydrogen fluoride, anhydrous**											
Aniline	1547	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Aniline chloride, see **Aniline hydrochloride**											
A **Aniline hydrochloride**	1548	6.1		~~Poison~~ ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Aniline oil, see **Aniline**											
Aniline salt, see **Aniline hydrochloride**											
A **Anisidines, liquid**	2431	6.1		~~Poison~~ ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
A **Anisidines, solid**	2431	6.1		~~Poison~~ ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Anisole	2222	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Anisoyl chloride	1729	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Anthophyllite, see **White asbestos, etc.**											
Anti-freeze liquid, see **Flammable liquid, n.o.s.**											
A Anti-knock compound, mixture, see **Motor fuel anti-knock mixtures**											
Antimonious chloride, see **Antimony trichloride**											
A **Antimony compounds, inorganic, liquid, n.o.s.**	3141	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		~~A2~~ ~~A4~~ A12	~~I~~ ~~II~~ III	~~602~~ ~~600~~ ~~Y600~~ 611 Y611	~~1 L~~ ~~5 L~~ ~~1 L~~ 60 L 2 L	~~604~~ ~~611~~ 618	~~30 L~~ ~~60 L~~ 220 L
A **Antimony compounds, inorganic, solid, n.o.s.**	1549	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		~~A3~~ ~~A5~~ A12	~~I~~ ~~II~~ III	~~606~~ ~~613~~ ~~Y613~~ 619 Y619	~~5 kg~~ ~~25 kg~~ ~~1 kg~~ 100 kg 10 kg	~~607~~ ~~615~~ 619	~~50 kg~~ ~~100 kg~~ 200 kg
Antimony hydride, see **Stibine**											
A **Antimony lactate**	1550	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
A Antimony oxide, see **Antimony compounds, inorganic, solid, n.o.s.**											
Antimony pentachloride, liquid	1730	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Antimony pentachloride solution	1731	8		Corrosive		A3	II III	808 Y808 818 Y818	1 L 0.5 L 5 L 1 L	812 820	30 L 60 L
Antimony pentafluoride	1732	8	6.1	Corrosive & Poison		A1	II	Forbidden		813	30 L
A Antimony pentasulphide, see **Antimony compounds, inorganic, solid, n.o.s.**											
Antimony perchloride, liquid, see **Antimony pentachloride, liquid**											
A **Antimony potassium tartrate**	1551	6.1		Poison ~~Keep away from food~~	US 1		III	619 Y619	100 kg 10 kg	619	200 kg
A **Antimony powder**	2871	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
L Antimony sulphide and a chlorate, mixtures of	Forbidden										
A *Antimony sulphide, solid, see* **Antimony compounds, inorganic, solid, n.o.s.**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Antimony trichloride, liquid	1733	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Antimony trichloride, solid	1733	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Antu, see **Naphthylthiourea**											
Aqua ammonia, see **Ammonia solutions**, etc.											
Argon, compressed	1006	2.2		Gas non-flammable				200	75 kg	200	150 kg
Argon, refrigerated liquid	1951	2.2		Gas non-flammable				202	50 kg	202	500 kg
Arsenate of lead, see **Lead arsenates**											
Arsenates, n.o.s.; liquid, see **Arsenic compounds, liquid, n.o.s.**											
Arsenates, n.o.s.; solid, see **Arsenic compounds, solid, n.o.s.**											
Arsenic	1558	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Arsenic acid, liquid	1553	6.1		Poison	US 1		I	603	1 L	604	30 L
Arsenic acid, solid	1554	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Arsenical dust †	1562	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Arsenical flue dust, see **Arsenical dust**											
Arsenical pesticides, liquid, flammable, toxic, n.o.s., flash point less than 23°C	2760	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L
Arsenical pesticides, liquid, toxic, n.o.s.	2994	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Arsenical pesticides, liquid, toxic, flammable, n.o.s., flash point not less than 23°C	2993	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Arsenical pesticides, solid, toxic, n.o.s.	2759	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Arsenic bromide	1555	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Arsenic chloride, see **Arsenic trichloride**											

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A and **Arsenic compounds, liquid, n.o.s.,** including: Arsenates, n.o.s.; Arsenites, n.o.s.; Arsenic sulphides, n.o.s. ~~and Organic compounds of arsenic, n.o.s.~~	1556	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A3 A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A and **Arsenic compounds, solid, n.o.s.,** including: Arsenates, n.o.s.; Arsenites, n.o.s.; Arsenic sulphides, n.o.s. ~~and Organic compounds of arsenic, n.o.s.~~	1557	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~	US 1	A3 A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Arsenic, fuming liquid, see **Arsenic trichloride**											
Arsenic hydride, see **Arsine**											
Arsenic pentoxide	1559	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
L Arsenic sulphide and a chlorate, mixtures of	Forbidden										
K **Arsenic trichloride**	1560	6.1		~~Poison~~	US 1 US 34.		~~I~~	Forbidden ~~663~~	~~1 L~~	Forbidden ~~664~~	~~30 L~~
Arsenic trioxide	1561	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Arsenious chloride, see **Arsenic trichloride**											
A Arsenites, n.o.s., see **Arsenic compounds**, etc.											
A Arsenous and mercuric iodide solution, see **Arsenic compounds, liquid, n.o.s.**											
Arsenous chloride, see **Arsenic trichloride**											
Arsine	2188	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Articles, EEI †	0486	1.6N						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0462	1.1C						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0463	1.1D						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0464	1.1E						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0465	1.1F						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0354	1.1L						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0466	1.2C						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0467	1.2D						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0468	1.2E						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0469	1.2F						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Articles, explosive, n.o.s.*	0355	1.2L						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0470	1.3C						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0356	1.3L						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0350	1.4B						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0351	1.4C						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0352	1.4D						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0471	1.4E		Explosive 1.4	JP 18	A62		Forbidden		124	75 kg
Articles, explosive, n.o.s.*	0472	1.4F						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0353	1.4G						Forbidden		Forbidden	
Articles, explosive, n.o.s.*	0349	1.4S		Explosive 1.4	JP 18	A62		124	25 kg	124	100 kg
Articles, explosive, extremely insensitive †	0486	1.6N						Forbidden		Forbidden	
Articles, pressurized, hydraulic containing non-flammable gas	3164	2.2		Gas non-flammable		A48		208	No limit	208	No limit
Articles, pressurized, pneumatic containing non-flammable gas	3164	2.2		Gas non-flammable		A48		208	No limit	208	No limit
Articles, pyrophoric †	0380	1.2L						Forbidden		Forbidden	
Articles, pyrotechnic for technical purposes †	0428	1.1G						Forbidden		Forbidden	
Articles, pyrotechnic for technical purposes †	0429	1.2G						Forbidden		Forbidden	
Articles, pyrotechnic for technical purposes †	0430	1.3G						Forbidden		Forbidden	
Articles, pyrotechnic for technical purposes †	0431	1.4G		Explosive 1.4				Forbidden		152	75 kg
Articles, pyrotechnic for technical purposes †	0432	1.4S		Explosive 1.4				152	25 kg	152	100 kg
A **Aryl sulphonic acid, liquid** with more than 5% free sulphuric acid	2584	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
A **Aryl sulphonic acid, liquid** with not *more than 5% free sulphuric acid*	2586	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
A **Aryl sulphonic acid, solid** with more than 5% free sulphuric acid	2583	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
A **Aryl sulphonic acid, solid** with not more than 5% free sulphuric acid	2585	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Asbestos †, see **Blue asbestos** or **Brown asbestos** or **White asbestos**											

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ascaridole	Forbidden										
Asphalt, cut back, see **Tars, liquid**, etc.											
Azaurolic acid (salt of) (dry)	Forbidden										
Azidodithiocarbonic acid	Forbidden										
Azidoethyl nitrate	Forbidden										
Azido guanidine picrate (dry)	Forbidden										
5-Azido-1-hydroxy tetrazole	Forbidden										
Azido hydroxy tetrazole (mercury and silver salts)	Forbidden										
3-Azido-1,2-propylene glycol dinitrate	Forbidden										
1-Aziridinyl phosphine oxide-(tris), see **Tri-(1-aziridinyl) phosphine oxide, solution**											
Azodicarbonamide	3242	4.1						Forbidden		Forbidden	
Azotetrazole (dry)	Forbidden										
Barium	1400	4.3		Danger if wet			II	415 Y415	15 kg 5 kg	417 1	50 kg
Barium alloys, see **Alkaline earth metal alloys, n.o.s.**											
Barium alloys, pyrophoric	1854	4.2			US 30			Forbidden		Forbidden	
Barium azide, dry or wetted with less than 50% water, by mass	0224	1.1A	6.1					Forbidden		Forbidden	
Barium azide, wetted with not less than 50% water, by mass	1571	4.1	6.1	Solid flammable & Poison	BE 3		I	Forbidden		416	0.5 kg
Barium binoxide, see **Barium peroxide**											
Barium bromate	2719	5.1	6.1	Oxidizer & Poison			II	508 Y508	5 kg 1 kg	511	25 kg
Barium chlorate	1445	5.1	6.1	Oxidizer & Poison			II	509 Y509	5 kg 1 kg	512	25 kg
Barium compounds, n.o.s.	1564	6.1		Poison ~~(Cr. I & II)~~ ~~Keep away from food (Cr. III)~~		A3 ~~A5~~ A82	~~I~~ II III	~~606~~ 613 Y613 619 Y619	~~5 kg~~ 25 kg 1 kg 100 kg 10 kg	~~607~~ 615 619	~~50 kg~~ 100 kg 200 kg
Barium cyanide	1565	6.1		Poison	US 1		I	606	5 kg	607	50 kg
Barium dioxide, see **Barium peroxide**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Barium hypochlorite with more than 22% available chlorine	2741	5.1	6.1	Oxidizer & Poison			II	509 Y509	5 kg 1 kg	512	25 kg
Barium nitrate	1446	5.1	6.1	Oxidizer & Poison			II	508 Y508	5 kg 1 kg	511	25 kg
A **Barium oxide**	1884	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Barium perchlorate	1447	5.1	6.1	Oxidizer & Poison			II	508 Y508	5 kg 1 kg	511	25 kg
Barium permanganate	1448	5.1	6.1	Oxidizer & Poison			II	508 Y508	5 kg 1 kg	511	25 kg
Barium peroxide	1449	5.1	6.1	Oxidizer & Poison			II	509 Y509	5 kg 1 kg	512	25 kg
Barium selenate, see **Selenates**											
Barium selenite, see **Selenites**											
Barium superoxide, see **Barium peroxide**											
10 → **Batteries, dry, containing potassium hydroxide solid**, electric storage †	3028	8		Corrosive			III	802	25 kg G	802	230 kg G
Batteries, lithium type, see **Lithium batteries**, etc.											
Batteries, wet, filled with acid, electric storage †	2794	8		Corrosive			III	800	25 kg G	800	No limit
Batteries, wet, filled with alkali, electric storage †	2795	8		Corrosive			III	800	25 kg G	800	No limit
Batteries, wet, non-spillable, *electric storage*	2800	8		Corrosive		A48 A67	III	806	No limit	806	No limit
Battery fluid, acid	2796	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Battery fluid, alkali	2797	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
A **Battery-powered equipment** (wet battery)	3171	9		Miscellaneous		A48 A21 A67 A87		901	No limit	901	No limit
A **Battery-powered vehicle** (wet battery)	3171	9		Miscellaneous		A48 A21 A67 A87		901	No limit	901	No limit
Benzal chloride, see **Benzylidene chloride**											
11 → **Benzene**	1114	3		Liquid flammable	US 1		II	305 Y305	5 L 1 L	307	60 L
Benzene diazonium chloride (dry)	Forbidden										
Benzene diazonium nitrate (dry)	Forbidden										

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
1,4-Benzenediol, see **Hydroquinone**											
Benzene phosphorus dichloride, see **Phenyl phosphorus dichloride**											
Benzene phosphorus thiodichloride, see **Phenyl phosphorus thiodichloride**											
Benzenesulphonyl chloride	2225	8		Corrosive	US 1		III	818 Y818	5 L 1 L	820	60 L
Benzenethiol, see **Phenyl mercaptan**											
Benzene triozonide	Forbidden										
Benzidine	1885	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
A **Benzoic derivative pesticides, liquid, flammable, toxic, ~~n.o.s.~~**, flash point less than 23°C	2770	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	1 L 1 L	303 307	30 L 60 L
A **Benzoic derivative pesticides, liquid, toxic, ~~n.o.s.~~**	3004	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away~~ ~~from food~~ ~~(Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Benzoic derivative pesticides, liquid, toxic, flammable, ~~n.o.s.~~**, flash point not less than 23°C	3003	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away~~ ~~from food~~ ~~(Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Benzoic derivative pesticides, solid, toxic, ~~n.o.s.~~**	2769	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away~~ ~~from food~~ ~~(Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Benzol, see **Benzene**											
A Benzolene, see Petroleum ~~spirit~~ distillates, n.o.s.											
Benzonitrile	2224	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Benzoquinone	2587	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Benzosulphochloride, see **Benzenesulphonyl chloride**											
Benzotrichloride	2226	8		Corrosive	US 1		II	808 Y808	1 L 0.5 L	812	30 L
Benzotrifluoride	2338	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Benzoxidiazoles (dry)	Forbidden										
Benzoyl azide	Forbidden										

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Benzoyl chloride	1736	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Benzyl bromide	1737	6.1	8	Poison & Corrosive			II	610 Y610	1 L 0.5 L	612	30 L
Benzyl chloride	1738	6.1	8	Poison & Corrosive			II	610 Y610	1 L 0.5 L	612	30 L
Benzyl chlorocarbonate, see **Benzyl chloroformate**											
Benzyl chloroformate	1739	8		Corrosive		A1	I	Forbidden		809	2.5 L
Benzyl cyanide, see **Phenylacetonitrile, liquid**											
A **Benzyldimethylamine**	2619	8	3	Corrosive & Liquid flammable			II	808 Y808	1 L 0.5 L	812	30 L
Benzylidene chloride	1886	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Benzyl iodide	2653	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
A **Beryllium compounds, n.o.s.**	1566	6.1		Poison ~~(Gr. II)~~ ~~Keep away from food (Gr. III)~~	US 1	A3	II III	613 Y613 619 Y619	25 kg 1 kg 100 kg 10 kg	615 619	100 kg 200 kg
Beryllium nitrate	2464	5.1	6.1	Oxidizer & Poison	US 1		II	508 Y508	5 kg 1 kg	511	25 kg
Beryllium powder	1567	6.1	4.1	Poison & Solid flammable	US 1		II	613 Y613	15 kg 1 kg	615	50 kg
A Beverage extract (concentrate), see Corrosive liquid, n.o.s.											
A ~~**Bifluorides, n.o.s., solid**~~ See Hydrogendifluorides, n.o.s.	~~1740~~	~~8~~		~~Corrosive~~		~~A3~~	~~II~~ ~~III~~	~~815~~ ~~Y815~~ ~~835~~ ~~Y835~~	~~15 kg~~ ~~5 kg~~ ~~25 kg~~ ~~8 kg~~	~~817~~ ~~826~~	~~50 kg~~ ~~100 kg~~
A ~~**Bifluorides, n.o.s., solution**~~	~~1740~~	~~8~~		~~Corrosive~~		~~A3~~	~~II~~ ~~III~~	~~809~~ ~~Y809~~ ~~819~~ ~~Y819~~	~~1 L~~ ~~0.5 L~~ ~~5 L~~ ~~1 L~~	~~813~~ ~~821~~	~~60 L~~ ~~60 L~~
12 →											
Biphenyl triozonide	Forbidden										
A **Bipyridilium pesticides, liquid, flammable, toxic, n.o.s.** flash point less than 23°C	2782	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	1 L 1 L	303 307	30 L 60 L
A **Bipyridilium pesticides, liquid, toxic, n.o.s.**	3016	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A **Bipyridilium pesticides**, liquid, toxic, flammable, n.o.s., flash point not less than 23°C	3015	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~ & Liquid Flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Bipyridilium pesticides**, solid, toxic, ~~n.o.s.~~	2781	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
13→ A **Bisulphites, ~~inorganic~~**, aqueous solutions, n.o.s.	2693	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Black powder, granular or as a meal †	0027	1.1D						Forbidden		Forbidden	
Black powder, compressed †	0028	1.1D						Forbidden		Forbidden	
Black powder in pellets †	0028	1.1D						Forbidden		Forbidden	
Blasting cap assemblies, see **Detonator assemblies, non-electric**, for blasting											
Blasting caps, electric, see **Detonators, electric**, for blasting											
Blasting caps, non-electric, see **Detonators, non-electric**, for blasting											
Blau gas, see **Carbon monoxide and hydrogen mixture**											
A Bleaching powder, see **Calcium hypochlorite mixtures**											
A Bleach liquor, see **Hypochlorite solutions**											
Blue asbestos (crocidolite) †	2212	9				A61		Forbidden		Forbidden	
Bombs with bursting charge †	0034	1.1D						Forbidden		Forbidden	
Bombs with bursting charge †	0033	1.1F						Forbidden		Forbidden	
Bombs with bursting charge †	0035	1.2D						Forbidden		Forbidden	
Bombs with bursting charge †	0291	1.2F						Forbidden		Forbidden	
Bombs, photo-flash †	0038	1.1D						Forbidden		Forbidden	
Bombs, photo-flash †	0037	1.1F						Forbidden		Forbidden	
Bombs, photo-flash †	0039	1.2G						Forbidden		Forbidden	
Bombs, photo-flash †	0299	1.3G						Forbidden		Forbidden	
Bombs, smoke, non-explosive with corrosive liquid, without initiating device	2028	8		Corrosive			II	Forbidden		801	50 kg

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1	2	3	4	5	6	7	8	9	10	11	12
Bombs with flammable liquid with bursting charge †	0399	1.1J						Forbidden		Forbidden	
Bombs with flammable liquid with bursting charge †	0400	1.2J						Forbidden		Forbidden	
Boosters without detonator †	0042	1.1D						Forbidden		Forbidden	
Boosters without detonator †	0283	1.2D						Forbidden		Forbidden	
Boosters with detonator †	0225	1.1B						Forbidden		Forbidden	
Boosters with detonator †	0268	1.2B						Forbidden		Forbidden	
A Borate and chlorate mixtures, see **Chlorate and borate mixtures**											
Borneol	1312	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Boron tribromide	2692	8		Corrosive		A1	I	Forbidden		809	2.5 L
Boron trichloride	1741	2.3	8		US 30	A2		Forbidden		Forbidden	
A **Boron trifluoride**	1008	2.3	8		US 30	A2		Forbidden		Forbidden	
Boron trifluoride acetic acid complex	1742	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Boron trifluoride diethyl etherate	2604	8	3	Corrosive & Liquid flammable			I	807	0.5 L	809	2.5 L
Boron trifluoride dihydrate	2851	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Boron trifluoride dimethyl etherate	2965	4.3	3 8	Danger if wet & Liquid flammable & Corrosive			I	Forbidden		408	1 L
Boron trifluoride propionic acid complex	1743	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
A ~~**Brake fluid, hydraulic**~~	~~1118~~	~~3~~		~~Liquid flammable~~		~~A3~~	~~II~~	~~305~~ ~~Y305~~	~~5 L~~ ~~1 L~~	~~307~~	~~60 L~~
							~~III~~	~~309~~ ~~Y309~~	~~60 L~~ ~~10 L~~	~~310~~	~~220 L~~
Bromates, inorganic, n.o.s.	1450	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
A **Bromates, inorganic, aqueous solutions, n.o.s.†**	3213	5.1		Oxidizer			II	503 Y503	1 L 0.5 L	505	5 L
Bromine	1744	8	6.1	Corrosive & Poison	US 34	A1	I	Forbidden		809	2.5 L
Bromine azide	Forbidden										
Bromine chloride	2901	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Bromine pentafluoride	1745	5.1	6.1 8		US 30	A2		Forbidden		Forbidden	
A **Bromine solution**	1744	8	6.1	Corrosive & Poison	US 34	A1	I	Forbidden		809	2.5 L
Bromine trifluoride	1746	5.1	6.1 8		US 30	A2		Forbidden		Forbidden	
Bromoacetic acid	1938	8		Corrosive			II	815 Y815	15 kg 5 kg	817	50 kg
Bromoacetone	1569	6.1			US 30	A2		Forbidden		Forbidden	
omega-Bromoacetophenone, see **Phenacyl bromide**											
Bromoacetyl bromide	2513	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Bromobenzene	2514	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Bromobenzyl cyanides	1694	6.1		Poison		A1 A29	I	Forbidden		605	30 L
2-Bromobutane	2339	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A **Bromochloromethane**	1887	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
A **1-Bromo-3-chloropropane**	2688	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
4-Bromo-1,2-dinitrobenzene	*Forbidden*										
1-Bromo-2,3-epoxypropane, see **Epibromohydrin**											
Bromoethane, see **Ethyl bromide**											
2-Bromoethyl ethyl ether	2340	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A **Bromoform**	2515	6.1		~~Poison Keep away from food~~	US 1		III	611 Y611	60 L 2 L	618	220 L
Bromomethane, see **Methyl bromide**											
1-Bromo-3-methylbutane	2341	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
A **Bromomethylpropanes**	2342	3		Liquid flammable		~~A3~~	II ~~III~~	305 Y305 ~~309~~ ~~Y309~~	5 L 1 L ~~60 L~~ ~~10 L~~	307 ~~310~~	60 L ~~220 L~~
A **2-Bromo-2-nitropropane-1,3-diol**	3241	6.1		~~Poison Keep away from food~~		A20 ~~A29~~	III	621 Y621	50 kg 5 kg	621	50 kg
2-Bromopentane	2343	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L

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1	2	3	4	5	6	7	8	9	10	11	12
A **1-Bromopropane**	2344	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
3-Bromopropyne	2345	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Bromosilane	Forbidden										
Bromotoluene-alpha, see **Benzyl bromide**											
Bromotrifluoroethylene	2419	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Bromotrifluoromethane	1009	2.2		Gas non-flammable				200	75 kg	200	150 kg
Brown asbestos (amosite, mysorite) †	2212	9				A61		Forbidden		Forbidden	
Brucine	1570	6.1		Poison	US 1	A6	I	606	5 kg	607	50 kg
Bursters, explosive †	0043	1.1D						Forbidden		Forbidden	
Butadienes, inhibited	1010	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Butane	1011	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Butane, butane mixtures and mixtures having similar properties in cartridges each not exceeding 500 grams, see **Receptacles**, etc.											
A **Butanedione**	2346	3		Liquid flammable		~~A3~~	II	305 Y305	5 L 1 L	307	60 L
							~~III~~	~~309~~ ~~Y309~~	~~60 L~~ ~~10 L~~	~~310~~	~~220 L~~
A **Butane mixture**	1011	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Butane-1-thiol, see **Butyl mercaptan**											
1,2,4-Butanetriol trinitrate	Forbidden										
Butan-2-ol, see **Butanols**											
1-Butanol, see **Butanols**											
Butanols	1120	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Butanol, secondary, see **Butanols**											
Butanol, tertiary, see **Butanols**											
Butanone, see **Ethyl methyl ketone**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
2-Butenal, see **Crotonaldehyde, stabilized**											
Butene, see **Butylene**											
But-1-ene-3-one, see **Methyl vinyl ketone**											
1,2-Buteneoxide see **1,2-Butylene oxide, stabilized**											
2-Buten-1-ol, see **Methallyl alcohol**											
tert-Butoxycarbonyl azide	Forbidden										
Butoxyl	2708	3		Liquid *flammable*			III	309 Y309	60 L 10 L	310	220 L
Butter of antimony, see **Antimony trichloride**											
Butter of arsenic, see **Arsenic trichloride**											
Butyl acetate, iso, see **Isobutyl acetate**											
Butyl acetates	1123	3		Liquid *flammable*		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Butyl acetate, secondary, see **Butyl acetates**											
Butyl acid phosphate	1718	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
A **Butyl acrylate**	2348	3		Liquid *flammable*		~~A3~~	~~II~~	~~305~~ ~~Y305~~	~~5 L~~ ~~1 L~~	~~307~~	~~60 L~~
							III	309 Y309	60 L 10 L	310	220 L
Butyl alcohols, see **Butanols**											
A **n-Butylamine**	1125	3	8	Liquid *flammable* & Corrosive			II	305 Y305	1 ~~5~~ L 0.5 L	307	5 ~~60~~ L
N-Butylaniline	2738	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
sec-Butylbenzene, see **Butylbenzenes**											
Butylbenzenes	2709	3		Liquid *flammable*			III	309 Y309	60 L 10 L	310	220 L
n-Butyl bromide	1126	3		Liquid *flammable*			II	305 Y305	5 L 1 L	307	60 L
n-Butyl chloride, see **Chlorobutanes**											

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1	2	3	4	5	6	7	8	9	10	11	12
n-Butyl chloroformate	2743	6.1	8	Poison & Corrosive	US 34		II	609 Y609	1 L 0.5 L	611	30 L
A **tert-Butylcyclohexyl chloroformate**	2747	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Butylene	1012	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
1,2-Butylene oxide, stabilized	3022	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Butyl ethers, see **Dibutyl ethers**											
Butyl ethyl ether, see **Ethyl butyl ether**											
n-Butyl formate	1128	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
tert-Butyl hydroperoxide, more than 90% with water	Forbidden										
14→ **N,n-Butyl imidazole**	2690	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
A N-n-Butyl iminazole, see **N,n-Butyl imidazole**											
A **n-Butyl isocyanate**	2485	~~6.1~~ 3	~~3~~ 6.1	Liquid flammable ~~& Poison~~	US 34	A1	II	Forbidden		~~605~~ 308	~~30~~ 60 L
KA **tert-Butyl isocyanate**	2484	~~6.1~~ 3	~~3~~ 6.1	~~Liquid flammable & Poison~~			~~I~~	Forbidden		Forbidden ~~304~~	~~30 L~~
Butyl lithium, see **Lithium alkyls**											
Butyl mercaptan	2347	3		Liquid flammable			II	306 Y306	5 L 1 L	308	60 L
n-Butyl methacrylate	2227	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Butyl methyl ether	2350	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Butyl nitrites	2351	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
tert-Butyl peroxyacetate, more than 76% in solution	Forbidden										
tert-Butyl peroxyisobutyrate, more than 77% in solution	Forbidden										
A ~~Butylphenols, liquid~~, see Alkylphenols, liquid, n.o.s.	~~2228~~	~~6.1~~		~~Keep away from food~~			III	~~611~~ ~~Y611~~	~~60 L~~ ~~2 L~~	~~618~~	~~220 L~~
A ~~Butylphenols, solid~~, see Alkylphenols, solid, n.o.s.	~~2229~~	~~6.1~~		~~Keep away from food~~			III	~~619~~ ~~Y619~~	~~100 kg~~ ~~10 kg~~	~~619~~	~~200 kg~~

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Butyl phosphoric acid, see **Butyl acid phosphate**											
Butyl propionate	1914	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
p-tert-Butyl-toluene, see **Butyltoluenes**											
A **Butyltoluenes**	2667	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
A **Butyltrichlorosilane**	1747	8	3	Corrosive & Liquid flammable		A1	II	Forbidden		813	30 L
5-tert-Butyl-2,4,6-trinitro-m-xylene	2956	4.1						Forbidden		Forbidden	
Butyl vinyl ether, inhibited	2352	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
But-1-yne, see **Ethyl acetylene**											
A **1,4-Butynediol**	2716	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
2-Butyne-1,4,-diol, see **1,4-Butynediol**											
Butyraldehyde	1129	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Butyraldoxime	2840	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Butyric acid	2820	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Butyric anhydride	2739	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Butyrone, see **Dipropyl ketone**											
Butyronitrile	2411	3	6.1	Liquid flammable & Poison			II	305 Y305	1 L 1 L	307	60 L
Butyroyl chloride, see **Butyryl chloride**											
Butyryl chloride	2353	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	5 L
Cable cutters, explosive, see **Cutters, cable, explosive**											
Cacodylic acid	1572	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
A **Cadmium compounds**	2570	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~	US 1	A3 A5	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Caesium	1407	4.3		Danger if wet			I	Forbidden		412	15 kg
Caesium hydroxide	2682	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Caesium hydroxide solution	2681	8		Corrosive		A3	II	809 Y809	1 L 0.5 L	813	30 L
							III	819 Y819	5 L 1 L	821	60 L
Caesium nitrate	1451	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Caffeine, see **Alkaloids**, etc.											
Cajeputene, see **Dipentene**											
Calcium	1401	4.3		Danger if wet			II	415 Y415	15 kg 5 kg	417	50 kg
Calcium alloys, see **Alkaline earth metal alloys, n.o.s.**											
Calcium alloys, pyrophoric	1855	4.2			US 30			Forbidden		Forbidden	
Calcium arsenate	1573	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Calcium arsenate and calcium arsenite mixtures, solid	1574	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Calcium bisulphite solutions, see **Bisulphites, ~~inorganic~~, aqueous solutions, n.o.s.**							I	Forbidden		412	15kg
Calcium carbide	1402	4.3		Danger if wet	US 1		II	416 Y416	15 kg 5 kg	418	50 kg
Calcium chlorate	1452	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Calcium chlorate, aqueous solution	2429	5.1		Oxidizer			II	501 Y501	1 L 0.5 L	506	5 L
Calcium chlorite	1453	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Calcium cyanamide with more than 0.1% of calcium carbide	1403	4.3		Danger if wet		A71	III	419 Y419	25 kg 10 kg	420	100 kg
Calcium cyanide	1575	6.1		Poison	US 1		I	606	5 kg	607	50 kg
Calcium dithionite	1923	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
Calcium hydride	1404	4.3		Danger if wet			I	Forbidden		412	15 kg
Calcium hydrosulphite, ~~see Calcium dithionite~~	1923	4.2		Spontaneous combustion			II	416	15Kg	418	50 Kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Calcium hypochlorite, dry	1748	5.1		Oxidizer	US 1		II	509 Y509	5 kg 2.5 kg	512	25 kg
Calcium hypochlorite, hydrated with not less than 5.5% but not more than 10% water	2880	5.1		Oxidizer	US 1		II	508 Y508	5 kg 2.5 kg	511	25 kg
Calcium hypochlorite, hydrated mixtures with not less than 5.5% but not more than 10% water	2880	5.1		Oxidizer	US 1		II	508 Y508	5 kg 2.5 kg	511	25 kg
Calcium hypochlorite mixtures, dry with more than 39% available chlorine (8.8% available oxygen)	1748	5.1		Oxidizer	US 1		II	509 Y509	5 kg 2.5 kg	512	25 kg
Calcium hypochlorite mixtures, dry with more than 10% but not more than 39% available chlorine	2208	5.1		Oxidizer	US 1		III	517 Y517	25 kg 10 kg	519	100 kg
Calcium manganese silicon	2844	4.3		Danger if wet			III	419 Y419	25 kg 10 kg	420	100 kg
Calcium nitrate	1454	5.1		Oxidizer		A83	III	516 Y516	25 kg 10 kg	518	100 kg
Calcium oxide	1910	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Calcium perchlorate	1455	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Calcium permanganate	1456	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Calcium peroxide	1457	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Calcium phosphide	1360	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Calcium, pyrophoric	1855	4.2			US 30			Forbidden		Forbidden	
Calcium resinate	1313	4.1		Solid flammable			III	422 Y422	25 kg 10 kg	421	100 kg
Calcium resinate, fused	1314	4.1		Solid flammable			III	422 Y422	25 kg 10 kg	421	100 kg
Calcium selenate, see ***Selenates***											
Calcium silicide	1405	4.3		Danger if wet		A3	II III	415 Y415 419 Y419	15 kg 5 kg 25 kg 10 kg	417 420	50 kg 100 kg
Calcium superoxide, see **Calcium peroxide**											
Calor gas, see **Hydrocarbon gas mixtures**, etc.											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Camphanone, see **Camphor**, synthetic											
Camphor, synthetic	2717	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Camphor oil	1130	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Camping gas, see **Receptacles, small**, etc.											
Candles, gas, see **Lighters** (cigarettes), etc.											
Cannon primers, see **Primers, tubular**											
Caproic acid	2829	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Caps, blasting, see **Detonators**											
Caps, primer, see **Primers, cap type**											
Caps, toy †, see **Fireworks** (UN 0333, 0336, 0337)											
Carbamate pesticides†, **liquid, flammable, toxic**, ~~n.o.s.~~ flash point less than 23°C	2758	3	6.1	Liquid flammable & Poison		~~A2~~ ~~A68~~	I II	Forbidden 305 Y305	1 L 1 L	303 307	30 L 60 L
Carbamate pesticides†, **liquid, toxic**, ~~n.o.s.~~	2992	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Carbamate pesticides†, **liquid, toxic, flammable**, ~~n.o.s.~~, flash point not less than 23°C	2991	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Carbamate pesticides†, **solid, toxic**, ~~n.o.s.~~	2757	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Carbolic acid, see **Phenol, solid** or **Phenol, molten**											
Carbolic acid solutions†, see **Phenol solutions**†											
Carbon, animal or vegetable origin	1361	4.2				A51		Forbidden		Forbidden	
Carbon, activated	1362	4.2		Spontaneous combustion		A51	III	426	0.5 kg	426	0.5 kg
Carbon bisulphide, see **Carbon disulphide**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Carbon black (animal or vegetable origin), see **Carbon**											
Carbon dioxide	1013	2.2		Gas non-flammable				200	75 kg	200	150 kg
A ~~**Carbon dioxide and ethylene oxide mixture**~~ ~~with more than 6% ethylene~~ See Ethylene oxide and	~~1041~~	~~2.3~~	~~2.1~~	~~Gas toxic & Gas flammable~~	~~US 30~~	~~A1~~		~~Forbidden~~		~~200~~	~~25 kg~~
= ~~Carbon dioxide and ethylene oxide mixture with not more than 6% ethylene oxide~~ , etc.	~~1952~~	~~2.2~~		~~Gas non-flammable~~				~~200~~	~~75 kg~~	~~200~~	~~150 kg~~
A **Carbon dioxide and nitrous oxide mixture**	1015	2.2		Gas non-flammable				200	75 kg	200	150 kg
A **Carbon dioxide and oxygen mixture**	1014	2.2		Gas non-flammable				200	75 kg	200	150 kg
Carbon dioxide, refrigerated liquid	2187	2.2		Gas non-flammable				202	50 kg	202	500 kg
Carbon dioxide, solid	1845	9		Miscellaneous		A48	III	904	200 kg	904	200 kg
Carbon disulphide	1131	3	6.1					Forbidden		Forbidden	
Carbonic anhydride, see **Carbon dioxide, etc.**											
Carbon monoxide	1016	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		Forbidden		200	25 kg
Carbon monoxide and hydrogen mixture	2600	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Carbon oxysulphide, see **Carbonyl sulphide**											
A **Carbon tetrabromide**	2516	6.1		~~Keep away from food~~ Poison			III	619 Y619	100 kg 10 kg	619	200 kg
Carbon tetrachloride	1846	6.1		Poison	US 1		II	610 Y610	5 L 1 L	612	60 L
Carbonyl chloride, see **Phosgene**											
A **Carbonyl fluoride**	2417	2.3	8		US 30	A2		Forbidden		Forbidden	
Carbonyl sulphide	2204	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		Forbidden		200	25 kg
Cartridge cases, empty primed, see **Cases, cartridge, empty, with primer**											
Cartridges, actuating, for aircraft ejector seat catapult, fire extinguisher, canopy removal or apparatus, † see **Cartridges, power device**											

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Cartridges, power device †	0276	1.4C		Explosive 1.4				Forbidden		134	75 kg
Cartridges, power device †	0323	1.4S		Explosive 1.4				134	25 kg	134	100 kg
Cartridges, signal †	0054	1.3G		Explosive				Forbidden		135	75 kg
Cartridges, signal †	0312	1.4G		Explosive 1.4				Forbidden		135	75 kg
Cartridges, signal †	0405	1.4S		Explosive 1.4				135	25 kg	135	100 kg
Cartridges, small arms †, ~~see Cartridges for weapons, inert projectile (UN 0012, 0328, 0339, 0417)~~	See "Additions of Nos. 1 - 7 PSNs as result of WP/39"										
Cartridges, small arms, blank †, ~~see Cartridges for weapons, blank (UN 0014, 0327, 0338)~~											
Cartridges, starter, jet engine, see **Cartridges, power device**											
Cases, cartridge, empty, with primer †	0379	1.4C		Explosive 1.4				Forbidden		136	75 kg
Cases, cartridge, empty, with primer †	0055	1.4S		Explosive 1.4				136	25 kg	136	100 kg
Cases, combustible, empty, without primer †	0447	1.3C						Forbidden		Forbidden	
Cases, combustible, empty, without primer †	0446	1.4C		Explosive 1.4				Forbidden		136	75 kg
Casinghead gasoline, see **Natural gasoline**											
Castor beans	2969	9		Miscellaneous		A31 A48	II	906	No limit	906	No limit
Castor flake	2969	9		Miscellaneous		A31 A48	II	906	No limit	906	No limit
Castor meal	2969	9		Miscellaneous		A31 A48	II	906	No limit	906	No limit
Castor pomace	2969	9		Miscellaneous		A31 A48	II	906	No limit	906	No limit
Caustic alkali liquid, n.o.s.*	1719	8		Corrosive		A3	I	807	0.5 L	809	2.5 L
							II	809 Y809	1 L 0.5 L	813	30 L
							III	819 Y819	5 L 1 L	821	60 L
Caustic antimony, see **Antimony trichloride**											
Caustic arsenic chloride, see **Arsenic trichloride**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing Instruction	Max. net quantity per package	Packing Instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Caustic oil of arsenic, see **Arsenic trichloride**											
Caustic potash, see **Potassium hydroxide solution**											
Caustic soda liquor, see **Sodium hydroxide solution**											
Cellosolve, see **Ethylene glycol monoethyl ether**											
Cellosolve acetate, see **Ethylene glycol monoethyl ether acetate**											
Celluloid, in blocks, rods, rolls, sheets, tubes, etc. (except scrap)	2000	4.1		Solid flammable		A3 A48	III	407	25 kg	407	100 kg
Celluloid, scrap	2002	4.2			US 30	A2 A3		Forbidden		Forbidden	
Cement, see **Adhesives** containing flammable liquid											
Cerium, slabs, ingots or rods	1333	4.1		Solid flammable			II	415 Y415	15 kg 5 kg	417	50 kg
Cerium, turnings or gritty powder	3078	4.3		Danger if wet			II	415 Y415	15 kg 5 kg	417	50 kg
Cer mischmetall, see **Ferrocerium**											
Cesium ~~see Caesium~~	1407	4.3		Danger if wet			I	Forbidden		412	15kg
Charcoal, activated, see **Carbon, activated**											
Charcoal, non-activated, see **Carbon**											
Charcoal screenings, wet	Forbidden										
Charcoal, wet	Forbidden										
Charges, bursting, plastics bonded	0457	1.1D						Forbidden		Forbidden	
Charges, bursting, plastics bonded	0458	1.2D						Forbidden		Forbidden	
Charges, bursting, plastics bonded	0459	1.4D		Explosive 1.4				Forbidden		171	75 kg
Charges, bursting, plastics bonded	0460	1.4S		Explosive 1.4				171	25 kg	171	100 kg
Charges, demolition †	0048	1.1D						Forbidden		Forbidden	
Charges, depth †	0056	1.1D						Forbidden		Forbidden	
Charges, expelling, explosive, for fire extinguishers, see **Cartridges, power device**											

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Charges, explosive, commercial without detonator †	0442	1.1D						Forbidden		Forbidden	
Charges, explosive, commercial without detonator †	0443	1.2D						Forbidden		Forbidden	
Charges, explosive, commercial without detonator †	0444	1.4D		Explosive 1.4				Forbidden		169	75 kg
Charges, explosive, commercial without detonator †	0445	1.4S		Explosive 1.4				169	25 kg	169	100 kg
Charges, propelling †	0271	1.1C						Forbidden		Forbidden	
Charges, propelling †	0415	1.2C						Forbidden		Forbidden	
Charges, propelling †	0272	1.3C						Forbidden		Forbidden	
Charges, propelling †	0491	1.4C		Explosive 1.4				Forbidden		172	75 kg
Charges, *propelling, for cannon* †	0279	1.1C						Forbidden		Forbidden	
Charges, propelling, for cannon †	0414	1.2C						Forbidden		Forbidden	
Charges, propelling, for cannon †	0242	1.3C						Forbidden		Forbidden	
Charges, shaped, commercial without detonator †	0059	1.1D			AU 9 US 6 US 28	A2		Forbidden		Forbidden	
Charges, shaped, commercial without detonator †	0439	1.2D						Forbidden		Forbidden	
Charges, shaped, commercial without detonator †	0440	1.4D		Explosive 1.4	US.6 US 28	A1		Forbidden		140	75 kg
Charges, shaped, commercial *without detonator* †	0441	1.4S		Explosive 1.4	US 6			140	25 kg	140	100 kg
Charges, shaped, flexible, linear †	0288	1.1D						Forbidden		Forbidden	
Charges, shaped, flexible, linear †	0237	1.4D		Explosive 1.4				Forbidden		141	75 kg
Charges, supplementary, explosive †	0060	1.1D						Forbidden		Forbidden	
Chemical kit	-					A44		915 Y915	10 kg 1 kg	915	10 kg
Chemical sample, toxic, liquid or solid	-	6.1				A10		FORBIDDEN		FORBIDDEN	
Chile saltpetre, see **Sodium nitrate**											
Chloral, anhydrous, inhibited	2075	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Chlorate and borate mixtures	1458	5.1		Oxidizer		A3	II	509 Y509	5 kg 2.5 kg	512	25 kg
							III	517 Y517	25 kg 10 kg	519	100 kg
Chlorate and magnesium chloride mixtures	1459	5.1		Oxidizer		A3	II	509 Y509	5 kg 2.5 kg	512	25 kg
							III	517 Y517	25 kg 10 kg	519	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Chlorate of potash, see **Potassium chlorate**											
Chlorate of soda, see **Sodium chlorate**											
Chlorates, inorganic, n.o.s.	1461	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Chlorates, inorganic, aqueous solutions, n.o.s.	3210	5.1		Oxidizer			II	501 Y501	1 L 0.5 L	506	5 L
Chloric acid, aqueous solution with not more than 10% chloric acid	2626	5.1			US 30	A2		Forbidden		Forbidden	
Chloride of phosphorus, see **Phosphorus trichloride**											
Chloride of sulphur, see **Sulphur chlorides**											
Chlorinated lime, see **Calcium hypochlorite**, etc.											
Chlorine	1017	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	
Chlorine azide	Forbidden										
Chlorine dioxide	Forbidden										
Chlorine pentafluoride	2548	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	
Chlorine trifluoride	1749	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	
Chlorites, inorganic, n.o.s.	1462	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Chloroacetaldehyde, see 2-Chloroethanal	~~3232~~	~~6.1~~		~~Poison~~			~~II~~	~~609~~ ~~Y609~~	~~5 L~~ ~~1 L~~	~~611~~	~~60 L~~
Chloroacetic acid, molten	3250	6.1	8					Forbidden		Forbidden	
Chloroacetic acid, solid	1751	6.1	8	Poison & Corrosive			II	614 Y614	15 kg 1 kg	616	50 kg
Chloroacetic acid solution	1750	6.1	8	Poison & Corrosive	US 34		II	610 Y610	1 L 0.5 L	612	30 L
Chloroacetone, stabilized	1695	6.1			US 30	A2		Forbidden		Forbidden	
Chloroacetone (unstabilized)	Forbidden										
Chloroacetonitrile	2668	6.1	3	Poison & Liquid flammable	US 34	A1	II	Forbidden		611	60 L
Chloroacetophenone, liquid	1697	6.1		Poison	US 34	A1	II	Forbidden		612	60 L
Chloroacetophenone, solid	1697	6.1		Poison		A1	II	Forbidden		616	100 kg
Chloroacetyl chloride	1752	6.1	8		US 30	A2		Forbidden		Forbidden	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Chloroanilines, liquid	2019	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Chloroanilines, solid	2018	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
A **Chloroanisidines**	2233	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Chlorobenzene	1134	3		Liquid flammable	US 1		III	309 Y309	60 L 10 L	310	220 L
Chlorobenzol, see **Chlorobenzene**											
Chlorobenzotrifluorides	2234	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
A **Chlorobenzylchlorides**	2235	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Chlorobromomethane, see **Bromochloromethane**											
1-Chloro-3-bromopropane, see **1-Bromo-3-chloropropane**											
1-Chlorobutane, see **Chlorobutanes**											
2-Chlorobutane, see **Chlorobutanes**											
Chlorobutanes	1127	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Chlorocresols, liquid	2669	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Chlorocresols, solid	2669	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Chlorodifluorobromomethane	1974	2.2		Gas non-flammable				200	75 kg	200	150 kg
1-Chloro-1,1-difluoroethane A ~~Chlorodifluoroethanes~~	2517	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Chlorodifluoromethane	1018	2.2		Gas non-flammable				200	75 kg	200	150 kg
Chlorodifluoromethane and *chloropentafluoroethane* mixture with fixed boiling point, with approximately 49% chlorodifluoromethane	1973	2.2		Gas non-flammable				200	75 kg	200	150 kg
3-Chloro-1,2-dihydroxypropane, see **Glycerol alpha-monochlorohydrin**											
Chlorodimethyl ether, see **Methyl chloromethyl ether**											
Chlorodinitrobenzenes	1577	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Chlorodinitrobenzol, see **Chlorodinitrobenzenes**											
Chloroethane, see **Ethyl chloride**											
Chloroethane nitrile, see **Chloroacetonitrile**											
2-Chloroethanol, see **Ethylene chlorohydrin**											
Chloroform	1888	6.1		Poison	US 1		I II	610 Y610	60 L 2 L	612	220 60 L
Chloroformates, n.o.s. ~~flash point not less than 23°C~~	2742	6.1	8	Poison & Corrosive			II	609 Y609	1 L 0.5 L	611	30 L
Chloromethane, see **Methyl chloride**											
1-Chloro-3-methylbutane, see **Amyl chloride**											
2-Chloro-2-methylbutane, see **Amyl chloride**											
Chloromethyl chloroformate	2745	6.1	8	Poison & Corrosive			II	609 Y609	1 L 0.5 L	611	30 L
Chloromethyl cyanide, see **Chloroacetonitrile**											
Chloromethyl ethyl ether	2354	3	6.1	Liquid flammable & Poison			II	305 Y305	1 L 1 L	307	60 L
Chloromethyl methyl ether, see **Methyl chloromethyl ether**											
3-Chloro-4-methylphenyl isocyanate	2236	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
1-Chloro-2-methylpropane, see **Chlorobutanes**											
2-Chloro-2-methylpropane, see **Chlorobutanes**											
3-Chloro-2-methylprop-1-ene, see **Methylallyl chloride**											
Chloronitroanilines	2237	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Chloronitrobenzenes, liquid	1578	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Chloronitrobenzenes, solid	1578	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Chloronitrotoluenes, liquid	2433	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Chloronitrotoluenes, solid	2433	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Chloropentafluoroethane	1020	2.2		Gas non-flammable				200	75 kg	200	150 kg
Chlorophenolates, liquid	2904	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Chlorophenolates, solid	2905	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Chlorophenols, liquid	2021	6.1		~~Poison Keep away from food~~	US 1		III	611 Y611	60 L 2 L	618	220 L
Chlorophenols, solid	2020	6.1		~~Poison Keep away from food~~	US 1	A25	III	619 Y619	100 kg 10 kg	619	200 kg
Chlorophenyltrichlorosilane	1753	8		Corrosive		A1	II	Forbidden		813	30 L
Chloropicrin	1580	6.1						Forbidden		Forbidden	
Chloropicrin and methyl bromide mixture[f]	1581	2.3			US 30	A2		Forbidden		Forbidden	
Chloropicrin and methyl chloride mixture[f]	1582	2.3			US 30	A2		Forbidden		Forbidden	
Chloropicrin mixture[f], n.o.s.	1583	6.1			US 30	A2 A3		Forbidden		Forbidden	
Chloroplatinic acid, solid	2507	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Chloroprene, inhibited	1991	3	6.1	Liquid flammable & Poison			I	Forbidden		303	30 L
Chloroprene, uninhibited	Forbidden										
2-Chloropropane	2356	3		Liquid flammable			I	306	1 L	304	30 L
3-Chloro-propanediol-1,2, see Glycerol alpha-monochlorohydrin											
~~Chloropropanol, see Propylene chlorohydrin~~											
~~2-Chloro-1-propanol, see Propylene chlorohydrin~~											
3-Chloropropanol-1	2849	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
2-Chloropropene	2456	3		Liquid flammable			I	306	1 L	304	30 L
3-Chloropropene, see Allyl chloride											
3-Chloroprop-1-ene, see Allyl chloride											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A	2 ~~alpha~~-Chloropropionic acid	2511	8	Corrosive			III	818 Y818	5 L 1 L	820	60 L
	2-Chloropyridine	2822	6.1	Poison			II	609 Y609	5 L 1 L	611	60 L
A	Chlorosilanes, corrosive, n.o.s.	2987	8	Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
A	Chlorosilanes, flammable, corrosive, n.o.s., ~~flash point less than 23°C~~	2985	3	8	Liquid flammable & Corrosive		II	305 Y305	1 L 0.5 L	307	5 L
A	Chlorosilanes, corrosive, flammable, n.o.s., ~~flash point not less than 23°C~~	2986	8	3	Corrosive & Liquid flammable		II	808 Y808	1 L 0.5 L	812	30 L
A	Chlorosilanes, water-reactive, flammable, corrosive, n.o.s., ~~which in contact with water emit flammable gas~~	2988	4.3	3 8	Danger if wet & Liquid flammable & Corrosive		I	Forbidden		408	1 L
K	**Chlorosulphonic acid** (with or without sulphur trioxide)	1754	8	~~Corrosive~~			~~I~~	Forbidden ~~807~~	~~0.5 L~~	Forbidden ~~808~~	~~2.5 L~~
	1-Chloro-1,2,2,2-tetrafluoroethane	1021	2.2	Gas non-flammable				200	75 kg	200	150 kg
	Chlorotoluenes	2238	3	Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
A	**4-Chloro-o-toluidine hydrochloride**	1579	6.1	Poison ~~Keep away from food~~	US 1		III	619 Y619	100 kg 10 kg	619	200 kg
A	**Chlorotoluidines, liquid**	2239	6.1	Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
A	**Chlorotoluidines, solid**	2239	6.1	Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
	1-Chloro-2,2,2-trifluoroethane	1983	2.2	Gas non-flammable				200	75 kg	200	150 kg
	Chlorotrifluoroethylene, see **Trifluorochloroethylene, inhibited**										
	Chlorotrifluoromethane	1022	2.2	Gas non-flammable				200	75 kg	200	150 kg
	Chlorotrifluoromethane and trifluoromethane azeotropic mixture with approximately 60% chlorotrifluoromethane	2599	2.2	Gas non-flammable				200	75 kg	200	150 kg
	Chromic acid, solid, see **Chromium trioxide, anhydrous**										
	Chromic acid solution	1755	8	Corrosive		A3	II	808 Y808	1 L 0.5 L	812	30 L
							III	818 Y818	5 L 1 L	820	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Chromic anhydride, see **Chromium trioxide, anhydrous**											
Chromic fluoride, solid	1756	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Chromic fluoride solution	1757	8		Corrosive		A3	II	808 Y808	1 L 0.5 L	812	30 L
							III	818 Y818	5 L 1 L	820	60 L
Chromic trioxide, see **Chromium trioxide, anhydrous**											
20→ ***Chromium nitrate***	2720	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Chromium oxychloride	1758	8		Corrosive			I	807	0.5 L	809	2.5 L
Chromium trioxide, anhydrous	1463	5.1	8	Oxidizer & Corrosive	US 1		II	508 Y508	5 kg 2.5 kg	511	25 kg
Chromosulphuric acid	2240	8		Corrosive			I	807	0.5 L	809	2.5 L
Chromyl chloride, see **Chromium oxychloride**											
Chrysotile, see **White asbestos**, etc.											
Cigar and cigarette lighter fluid, see **Flammable liquid, n.o.s.**											
Cigar and cigarette lighters, charged with fuel, see **Lighters** (cigarettes), etc.											
Cinene, see **Dipentene**											
Cinnamene, see **Styrene monomer, inhibited**											
Cinnamol, see **Styrene monomer, inhibited**											
Cleaning fluid or liquid, see **Flammable liquid**, etc.											
21→ Coal briquettes, hot	Forbidden										
Coal gas †	1023	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		Forbidden		200	25 kg
A Coal tar, crude and solvent, see ~~Naphtha~~ Petroleum products, n.o.s.											
A **Coal tar distillates, flammable**	1136	3		Liquid flammable		A3	~~I~~	~~303~~	~~1 L~~	~~303~~	~~30 L~~
							II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Coal tar dye, corrosive, liquid, n.o.s., see ~~Dyes, n.o.s. or~~ Dye intermediates, ~~n.o.s. corrosive~~ Liquid, corrosive, n.o.s. OR Dye, liquid, corrosive, n.o.s.											
Coal tar oil, see **Coal tar distillates**, etc.											
Coating solution †	1139	3		Liquid flammable		A3 A7	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Cobalt catalyst, see **Metal, catalyst**, etc.											
Cobalt naphthenates, powder	2001	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Cobalt resinate, precipitated	1318	4.1		Solid flammable			III	422 Y422	25 kg 10 kg	421	100 kg
Coir, see **Fibres**, etc. (UN 1373)											
Coke, hot	Forbidden										
Collodion cottons, see **Nitrocellulose**											
Cologne spirits, see **Perfumery products** with flammable solvents											
Components, explosive train, n.o.s.* †	0461	1.1B						Forbidden		Forbidden	
Components, explosive train, n.o.s.* †	0382	1.2B						Forbidden		Forbidden	
Components, explosive train, n.o.s.* †	0383	1.4B		Explosive 1.4	JP 18	A62		Forbidden		124	75 kg
Components, explosive train, n.o.s.* †	0384	1.4S		Explosive 1.4	JP 18	A62		124	25 kg	124	100 kg
Composition B, see **Hexolite**, etc.											
Compound, anti-freeze liquid, see **Flammable liquid, n.o.s.**											
Compound, cleaning liquid, corrosive, see **Corrosive liquid, n.o.s.**											
Compound, cleaning liquid, flammable, see **Flammable liquid, n.o.s.**											
Compound, enamel, see **Paint**, etc.											
Compressed gas, n.o.s.*	1956	2.2		Gas non-flammable				200	75 kg	200	150 kg
Compressed gas and hexaethyl tetraphosphate mixtures, see **Hexaethyl tetraphosphate and compressed gas mixtures**											

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1	2	3	4	5	6	7	8	9	10	11	12
~~Compressed gas and tetraethyl dithiopyrophosphate mixtures, see Tetraethyl dithiopyrophosphate and gases, mixtures, etc.~~											
~~Compressed gas and tetraethyl pyrophosphate mixtures, see Tetraethyl pyrophosphate and compressed gas mixtures.~~											
Compressed gas, flammable, n.o.s.*	1954	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Compressed gas, oxidizing, n.o.s.*	3156	2.2	5.1	Gas non-flammable & Oxidizer				200	75 kg	200	150 kg
Compressed gas, toxic, n.o.s.*	1955	2.3			US 30	A2		Forbidden		Forbidden	
Compressed gas, toxic, flammable n.o.s.*	1953	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Contrivances, water-activated* with burster, expelling charge or propelling charge †	0248	1.2L						Forbidden		Forbidden	
Contrivances, water-activated* with burster, expelling charge or propelling charge †	0249	1.3L						Forbidden		Forbidden	
Copper acetoarsenite	1585	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Copper acetylide	Forbidden										
Copper amine azide	Forbidden										
Copper arsenite	1586	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Copper based pesticides, liquid, flammable, toxic, n.o.s.* flash point less than 23°C	2776	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L
Copper based pesticides, liquid, toxic, n.o.s.*	3010	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Copper based pesticides, liquid, toxic, flammable, n.o.s.* flash point not less than 23°C	3009	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Copper based pesticides, solid, toxic, n.o.s.*	2775	6.1		Poison ~~(Gr. I & II)~~ Keep away ~~from food~~ ~~(Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Consumer commodity, containing flammable aerosol and/or non-flammable aerosol and/or flammable liquid and/or toxic substance. †	—	9		Miscellaneous				910	25 kg G	910	25 kg G

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Copper chlorate	2721	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Copper chloride	2802	8		Corrosive	US 1		III	822 Y822	25 kg 5 kg	823	100 kg
Copper cyanide	1587	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Copper orthoarsenite, see **Copper arsenite**											
Copper selenate, see **Selenates**											
Copper selenite, see **Selenites**											
Copper tetramine nitrate	Forbidden										
Copra †	1363	4.2			US 30	A2		Forbidden		Forbidden	
Cord, detonating, flexible †	0065	1.1D			AU 9 US 28	A2		Forbidden		Forbidden	
Cord, detonating, flexible †	0289	1.4D		Explosive 1.4	US 28	A1		Forbidden		144	75 kg
Cord, detonating, metal clad †	0290	1.1D						Forbidden		Forbidden	
Cord, detonating, metal clad †	0102	1.2D						Forbidden		Forbidden	
Cord, detonating, mild effect, metal clad	0104	1.4D		Explosive 1.4				Forbidden		145	75 kg
Cordeau detonant fuse, see **Cord, detonating**, etc.											
Cord, igniter †	0066	1.4G		Explosive 1.4	US 28	A1		Forbidden		146	75 kg
Cordite, see **Powder, smokeless**											
Corrosive battery fluid, see **Battery fluid, acid** or **Battery fluid, alkali**											
Corrosive liquid, n.o.s.*	1760	8		Corrosive		A3	I II III	807 808 Y808 818 Y818	0.5 L 1 L 0.5 L 5 L 1 L	809 812 820	2.5 L 30 L 60 L
Corrosive liquid, flammable, n.o.s.*	2920	8	3	Corrosive & Liquid flammable		~~A60~~	I II	807 808 Y808	0.5 L 1 L 0.5 L	809 812	2.5 L 30 L
Corrosive liquid, oxidizing, n.o.s.*	3093	8	5.1	Corrosive & Oxidizer			I II	Forbidden 809 Y809	 1 L 0.5 L	809 813	2.5 L 30 L
Corrosive liquid, ~~poisonous~~ toxic, n.o.s.*	2922	8	6.1	Corrosive & Poison	JP 19	A3 A99	I II III	807 808 Y808 818 Y818	0.5 L 1 L 0.5 L 5 L 1 L	809 812 820	2.5 L 30 L 60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Corrosive liquid, water-reactive, n.o.s.*	3094	8	4.3	Corrosive & Danger if wet			I II	Forbidden 809	 1 L	809 813	1 L 5 L
Corrosive solid, n.o.s.*	1759	8		Corrosive		A3	I II III 	810 814 Y814 822 Y822	1 kg 15 kg 5 kg 25 kg 5 kg	811 816 823 	25 kg 50 kg 100 kg
Corrosive solid, flammable, n.o.s.*	2921	8	4.1	Corrosive & Solid Flammable			I II	810 814 Y814	1 kg 15 kg 5 kg	811 816	25 kg 50 kg
Corrosive solid, oxidizing, n.o.s.*	3084	8	5.1	Corrosive & Oxidizer			I II	810 814 Y814	1 kg 15 kg 5 kg	811 816	15 kg 50 kg
Corrosive solid, ~~poisonous~~ (toxic), n.o.s.*	2923	8	6.1	Corrosive & Poison	JP 19	A3 A99	I II III 	810 814 Y814 822 Y822	1 kg 15 kg 5 kg 25 kg 5 kg	811 816 823 	25 kg 50 kg 100 kg
Corrosive solid, self-heating, n.o.s.*	3095	8	4.2	Corrosive & Spontaneous combustion			I II	810 814	1 kg 15 kg	811 816	25 kg 50 kg
Corrosive solid, water-reactive, n.o.s.*	3096	8	4.3	Corrosive & Danger if wet			I II	810 814 Y814	1 kg 15 kg 5 kg	811 816	25 kg 50 kg
~~Cosmetics, n.o.s., containing flammable aerosol and/or non-flammable aerosol and/or flammable liquid, in small inner packagings see Consumer Commodity, etc.~~	~~—~~	~~9~~		~~Miscellaneous~~				~~910~~	~~25 kg G~~	~~910~~	~~25 kg G~~
Cosmetics, corrosive, liquid, n.o.s., see **Corrosive liquid, n.o.s.**											
Cosmetics, corrosive, solid, n.o.s., see **Corrosive solid, n.o.s.**											
Cosmetics, flammable, liquid, n.o.s., see **Flammable liquid, n.o.s.** or **Perfumery products**											
Cosmetics, flammable, solid, n.o.s., see **Flammable solid, inorganic, n.o.s.** or **organic, n.o.s.**											
Cosmetics, oxidizing material, n.o.s., see **Oxidizing liquid** or **solid, n.o.s.**											
Cotton seed, see **Fibres**, etc. (UN 1373)											
Cotton waste, oily	1364	4.2			US 30	A2		Forbidden		Forbidden	
Cotton, wet	1365	4.2			US 30	A2		Forbidden		Forbidden	

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
	1	2	3	4	5	6	7	8	9	10	11	12
A	**Coumarin derivative pesticides, liquid, flammable, toxic, ~~n.o.s.~~** flash point less than 23°C	3024	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L
A	**Coumarin derivative pesticides, liquid, toxic, ~~n.o.s.~~**	3026	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L .5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A	**Coumarin derivative pesticides, liquid, toxic, flammable, ~~n.o.s.~~** flash point not less than 23°C	3025	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A	**Coumarin derivative pesticides, solid, toxic, ~~n.o.s.~~**	3027	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
A	Creosote, see ~~Poisonous~~ liquid, organic, Toxic n.o.s.											
	Creosote salts, see **Naphthalene, etc.**											
A	Cresols ~~(o-, m-, p-)~~	2076	6.1	8	Poison & Corrosive			II	609 Y609	1 ~~5~~ L 0.5 L	611	30 ~~60~~ L
A	**Cresylic acid**	2022	6.1	8	Poison & Corrosive			II	609 Y609	1 ~~5~~ L 0.5 L	611	30 ~~60~~ L
	Crocidolite, see **Blue asbestos**											
A	**Crotonaldehyde, stabilized**	1143	~~6.1~~ 3	3	Poison & Liquid flammable	US 1 US 34	A1	~~I~~ II	Forbidden		604 ~~307~~	30 ~~60~~ L
	Crotonic acid, liquid	2823	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
	Crotonic acid, solid	2823	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
	Crotonic aldehyde, see **Crotonaldehyde, stabilized**											
	Crotonylene	1144	3		Liquid flammable			I	302	1 L	303	30 L
A	Crude naphtha, see ~~Naphtha~~ Petroleum distillates, n.o.s											
	Cumene, see **Isopropylbenzene**											
	Cupric cyanide, see **Copper cyanide**											
A	**Cupriethylenediamine solution**	1761	8	6.1	Corrosive & Poison		A3 ~~A68~~	II III	808 Y808 818 Y818	1 L 0.5 L 5 L 1 L	812 820	30 L 60 L
	Cutters, cable, explosive †	0070	1.4S		Explosive 1.4				147	25 kg	147	100 kg

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1	2	3	4	5	6	7	8	9	10	11	12
Cyanide of calcium, see **Calcium cyanide**											
Cyanide of potassium, see **Potassium cyanide**											
Cyanide of sodium, see **Sodium cyanide**											
A Cyanide or cyanide mixtures, dry, see **Cyanides, inorganic, n.o.s.** ~~solid~~											
A **Cyanides, inorganic, n.o.s.** ~~solid~~ *	1588	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~	US 1	A3 A13	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
A **Cyanide solutions, n.o.s.** 31 32 33 →	1935	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~	US 34		I II III	610 617 Y617 612 Y612	1 L 5 L 1 L 60 L 2 L	605 612 620	30 L 60 L 220 L
Cyanoacetonitrile, see **Malononitrile**											
LK **Cyanogen bromide**	1889	6.1	8	~~Poison & Corrosive~~	US 34	~~A2~~ A1	—	Forbidden		Forbidden ~~668~~	~~25 kg~~
A **Cyanogen chloride, inhibited**	1589	2.3	8		US 30	A2		Forbidden		Forbidden	
Cyanogen, liquefied	1026	2.3	2.1		US 30	A2		Forbidden		Forbidden	
A **Cyanuric chloride**	2670	8		Corrosive			II ~~III~~	814 ~~822~~ ~~Y822~~ Y814	15 ~~25~~ kg 5 kg	816 ~~829~~	50 ~~100~~ kg
Cyanuric triazide	Forbidden										
Cyclobutane	2601	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Cyclobutyl chloroformate	2744	6.1	8	Poison & Corrosive			II	609 Y609	1 L 0.5 L	611	30 L
A **1,5,9-Cyclododecatriene**	2518	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Cycloheptane	2241	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Cycloheptatriene	2603	3	6.1	Liquid flammable & Poison			II	305 Y305	1 L 1 L	307	60 L
1,3,5-Cycloheptatriene, see **Cycloheptatriene**											
Cycloheptene	2242	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
1,4-Cyclohexadienedione, see **Benzoquinone**											

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								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Cyclohexane	1145	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Cyclohexanethiol, see **Cyclohexyl mercaptan**											
Cyclohexanone	1915	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Cyclohexene	2256	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Cyclohexenyltrichlorosilane	1762	8		Corrosive		A1	II	Forbidden		813	30 L
Cyclohexyl acetate	2243	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Cyclohexylamine	2357	8	3	Corrosive & Liquid flammable			II	808 Y808	1 L 0.5 L	812	30 L
Cyclohexyl isocyanate	2488	6.1		Poison	US 34		II	610 Y610	5 L 1 L	612	60 L
Cyclohexyl mercaptan	3054	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Cyclohexyltrichlorosilane	1763	8		Corrosive		A1	II	Forbidden		813	30 L
Cyclonite/~~see Cyclotrimethylenetrinitramine, etc.~~				See Additions of PSNs as result of WP/39 Nos 8-11							
Cyclooctadiene phosphines/~~see 9-Phosphabicyclononanes~~	2940	4.2		Spontaneous Combustion			II	415	15 Kg	417	50 Kg
Cyclooctadienes	2520	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Cyclooctatetraene	2358	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Cyclopentane	1146	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Cyclopentane, methyl, see **Methylcyclopentane**											
Cyclopentanol	2244	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Cyclopentanone	2245	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Cyclopentene	2246	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Cyclopropane, liquefied	1027	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Cyclotetramethylenetetranitramine, desensitized	0484	1.1D						Forbidden		Forbidden	

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1	2	3	4	5	6	7	8	9	10	11	12
Cyclotetramethylenetetranitramine (dry or unphlegmatized) (HMX)	Forbidden										
Cyclotetramethylenetetranitramine, wetted with not less than 15% water, by mass	0226	1.1D						Forbidden		Forbidden	
Cyclotrimethylenetrinitramine and cyclotetramethylenetetranitramine mixtures, desensitized with not less than 10% phlegmatizer, by mass	0391	1.1D						Forbidden		Forbidden	
Cyclotrimethylenetrinitramine and cyclotetramethylenetetranitramine mixtures, wetted with not less than 15% water, by mass	0391	1.1D						Forbidden		Forbidden	
Cyclotrimethylenetrinitramine, desensitized	0483	1.1D						Forbidden		Forbidden	
Cyclotrimethylenetrinitramine, wetted with not less than 15% water, by mass	0072	1.1D						Forbidden		Forbidden	
Cymenes	2046	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Cymol, see **Cymenes**											
Dangerous goods in apparatus						A107	A48 A106	See	916 919	See	916 919
Dangerous goods in machinery											
Dead oil, see **Tars, liquid**, etc.						A107	A48 A106	See	916 919	See	916 919
Deanol, see **Dimethylethanolamine**											
Decaborane	1868	4.1	6.1	Solid flammable & Poison		A1	II	Forbidden		418	50 kg
Decahydronaphthalene	1147	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Decalin, see **Decahydronaphthalene**											
n-Decane	2247	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Deflagrating metal salts of aromatic nitro-derivatives, n.o.s.	0132	1.3C						Forbidden		Forbidden	
Delay electric igniter, see **Igniters**											
Depth charges, see **Charges, depth**											
Detonating relays, see **Detonators, non-electric** or **Detonator assemblies, non-electric**											
Detonator assemblies, non-electric for blasting †	0360	1.1B						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Detonator assemblies, non-electric for blasting †	0361	1.4B		Explosive 1.4				Forbidden		127	75 kg
Detonators, electric for blasting †	0030	1.1B						Forbidden		Forbidden	
Detonators, electric for blasting †	0255	1.4B		Explosive 1.4				Forbidden		125	75 kg
Detonators, electric for blasting †	0456	1.4S		Explosive 1.4				125	25 kg	125	100 kg
Detonators for ammunition †	0073	1.1B						Forbidden		Forbidden	
Detonators for ammunition †	0364	1.2B						Forbidden		Forbidden	
Detonators for ammunition †	0365	1.4B		Explosive 1.4				Forbidden		148	75 kg
Detonators for ammunition †	0366	1.4S		Explosive 1.4				148	25 kg	148	100 kg
Detonators, non-electric for blasting †	0029	1.1B						Forbidden		Forbidden	
Detonators, non-electric for blasting †	0267	1.4B		Explosive 1.4				Forbidden		126	75 kg
Detonators, non-electric for blasting †	0455	1.4S		Explosive 1.4				126	25 kg	126	100 kg
Deuterium	1957	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Devices, small, hydrocarbon gas powered with release device	3150	2.1		Gas flammable				201	1 kg	201	15 kg
Diacetone alcohol	1148	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Diacetone alcohol peroxides, more than 57% in solution with more than 9% hydrogen peroxide, less than 26% diacetone alcohol and less than 9% water; total active oxygen content more than 10% by mass	Forbidden										
A **Diallylamine**	2359	3	6.1 8	Liquid flammable			II	305 Y305	1 L 0.5 L	307	5 L
Diallylether	2360	3	6.1	Liquid flammable & Poison			II	306 Y306	1 L 1 L	308	60 L
m-Diaminobenzene, see **Phenylenediamines**											
A **4,4'-Diaminodiphenylmethane**	2651	6.1		Poison Keep away from food			III	619 Y619	100 kg 10 kg	619	200 kg
1,2-Diaminoethane, see **Ethylenediamine**											

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								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Diaminopropylamine, see **3,3'-Iminodipropylamine**											
Di-(aminopropyl)-piperazine, see ~~Alkylamines, n.o.s.~~ Liquid, Corrosive,											
Di-n-amylamine	2841	~~3~~ 6.1	6.1	~~Keep away from food~~ Liquid Flammable & Poison	US 34		III	309 ~~611~~ Y611 Y309	60 L 2 L	310 ~~618~~	220 L
p-Diazidobenzene	Forbidden										
1,2-Diazidoethane	Forbidden										
1,1'-Diazoaminonaphthalene	Forbidden										
Diazoaminotetrazole (dry)	Forbidden										
Diazodinitrophenol (dry)	Forbidden										
Diazodinitrophenol, wetted with not less than 40% water, or mixture of alcohol and water, by mass	0074	1.1A						Forbidden		Forbidden	
Diazodiphenylmethane	Forbidden										
Diazonium nitrates (dry)	Forbidden										
Diazonium perchlorates (dry)	Forbidden										
1,3-Diazopropane	Forbidden										
Dibenzopyridine, see **Acridine**											
Dibenzyldichlorosilane	2434	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Dibenzyl peroxydicarbonate, more than 87% with water	Forbidden										
Diborane	1911	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Dibromoacetylene	Forbidden										
meta-**Dibromobenzene**	2711	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
1,3-Dibromobenzene, see meta-**Dibromobenzene**											
m-Dibromobenzene, see meta-**Dibromobenzene**											
1,2-Dibromobutan-3-one	2648	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
1,2-Dibromo-3-chloropropane, see **Dibromochloropropanes**											
Dibromochloropropanes	2872	6.1		~~Poison (Gr. II)~~	US 1	A3	II	609 Y609	5 L 1 L	611	60 L
				~~Keep away from food (Gr. III)~~			III	611 Y611	60 L 2 L	618	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
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1	2	3	4	5	6	7	8	9	10	11	12
Dibromodifluoromethane	1941	9		Miscellaneous			III	907 Y907	100 L 30 kg G	907	220 L
1,2-Dibromoethane, see **Ethylene dibromide**											
A ***Dibromomethane***	2664	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Di-n-butylamine	2248	8	3	Corrosive & Liquid flammable	US 34		II	808 Y808	1 L 0.5 L	812	30 L
A **Dibutylaminoethanol**	2873	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
34→											
N,N-Di-n-butylaminoethanol, see **Dibutylaminoethanol**											
Dibutyl ethers	1149	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
2,2-Di-(tert-butylperoxy) butane, more than 55% in solution	Forbidden										
Di-n-butyl peroxydicarbonate, more than 52% in solution	Forbidden										
Di-(tert-butylperoxy) phthalate, more than 55% in solution	Forbidden										
N,N'-Dichlorazodicarbonamidine (salts of) (dry)	Forbidden										
Dichloroacetic acid	1764	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
1,3-Dichloroacetone	2649	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Dichloroacetyl chloride	1765	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Dichloroacetylene	Forbidden										
Dichloroanilines, liquid	1590	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Dichloroanilines, solid	1590	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
A **o-Dichlorobenzene**	1591	6.1		~~Poison Keep away from food~~	US 1		III	611 Y611	60 L 2 L	618	220 L
2,2'-Dichlorodiethyl ether	1916	6.1		Poison	US 1		II	610 Y610	5 L 1 L	612	60 L
35→											
Dichlorodifluoromethane	1028	2.2		Gas non-flammable				200	75 kg	200	150 kg
Dichlorodifluoromethane and difluoroethane azeotropic mixture with approximately 74% dichlorodifluoromethane	2602	2.2		Gas non-flammable				200	75 kg	200	150 kg

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1	2	3	4	5	6	7	8	9	10	11	12
A Dichlorodifluoromethane and ethylene oxide mixtures, with not more than 12% ethylene oxide	3070	2.2		Gas toxic		A1		Forbidden		209	25 kg
See Ethylene oxide and dichlorodifluoromethane mixture, etc.											
Dichlorodimethyl ether, symmetrical	2249	6.1						Forbidden		Forbidden	
1,1-Dichloroethane	2362	3		Liquid flammable	US 1		II	305 Y305	5 L 1 L	307	60 L
1,2-Dichloroethane, see **Ethylene dichloride**											
Dichloroethylene	1150	3		Liquid flammable	US 1		II	305 Y305	5 L 1 L	307	60 L
Dichloroethyl sulphide	Forbidden										
Dichlorofluoromethane	1029	2.2		Gas non-flammable				200	75 kg	200	150 kg
alpha-Dichlorohydrin, see **1,3-Dichloropropanol-2**											
Dichloroisocyanuric acid, dry	2465	5.1		Oxidizer		A28	II	508 Y508	5 kg 2.5 kg	511	25 kg
Dichloroisocyanuric acid salts	2465	5.1		Oxidizer		A28	II	508 Y508	5 kg 2.5 kg	511	25 kg
Dichloroisopropyl ether	2490	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
A **Dichloromethane**	1593	6.1		Poison ~~Keep away from food~~			III	605 Y605	60 L 2 L	612	220 L
1,1-Dichloro-1-nitroethane	2650	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Dichloropentanes	1152	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Dichlorophenols, see **Chlorophenols, etc.**											
Dichlorophenyl isocyanates	2250	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Dichlorophenyltrichlorosilane	1766	8		Corrosive		A1	II	Forbidden		813	30 L
1,2-Dichloropropane, see **Propylene dichloride**											
1,3-Dichloropropanol-2	2750	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
1,3-Dichloro-2-propanone, see **1,3-Dichloroacetone**											
A **Dichloropropene**	2047	3		Liquid flammable	US 1	A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L

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1	2	3	4	5	6	7	8	9	10	11	12
Dichloropropene and propylene dichloride mixture, see **Propylene dichloride**											
Dichlorosilane	2189	2.3	2.1 8		US 30	A2		Forbidden		Forbidden	
Dichlorotetrafluoroethane	1958	2.2		Gas non-flammable				200	75 kg	200	150 kg
Dichlorovinylchloroarsine	Forbidden										
1,4-Dicyanobutane, see **Adiponitrile**											
Dicycloheptadiene ~~see 2,5-Norbornadiene~~	2251	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Dicyclohexylamine	2565	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Dicyclohexylamine nitrite, see **Dicyclohexylammonium nitrite**											
Dicyclohexylammonium nitrite	2687	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Dicyclopentadiene	2048	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
2,2-Di-(4,4-di-tert-butylperoxycyclohexyl) propane, more than 42% with inert solid	Forbidden										
Di-2,4-dichlorobenzoyl peroxide, more than 75% with water	Forbidden										
1,2-Di-(dimethylamino) ethane	2372	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Didymium nitrate	1465	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
~~Diesel fuel, see Gas oil~~											
Diethanol nitrosamine dinitrate (dry)	Forbidden										
1,2-Diethoxyethane, see **Ethylene glycol diethyl ether**											
Diethoxymethane	2373	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
3,3-Diethoxypropene	2374	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Diethyl acetal, see **Acetal**											
Diethylamine	1154	3	8	Liquid flammable & Corrosive	US 1		II	306 Y306	1 L 0.5 L	308	5 ~~60~~ L
Diethylaminoethanol	2686	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L

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1	2	3	4	5	6	7	8	9	10	11	12
Diethylaminopropylamine	2684	~~3~~	~~8~~	~~Corrosive~~ & Liquid flammable			III	~~309~~ ~~818~~ ~~Y818~~ Y309	5 L 1 L	~~310~~ ~~820~~	60 L
N,N-Diethylaniline	2432	6.1		~~Keep away from food~~ Poison			III	611 Y611	60 L 2 L	618	220 L
Diethylbenzene	2049	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Diethylcarbinol, see **Amyl alcohols**											
Diethyl carbonate	2366	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Diethyl cellosolve, see **Ethylene glycol diethyl ether**											
Diethyldichlorosilane	1767	8	3	Corrosive & Liquid flammable		A1	II	Forbidden		813	30 L
Diethyldimethyl lead mixture, see **Motor fuel anti-knock mixtures**											
Diethylenediamine, see **Piperazine**											
Diethyleneglycol dinitrate, desensitized with not less than 25% non-volatile, water-insoluble phlegmatizer, by mass	0075	1.1D						Forbidden		Forbidden	
Diethyleneglycol dinitrate (dry)	Forbidden										
Diethylene oxide, see **Dioxane**											
Diethylenetriamine	2079	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
N,N-Diethylethanolamine, see **Diethylaminoethanol**											
Diethyl ether	1155	3		Liquid flammable			I	302	1 L	303	30 L
N,N-Diethylethylenediamine	2685	8	3	Corrosive & Liquid flammable			II	808 Y808	1 L 0 5 L	812	30 L
Diethylgold bromide	Forbidden										
Di-(2-etnylhexyl) phosphoric acid, see **Diisooctyl acid phosphate**											
Diethyl ketone	1156	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Diethyl peroxydicarbonate, more than 27% in solution	Forbidden										
Diethyl sulphate	1594	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L

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1	2	3	4	5	6	7	8	9	10	11	12
Diethyl sulphide	2375	3		Liquid flammable			II	305 Y305	1 L 1 L	307	60 L
Diethylthiophosphoryl chloride	2751	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Diethylzinc	1366	4.2						Forbidden		Forbidden	
2,4-Difluoroaniline, see **Fluoroanilines**											
~~**Difluorochloroethence, see Chlorodifluoroethanes**~~ **Difluorochloroethane** / ~~Gas 1-Chloro-1,1-difluoroethane~~	2517	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
1,1-Difluoroethane	1030	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
1,1-Difluoroethylene	1959	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Difluorophosphoric acid, anhydrous	1768	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
2,3-Dihydropyran	2376	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
p-Dihydroxybenzene, see **Hydroquinone**											
1,8-Dihydroxy-2,4,5,7-tetranitro-anthraquinone (chrysamminic acid)	Forbidden										
Di-(1-hydroxytetrazole) (dry)	Forbidden										
Diiodoacetylene	Forbidden										
Diisobutylamine	2361	3	8	Liquid flammable & Corrosive			III	309 Y309	~~5 60~~ L 1 ~~10~~ L	310	~~220~~ L 60
alpha-Diisobutylene, see **Diisobutylene, isomeric compounds**											
beta-Diisobutylene, see **Diisobutylene, isomeric compounds**											
Diisobutylene, isomeric compounds	2050	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Diisobutyl ketone	1157	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Diisooctyl acid phosphate	1902	8		Corrosive			III	818 Y818	5 L 1 L	620	60 L
Diisopropylamine	1158	3	8	Liquid flammable & Corrosive			II	305 Y305	1 ~~5~~ L 0.5 ~~1~~ L	307	5 ~~60~~ L
Diisopropyl ether	1159	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Diisopropyl oxide, see **Diisopropyl ether**											

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1	2	3	4	5	6	7	8	9	10	11	12
KA Diketene, inhibited	2521	6.1 ~~3~~	3	~~Liquid flammable~~	US 34		~~III~~	Forbidden ~~309~~ ~~Y309~~	~~60 L~~ ~~10 L~~	Forbidden ~~310~~	~~220 L~~
1,1-Dimethoxyethane	2377	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
1,2-Dimethoxyethane	2252	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Dimethoxymethane, see **Methylal**											
Dimethoxystrychnine, see **Brucine**											
Dimethylamine, anhydrous	1032	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
A Dimethylamine, aqueous solution	1160	3	8	Liquid flammable & Corrosive			II	305 Y305	~~1 L~~ 0.5 L	307	~~60 L~~
2-Dimethylaminoacetonitrile	2378	3	6.1	Liquid flammable & Poison			II	305 Y305	1 L 1 L	307	60 L
A ~~2-Dimethylaminoethanol, see Dimethylethanolamine~~											
40 Dimethylaminoethyl methacrylate	2522	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
N,N-Dimethylaniline	2253	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Dimethylarsenic acid, see **Cacodylic acid**											
Dimethyl benzene, see **Xylenes**											
N,N-Dimethylbenzylamine, see **Benzyldimethylamine**											
2,3-Dimethylbutane	2457	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A 1,3-Dimethylbutylamine	2379	3	8	Liquid flammable & Corrosive			II	305 Y305	~~1 L~~ 0.5 L	307	~~60 L~~
Dimethylcarbamoyl chloride	2262	8		Corrosive	US 1		II	808 Y808	1 L 0.5 L	812	30 L
Dimethyl carbonate	1161	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Dimethylcyclohexanes	2263	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A Dimethylcyclohexylamine	2264	8	3	Corrosive & Liquid flammable			II	808 Y808	1 L 0.5 L	812	30 L
A Dimethyldichlorosilane	1162	3	8	Liquid flammable & Corrosive	US 34	~~A1~~	II	~~Forbidden~~ 305 Y305	1L 0.5L	~~303~~ 307	~~2.5 L~~ 5L

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1	2	3	4	5	6	7	8	9	10	11	12
Dimethyldiethoxysilane	2380	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
2,5-Dimethyl-2,5-dihydroperoxy hexane, more than 82% with water	Forbidden										
2,5-Dimethyl-1,4-dioxane, see **Dimethyldioxanes**											
4,4-Dimethyldioxane-1,3, see **Dimethyldioxanes**											
Dimethyldioxanes	2707	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Dimethyl disulphide	2381	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A **~~Dimethylethanolamine~~, see 2-Dimethylaminoethanol**	~~2051~~	~~3~~		~~Liquid flammable~~			~~III~~	~~300~~ ~~Y309~~	~~60 L~~ ~~10 L~~	~~310~~	~~220 L~~
Dimethyl ether	1033	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
N,N-Dimethylformamide	2265	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
41 → KA **Dimethylhydrazine, symmetrical**	2382	~~6.1~~ 3	~~3~~ 6.1	~~Liquid flammable & Poison~~	US 1 US 34		~~I~~	Forbidden		~~304~~ Forbidden	~~30 L~~
Dimethylhydrazine, unsymmetrical	1163	6.1	3 8		US 34			Forbidden		Forbidden	
42 → **2,2-Dimethylpropane, ~~other than pentane or isopentane~~**	2044	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Dimethyl-N-propylamine	2266	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	5 L
K **Dimethyl sulphate**	1595	6.1	8	~~Poison & Corrosive~~		~~A1~~	~~I~~	Forbidden		Forbidden ~~604~~	~~2.5 L~~
Dimethyl sulphide	1164	3		Liquid flammable			~~II~~	~~302~~ 305 Y305	~~1 L~~ 5L 1L	~~303~~ 307	~~30 L~~ 60L
A **Dimethyl thiophosphoryl chloride**	2267	~~6.1~~ 8	8	Poison & Corrosive	US 34		~~III~~ II	~~818~~ 609 ~~Y818~~ 609	1 ~~5~~ L ~~1 L~~ 0.5	~~820~~ 60L	~~60 L~~ 30
Dimethylzinc	1370	4.2						Forbidden		Forbidden	
Di-(1-naphthoyl) peroxide	Forbidden										
J **DINGU ~~see Dinitroglycoluril~~**	0489	1.1D						Forbidden		Forbidden	
Dinitroanilines	1596	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Dinitrobenzenes	1597	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg

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1	2	3	4	5	6	7	8	9	10	11	12
Dinitrochlorobenzenes, see **Chlorodinitrobenzenes**											
Dinitrocresol, see **Dinitro-o-cresol**											
Dinitro-o-cresol, solid	1598	6.1		Poison	US 1	A6	II	613 Y613	25 kg 1 kg	615	100 kg
Dinitro-o-cresol, solution	1598	6.1		Poison	US 1	A6	II	609 Y609	5 L 1 L	611	60 L
Dinitro-7,8-dimethylglycoluril (dry)	Forbidden										
1,3-Dinitro-5,5-dimethyl hydantoin	Forbidden										
1,3-Dinitro-4,5-dinitrosobenzene	Forbidden										
1,2-Dinitroethane	Forbidden										
1,1-Dinitroethane (dry)	Forbidden										
Dinitrogen tetroxide, liquefied	1067	2.3	5.1		US 30	A2		Forbidden		Forbidden	
Dinitroglycoluril	0489	1.1D						Forbidden		Forbidden	
Dinitromethane	Forbidden										
Dinitrophenol, dry or wetted with less than 15% water, by mass	0076	1.1D	6.1					Forbidden		Forbidden	
Dinitrophenolates, alkali metals, dry or wetted with less than 15% water, by mass	0077	1.3C	6.1					Forbidden		Forbidden	
Dinitrophenolates, wetted with not less than 15% water, by mass	1321	4.1	6.1	Solid flammable & Poison	BE 3	A40	I	416	1 kg	412	15 kg
Dinitrophenol solutions	1599	6.1		Poison ~~(Cr. II)~~ ~~Keep away from food (Cr. III)~~	US 1	A3	II III	609 Y609 611 Y611	5 L 1 L 60 L 2 L	611 618	60 L 220 L
Dinitrophenol, wetted with not less than 15% water, by mass	1320	4.1	6.1	Solid flammable & Poison	BE 3 US 1	A40	I	416	1 kg	412	15 kg
Dinitropropylene glycol	Forbidden										
Dinitroresorcinol, dry or wetted with less than 15% water, by mass	0078	1.1D						Forbidden		Forbidden	
2,4-Dinitroresorcinol (heavy metal salts of) (dry)	Forbidden										
4,6-Dinitroresorcinol (heavy metal salts of) (dry)	Forbidden										
Dinitroresorcinol, wetted with not less than 15% water, by mass	1322	4.1		Solid flammable	BE 3	A40	I	416	1 kg	412	15 kg
3,5-Dinitrosalicylic acid (lead salt) (dry)	Forbidden										

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Dinitrosobenzene	0406	1.3C						Forbidden		Forbidden	
Dinitrosobenzylamidine and salts of (dry)	Forbidden										
2,2-Dinitrostilbene	Forbidden										
1,4-Dinitro-1,1,4,4-tetramethylolbutane tetranitrate (dry)	Forbidden										
Dinitrotoluene mixed with sodium *chlorate, see* **Explosive, blasting, type C**											
Dinitrotoluenes, liquid	2038	6.1		Poison	US 1		II	609 Y609	5 L 1 L	611	60 L
Dinitrotoluenes, molten	1600	6.1						Forbidden		Forbidden	
Dinitrotoluenes, solid	2038	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
2,4-Dinitro-1,3,5-trimethylbenzene	Forbidden										
Di-(beta-nitroxyethyl) ammonium nitrate	Forbidden										
a,a'-Di-(nitroxy) methylether	Forbidden										
1,9-Dinitroxy pentamethylene-2,4,6,8-tetramine (dry)	Forbidden										
Dioxane	1165	3		Liquid flammable	US 1		II	305 Y305	5 L 1 L	307	60 L
Dioxolane	1166	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Dipentene	2052	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Diphenylamine chloroarsine	1698	6.1						Forbidden		Forbidden	
Diphenylchloroarsine	1699	6.1		Poison	US 34		I	Forbidden		608	15 kg
Diphenyldichlorosilane	1769	8		Corrosive		A1	II	Forbidden		813	30 L
A **Diphenylmethane-4,4'-diisocyanate,** liquid	2489	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
A **Diphenylmethane-4,4'-diisocyanate,** solid	2489	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Diphenylmethyl bromide	1770	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
J **Dipicrylamine** ~~see Hexanitrodiphenylamine~~	0074	1.1D			US 6			forbidden		Forbidden	
Dipicryl sulphide, dry or wetted with less than 10% water, by mass	0401	1.1D						Forbidden		Forbidden	
Dipicryl sulphide, wetted with not less than 10% water, by mass	2852	4.1		Solid flammable	BE 3		I	Forbidden		416	0.5 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Dipropionyl peroxide, more than 28% in solution	Forbidden										
A Dipropylamine	2383	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	5 L
Dipropylene triamine, see 3,3'-Iminodipropylamine											
Dipropyl ether	2384	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Dipropyl ketone	2710	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
A Disinfectants, corrosive, liquid, n.o.s.*	1903	8		Corrosive		A3	II	808 Y808	1 L 0.5 L	812	30 L
							III	818 Y818	5 L 1 L	820	60 L
A Disinfectants, liquid, toxic, n.o.s.*, ~~poisonous~~	3142	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A3 A4	I II	603 609 Y609	1 L 5 L 1 L	604 611	30 L 60 L
							III	611 Y611	60 L 2 L	618	220 L
A Disinfectants, solid, toxic, n.o.s.* ~~poisonous~~	1601	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A3 A5	I II	606 613 Y613	5 kg 25 kg 1 kg	607 615	50 kg 100 kg
43 →							III	619 Y619	100 kg 10 kg	619	200 kg
Dispersant gas, see Compressed or liquefied gas, etc.											
A Dithiocarbamate pesticides, liquid, flammable, toxic, ~~n.o.s.~~, flash point less than 23°C	2772	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	1 L 1 L	303 307	30 L 60 L
A Dithiocarbamate pesticides, liquid, toxic, ~~n.o.s.~~	3006	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A4 A6	I II	603 609 Y609	1 L 5 L 1 L	604 611	30 L 60 L
							III	611 Y611	60 L 2 L	618	220 L
A Dithiocarbamate pesticides, liquid, toxic, flammable, ~~n.o.s.~~, flash point not less than 23°C	3005	6.1	3	Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~ & Liquid flammable		A4 A6	I II	603 609 Y609	1 L 5 L 1 L	604 611	30 L 60 L
							III	611 Y611	60 L 2 L	618	220 L
A Dithiocarbamate pesticides, solid, toxic, ~~n.o.s.~~	2771	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A5 A6	I II	606 613 Y613	5 kg 25 kg 1 kg	607 615	50 kg 100 kg
							III	619 Y619	100 kg 10 kg	619	200 kg
A Divinyl ether, inhibited	1167	3		Liquid flammable			I	306	1 L	308	30 L
DNOC, see Dinitro-o-cresol											
Dodecyltrichlorosilane	1771	8		Corrosive		A1	II	Forbidden		813	30 L

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1	2	3	4	5	6	7	8	9	10	11	12
Dressing, leather †, see **Flammable liquid, n.o.s.**											
L **Drugs, n.o.s.**, containing flammable aerosol and/or non-flammable aerosol and/or flammable liquid and/or toxic substance, in small inner packagings See Consumer Commodity, etc.	~~———~~	~~9~~		~~Miscellaneous~~				~~910~~	~~25 kg G~~	~~910~~	~~25 kg G~~
Drugs, corrosive, liquid, n.o.s., see **Corrosive liquid, n.o.s.**											
Drugs, corrosive, solid, n.o.s., see **Corrosive solid, n.o.s.**											
Drugs, flammable, liquid, n.o.s., see **Flammable liquid, n.o.s.**											
Drugs, flammable, solid, n.o.s., see **Flammable solid, inorganic, n.o.s.** or **organic, n.o.s.**											
Drugs, oxidizing substance, n.o.s., see **Oxidizing liquid** or **solid, n.o.s.**											
A Drugs, toxic, liquid, n.o.s., see ~~Poisonous~~ **liquid, n.o.s.** Organic, Toxic											
A Drugs, toxic, solid, n.o.s., see ~~Poisonous~~ **solid, n.o.s.** Organic, Toxic											
J **Dry ice** ~~see Carbon dioxide, solid~~	1845	9		Miscellaneous		A48	III	904	200kg	904	200kg
A **Dye intermediates, liquid, n.o.s.***, corrosive †	2801	8		Corrosive		A3	II	808 Y808	1 L 0.5 L	812	30 L
							III	818 Y818	5 L 1 L	820	60 L
A **Dye intermediates, liquid, n.o.s.***, ~~poisonous~~ toxic, †	1602	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A3 A4	I II	603 609 Y609	1L 5 L 1 L	604 611	30 L 60 L
							III	611 Y611	60 L 2 L	618	220 L
A **Dye intermediates, solid, n.o.s.***, corrosive †	3147	8		Corrosive		A3	II	814 Y814	15 kg 5 kg	816	50 kg
							III	822 Y822	25 kg 5 kg	823	100 kg
A **Dye intermediates, solid, n.o.s.***, ~~poisonous~~ toxic, †	3143	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A3 A5	I II	606 613 Y613	5 kg 25 kg 1 kg	607 615	50 kg 100 kg
							III	619 Y619	100 kg 10 kg	619	200 kg
A Dyes and dye intermediates, n.o.s., flammable liquid, see **Flammable liquid, n.o.s.**											
A **Dyes, liquid, n.o.s.*** corrosive	2801	8		Corrosive		A3	II	808 Y808	1 L 0.5 L	812	30 L
							III	818 Y818	5 L 1 L	820	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A **Dyes**, liquid, toxic, n.o.s.* ~~poisonous~~	1602	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A3 A4	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Dyes**, solid, n.o.s.* corrosive	3147	8		Corrosive		A3	II III	814 Y814 822 Y822	15 kg 5 kg 25 kg 5 kg	816 823	50 kg 100 kg
A **Dyes**, solid, toxic, n.o.s.* ~~poisonous~~	3143	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A3 A5	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Dynamite, see **Explosive, blasting, type A**											
Electric squibs, see **Igniters** (UN 0325, 0454)											
Electric storage batteries, see **Batteries, etc.**											
Electrolyte (acid or alkali) for batteries †, see **Battery fluid, acid** or **Battery fluid, alkali**											
Electron tubes containing mercury, see **Mercury** contained in manufactured articles											
44 45 46 **Engines, internal combustion** (LPG powered) including where fitted in machinery or vehicles	3166	9		Miscellaneous		A67 A70 A87		Forbidden		900 and 901	No limit
Engines, internal combustion (other than LPG powered) including where fitted in machinery or vehicles	3166	9		Miscellaneous		A67 A70 A87		900 and 901	No limit	900 and 901	No limit
Engines, rocket, see **Rocket motors, etc.**											
Engine starting fluid with flammable gas	1960	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
A **Environmentally hazardous substances, liquid, n.o.s.***	3082	9		Miscellaneous		A97	III	914	No limit	914	No limit
A **Environmentally hazardous substances, solid, n.o.s.***	3077	9		Miscellaneous		A97	III	911	No limit	911	No limit
Epibromohydrin	2558	6.1						Forbidden		Forbidden	
Epichlorohydrin	2023	6.1		Poison	US 1		II	609 Y609	5 L 1 L	611	60 L
1,2-Epoxybutane, see 1,2-~~Butylenoxide~~, stabilized											
H Butylene oxide											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Epoxyethane, see **Ethylene oxide**, etc.											
1,2-Epoxy-3-ethoxypropane	2752	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
2,3-Epoxy-1-propanal, see **Glycidaldehyde**											
2,3-Epoxypropyl ethyl ether, see **1,2-Epoxy-3-ethoxypropane**											
47 → **Ethane, compressed**	1035	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Ethane, refrigerated liquid	1961	2.1						Forbidden		Forbidden	
Ethanethiol, see **Ethyl mercaptan**											
Ethanol	1170	3		Liquid flammable		A3 A58	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Ethanolamine	2491	8		Corrosive		A3	III	818 Y818	5 L 1 L	820	60 L
Ethanol amine dinitrate	Forbidden										
A **Ethanolamine solutions**	2491	8		Corrosive		A3	III	818 Y818	5 L 1 L	820	60 L
A **Ethanol solutions**	1170	3		Liquid flammable		A3 A58	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
48 → Ether, see **Diethyl ether**											
Ether acetate, see **Ethylene glycol monoethyl ether acetate**											
Ether, ethyl, see **Diethyl ether**											
2-Ethoxyethanol, see **Ethylene glycol monoethyl ether**											
2-Ethoxyethyl acetate, see **Ethylene glycol monoethyl ether acetate**											
Ethoxypropane-1, see **Ethyl propyl ether**											
Ethyl acetate	1173	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A **Ethyl acetylene, inhibited**	2452	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Ethyl acrylate, inhibited	1917	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ethyl alcohol	1170	3		Liquid flammable		A3 A58	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Ethyl alcohol solutions	1170	3		Liquid flammable		A3 A58	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Ethyl aldehyde, see **Acetaldehyde**											
Ethylamine	1036	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Ethylamine, aqueous solutions with not less than 50% but not more than 70% ethylamine	2270	3	8	Liquid flammable & Corrosive			II	306 Y306	1 L 0.5 L	308	5 L
Ethyl amyl ketone	2271	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
N-Ethylaniline	2272	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
2-Ethylaniline	2273	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Ethylbenzene	1175	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
N-Ethyl-N-benzylaniline	2274	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
N-Ethylbenzyltoluidines	2753	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Ethyl borate	1176	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Ethyl bromide	1891	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Ethyl bromoacetate	1603	6.1			US 30	A2		Forbidden		Forbidden	
2-Ethylbutanol	2275	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Ethylbutyl acetate	1177	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Ethyl butyl ether	1179	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
2-Ethylbutyraldehyde	1178	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Ethyl butyrate	1180	3		Liquid flammable			II	309 Y309	60 L 10 L	310	220 L
Ethyl chloride	1037	2.1		Gas flammable	US 1 US 30	A1		Forbidden		200 214	150 kg 0.3 kg

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
									Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
	1	2	3	4	5	6	7	8	9	10	11	12
	Ethyl chloroacetate	1181	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
	Ethyl chlorocarbonate, see **Ethyl chloroformate**											
	Ethyl chloroformate	1182	6.1	3 8					Forbidden		Forbidden	
	Ethyl 2-chloropropionate	2935	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
	Ethyl-alpha-chloropropionate, see **Ethyl-2-chloropropionate**											
K	**Ethyl chlorothioformate**	2826	8	3	~~Corrosive~~	US 34		~~II~~	Forbidden ~~808~~ ~~Y808~~	~~1 L~~ ~~0.5 L~~	Forbidden ~~812~~	~~30 L~~
	Ethyl crotonate	1862	3		Liquid flammable			III	305 Y305	5 L 1 L	307	60 L
A	**Ethyl cyanoacetate**	2666	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
	Ethyldichloroarsine	1892	6.1						Forbidden		Forbidden	
	Ethyldichlorosilane	1183	4.3	3 8	*Danger if wet & Liquid flammable & Corrosive*			I	Forbidden		409	1 L
A	**Ethylene, acetylene and propylene ~~in~~ mixtures, refrigerated liquid** containing at least 71.5% ethylene with not more than 22.5% acetylene and not more than 6% propylene	3138	2.1						Forbidden		Forbidden	
KA	**Ethylene chlorohydrin**	1135	6.1	3	~~Poison~~	US 34	~~A1~~	~~II~~	Forbidden		Forbidden ~~611~~	~~60 L~~
	Ethylene, compressed	1962	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
	Ethylenediamine	1604	8	3	Corrosive & Liquid flammable			II	808 Y808	1 L 0.5 L	812	30 L
	Ethylene diamine diperchlorate	Forbidden										
K	**Ethylene dibromide**	1605	6.1		~~Poison~~	US 1 US 34		~~II~~	Forbidden ~~809~~ ~~Y809~~	~~5 L~~ ~~1 L~~	Forbidden ~~811~~	~~60 L~~
A	Ethylene dibromide and methyl bromide liquid mixtures, see **Methyl bromide and ethylene dibromide mixtures, liquid**											
	Ethylene dichloride	1184	3	6.1	Liquid flammable & Poison	US 1		II	306 Y306	1 L 1 L	306	60 L
	Ethylene glycol diethyl ether	1153	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ethylene glycol dinitrate	Forbidden										
Ethylene glycol monobutyl ether	2369	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Ethylene glycol monoethyl ether	1171	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Ethylene glycol monoethyl ether acetate	1172	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Ethylene glycol monomethyl ether	1188	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Ethylene glycol monomethyl ether acetate	1189	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Ethyleneimine, inhibited	1185	6.1	3					Forbidden		Forbidden	
Ethylene oxide ~~pure or with nitrogen~~	1040	2.3	2.1	Gas toxic & Gas flammable	US 1 US 30	A1		Forbidden		209	25 kg
~~Ethylene oxide and carbon dioxide mixtures, see Carbon dioxide and ethylene oxide mixtures, etc.~~											
Ethylene oxide and propylene oxide mixtures, not more than 30% ethylene oxide	2983	3	6.1	Liquid flammable & Poison			I	Forbidden		304	30 L
Ethylene, refrigerated liquid	1038	2.1						Forbidden		Forbidden	
Ethyl ether ~~see Diethyl ether~~	1155	3		Liquid flammable			I	302	1L	303	30L
Ethyl fluid, see Motor fuel anti-knock mixtures											
Ethyl fluoride	2453	2.1		Gas flammable		A1		Forbidden		200	150 kg
Ethyl formate	1190	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
2-Ethylhexylamine	2276	~~3~~	8	Corrosive Liquid flammable			III	~~818309~~ ~~Y818309~~	5 L 1 L	~~820~~ 310	60 L
2-Ethylhexyl chloroformate	2748	6.1	8	Poison & Corrosive			II	609 Y609	1 L 0.5 L	611	30 L
Ethyl hydroperoxide	Forbidden										
Ethylidene chloride, see 1,1-Dichloroethane											
Ethyl isobutyrate	2385	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Ethyl isocyanate	2481	3	6.1	Liquid flammable & Poison	US 34		I	Forbidden		304	30 L
Ethyl lactate	1192	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ethyl mercaptan	2363	3		Liquid flammable		A1	I	Forbidden		308	30 L
Ethyl methacrylate	2277	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Ethyl methyl ether	1039	2.1		Gas *flammable*	US 30	A1		Forbidden		200	150 kg
Ethyl methyl ketone	1193	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Ethyl nitrate	Forbidden										
Ethyl nitrite	Forbidden										
A **Ethyl nitrite solutions**	1194	3	6.1		US 30	A2		Forbidden		Forbidden	
Ethyl orthoformate	2524	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
A **Ethyl oxalate**	2525	6.1		~~Keep away from food~~ Poison			III	611 Y611	60 L 2 L	618	220 L
Ethyl perchlorate	Forbidden										
Ethylphenyldichlorosilane	2435	8		*Corrosive*		A1	II	Forbidden		813	30 L
Ethyl phosphonous dichloride, anhydrous, see **Pyrophoric liquid, organic, n.o.s.**											
A **1-Ethylpiperidine**	2386	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	~~60 L~~ 5
Ethyl propionate	1195	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Ethyl propyl ether	2615	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Ethyl silicate, see **Tetraethyl silicate**											
Ethyl sulphate, see **Diethyl sulphate**											
A ~~**Ethylsulphuric acid**~~, see **Alkylsulphuric acids**	~~2571~~	~~8~~		~~Corrosive~~			~~II~~	~~808~~ ~~Y808~~	~~1 L~~ ~~0.5 L~~	~~812~~	~~30 L~~
N-Ethyltoluidines	2754	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
A **Ethyltrichlorosilane**	1196	3	8	Liquid flammable & Corrosive		~~A1~~	II	~~Forbidden~~ 306 Y306	~~1L~~ 0.5L	304	~~30 L~~ 5
A Ethyl trimethyl lead mixture, see **Motor fuel anti-knock mixtures**											
Ethylzinc, see **Diethylzinc**											
A Etiologic agent, see **Infectious substances**, etc.											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Explosive articles, see **Articles, explosive**											
Explosive, blasting, type A †	0081	1.1D						Forbidden		Forbidden	
Explosive, blasting, type B †	0082	1.1D						Forbidden		Forbidden	
Explosive, blasting, type B †	0331	1.5D						Forbidden		Forbidden	
Explosive, blasting, type C †	0083	1.1D						Forbidden		Forbidden	
Explosive, blasting, type D †	0084	1.1D						Forbidden		Forbidden	
Explosive, blasting, type E †	0241	1.1D						Forbidden		Forbidden	
Explosive, blasting, type E †	0332	1.5D						Forbidden		Forbidden	
Explosives, emulsion, see **Explosive, blasting, type E**											
Explosives, slurry, see **Explosive, blasting, type E**											
Explosive substances, see **Substances, explosive**											
Explosives, water gels, see **Explosive, blasting, type E**											
Extracts, aromatic, liquid †	1169	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Extracts, flavouring, liquid †	1197	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Fabrics, animal, n.o.s., with oil	1373	4.2			US 30	A2		Forbidden		Forbidden	
Fabrics impregnated with weakly nitrated nitrocellulose, n.o.s.	1353	4.1		Solid flammable	BE 3		III	419 Y419	25 kg 10 kg	420	100 kg
Fabrics, synthetic, n.o.s. with oil	1373	4.2			US 30	A2		Forbidden		Forbidden	
Fabrics, vegetable, n.o.s., with oil	1373	4.2			US 30	A2		Forbidden		Forbidden	
Ferric arsenate	1606	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Ferric arsenite	1607	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Ferric chloride, anhydrous	1773	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg

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								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ferric chloride solution	2582	8		Corrosive		A3	III	818 Y818	5 L 1 L	820	60 L
Ferric nitrate	1466	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Ferrocerium	1323	4.1		Solid flammable			II	415 Y415	15 kg 5 kg	417	50 kg
Ferrosilicon with 30% or more but less than 90% silicon	1408	4.3	6.1	Danger if wet & Poison	JP 19	A10 A11	III	422 Y422	25 kg 10 kg	421	100 kg
Ferrous arsenate	1608	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Ferrous metal borings in a form liable to self-heating	2793	4.2		Spontaneous combustion		A23	III	419	25 kg	420	100 kg
Ferrous metal cuttings in a form liable to self-heating	2793	4.2		Spontaneous combustion		A23	III	419	25 kg	420	100 kg
Ferrous metal shavings in a form liable to self-heating	2793	4.2		Spontaneous combustion		A23	III	419	25 kg	420	100 kg
Ferrous metal turnings in a form liable to self-heating	2793	4.2		Spontaneous combustion		A23	III	419	25 kg	420	100 kg
Fertilizer ammoniating solution with free ammonia	1043	2.2		Gas non-flammable		A1		Forbidden		200	150 kg
Fertilizers containing ammonium nitrate, n.o.s., see **Ammonium nitrate fertilizers, n.o.s.**											
Fibreglass repair kit, see **Polyester resin kit**											
Fibres, animal, n.o.s. with oil	1373	4.2			US 30	A2		Forbidden		Forbidden	
Fibres impregnated with weakly nitrated nitrocellulose, n.o.s.	1353	4.1		Solid flammable	BE 3		III	419 Y419	25 kg 10 kg	420	100 kg
Fibres, synthetic, n.o.s., with oil	1373	4.2			US 30	A2		Forbidden		Forbidden	
Fibres, vegetable, n.o.s., with oil	1373	4.2			US 30	A2		Forbidden		Forbidden	
Films, nitrocellulose base, from which gelatin has been removed; film scrap, see **Celluloid scrap**											
Films, nitrocellulose base, gelatin coated (except scrap) †	1324	4.1		Solid flammable			III	400 Y400	25 kg 10 kg	400	100 kg
Fire extinguisher charges, corrosive liquid †	1774	8		Corrosive			II	809 Y809	1 L 0.5 L	819	30 L
Fire extinguisher charges, expelling, explosive, see **Cartridges, power device**											
Fire extinguishers with compressed or liquefied gas	1044	2.2		Gas non-flammable		A19		200	75 kg	200	150 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Firelighters, solid with flammable liquid †	2623	4.1		Solid flammable		A3	II III	415 Y415 419 Y419	15 kg 5 kg 25 kg 10 kg	417 420	50 kg 100 kg
Fireworks †	0333	1.1G						Forbidden		Forbidden	
Fireworks †	0334	1.2G						Forbidden		Forbidden	
Fireworks †	0335	1.3G						Forbidden		Forbidden	
Fireworks †	0336	1.4G		Explosive 1.4				Forbidden		150	75 kg
Fireworks †	0337	1.4S		Explosive 1.4				124	25 kg	124	100 kg
A **First aid kits**						A44		915 Y915	10 kg 1 kg	915	10 kg
Fischer Tropsch gas, see **Carbon monoxide and hydrogen mixture**											
Fish meal (Fish scrap), unstabilized	1374	4.2		Spontaneous combustion			II	415	15 kg	417	50 kg
Fissile radioactive materials, see **Radioactive material, fissile, n.o.s.**											
Flammable gas, see **Compressed** or **Liquefied gas, flammable**, etc.											
Flammable gas in lighters, see **Lighters** (cigarettes), containing *flammable gas*											
Flammable gas (small receptacles not fitted with a dispersion device, not refillable), see **Receptacles**, etc.											
Flammable liquid, n.o.s.*	1993	3		Liquid flammable		A3	I II III	302 305 Y305 309 Y309	1 L 5 L 1 L 60 L 10 L	303 307 310	30 L 60 L 220 L
Flammable liquid, corrosive, n.o.s.*	2924	3	8	Liquid flammable & Corrosive		A3	I II III	302 305 Y305 309 Y309	0.5 L 1 L 0.5 L 5 L 1 L	303 307 310	2.5 L 5 L 60 L
A **Flammable liquid, ~~poisonous~~ toxic, n.o.s.***	1992	3	6.1	Liquid flammable & Poison		A3 A68	I II III	Forbidden 305 Y305 309 Y309	 1 L 1 L 60 L 2 L	303 307 310	30 L 60 L 220 L
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Flammable solid, inorganic, n.o.s.*	3178	4.1		Solid flammable		A3	II III	415 Y415 419 Y419	15 kg 5 kg 25 kg 10 kg	417 420	50 kg 100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Flammable solid, inorganic, corrosive, n.o.s.*	3180	4.1	8	Solid flammable & Corrosive		A3	II	415 Y415	15 kg 5 kg	417	50 kg
							III	419 Y419	25 kg 5 kg	420	100 kg
Flammable solid, toxic, inorganic, ~~poisonous~~, n.o.s.*	3179	4.1	6.1	Solid flammable & Poison		A3 ~~A69~~	II	415 Y415	15 kg 1 kg	417	50 kg
							III	419 Y419	25 kg 10 kg	420	100 kg
Flammable solid, organic, n.o.s.*	1325	4.1		Solid flammable		A3	II	415 Y415	15 kg 5 kg	417	50 kg
							III	419 Y419	25 kg 10 kg	420	100 kg
Flammable solid, organic, corrosive, n.o.s.*	2925	4.1	8	Solid flammable & Corrosive		A3	II	415 Y415	15 kg 5 kg	417	50 kg
							III	419 Y419	25 kg 5 kg	420	100 kg
Flammable solid, organic, molten, n.o.s.*	3176	4.1				A3		Forbidden		Forbidden	
Flammable solid, toxic, organic, ~~poisonous~~, n.o.s.*	2926	4.1	6.1	Solid flammable & Poison		A3 ~~A69~~	II	415 Y415	15 kg 1 kg	417	50 kg
							III	419 Y419	25 kg 10 kg	420	100 kg
Flammable solid, oxidizing, n.o.s.*	3097	4.1	5.1			A3		Forbidden		Forbidden	
Flares, aerial †	0420	1.1G						Forbidden		Forbidden	
Flares, aerial †	0421	1.2G						Forbidden		Forbidden	
Flares, aerial †	0093	1.3G		Explosive				Forbidden		151	75 kg
Flares, aerial †	0403	1.4G		Explosive 1.4				Forbidden		151	75 kg
Flares, aerial †	0404	1.4S		Explosive 1.4				151	25 kg	151	100 kg
Flares, aeroplane, see **Flares, aerial**											
Flares, distress, small, see **Signal devices, hand**											
Flares, highway, see **Signal devices, hand**											
Flares, surface †	0418	1.1G						Forbidden		Forbidden	
Flares, surface †	0419	1.2G						Forbidden		Forbidden	
Flares, surface †	0092	1.3G		Explosive				Forbidden		151	75 kg
Flares, water-activated, see **Contrivances, water-activated**, etc.											
Flash powder †	0094	1.1G						Forbidden		Forbidden	
Flash powder †	0305	1.3G						Forbidden		Forbidden	

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								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Flavouring liquids, see **Extracts, flavouring, liquid**											
Flue dusts, poisonous, see **Arsenical dust**											
Fluoboric acid	1775	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Fluoric acid, see **Hydrofluoric acid, solution, etc.**											
Fluorine, compressed	1045	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	
Fluoroacetic acid	2642	6.1		Poison			I	606	1 kg	607	15 kg
2-Fluoroaniline, see **Fluoroanilines**											
4-Fluoroaniline, see **Fluoroanilines**											
o-Fluoroaniline, see **Fluoroanilines**											
p-Fluoroaniline, see **Fluoroanilines**											
Fluoroanilines	2941	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Fluorobenzene	2387	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Fluoroethane, see **Ethyl fluoride**											
Fluoroform, see **Trifluoromethane**											
Fluoromethane, see **Methyl fluoride**											
Fluorophosphoric acid, anhydrous	1776	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Fluorosilicates, n.o.s.	2856	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Fluorosulphonic acid	1777	8		Corrosive			I	807	0.5 L	809	2.5 L
Fluorotoluenes	2388	3		Liquid flammable		~~A8~~	II	305 Y305	5 L 1 L	307	60 L
							~~III~~	~~309~~ ~~Y309~~	~~60 L~~ ~~10 L~~	~~310~~	~~220 L~~
Fluosilicic acid	1778	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Formaldehyde solutions with not less than 25% formaldehyde	2209	8		Corrosive	US 1		III	818 Y818	5 L 1 L	820	60 L
Formaldehyde solutions, flammable	1198	3	8	Liquid flammable & Corrosive			III	309 Y309	5 L 1 L	310	60 L
Formalin, see **Formaldehyde, solutions**											
Formic acid	1779	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L

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1	2	3	4	5	6	7	8	9	10	11	12
Formic aldehyde, see **Formaldehyde, solutions**											
Formic ether, see **Ethyl formate**											
2-Formyl-3,4-dihydro-2H-pyran, see **Acrolein dimer, stabilized**											
Fracturing devices, explosive, for oil wells, without detonator †	0099	1.1D			AU 9 US 28	A2		Forbidden		Forbidden	
Fuel, aviation, turbine engine	1863	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Fuel oil, see **Gas oil**											
Fulminate of mercury (dry)	Forbidden										
Fulminate of mercury, wet, see **Mercury fulminate, etc.**											
Fulminating gold	Forbidden										
Fulminating mercury	Forbidden										
Fulminating platinum	Forbidden										
Fulminating silver	Forbidden										
Fulminic acid	Forbidden										
Fumaryl chloride	1780	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Fumigant, see appropriate pesticide											
Fuming liquid arsenic, see **Arsenic trichloride**											
Fungicide, see appropriate pesticide											
Furan	2389	3		Liquid flammable	US 34		I	302	1 L	303	30 L
Furfural	1199	3		Liquid flammable			III I	309 Y309	60 L 10 L	310	220 L
Furfuryl alcohol	2874	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Furfurylamine	2526	3	8	Liquid flammable & Corrosive			III	309 Y309	~~5 60~~ L ~~1 10~~ L	310	~~220~~ L 60
Furyl carbinol, see **Furfuryl alcohol**											
Fuse, detonating, metal clad; ~~see Cord, detonating, metal clad~~	0290	1.1D						Forbidden		Forbidden	
~~Fuse, detonating~~ metal clad	0102	1.2D						Forbidden		Forbidden	
Fuse, detonating, mild effect, metal clad; ~~see Cord, detonating, mild effect, metal clad~~	0104	1.4D		Explosive 1.4				Forbidden		145	75 Kg

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1	2	3	4	5	6	7	8	9	10	11	12
Gas, compressed, see **Compressed gas, etc.**											
A Gas drips, hydrocarbon †, See Hydrocarbons, liquid, n.o.s.	~~1964~~	~~3~~		~~Liquid flammable~~			~~II~~	~~305 Y305~~	~~5 L 1 L~~	~~307~~	~~60 L~~
Gas generator assemblies for aircraft escape slides containing a non-flammable non-toxic gas and a propellant cartridge †	–	2.2		Gas non-flammable				205 Y205	75 kg 30 kg G	205	150 kg
Gas liquefied, see **Liquefied gas, etc.**											
A **Gas oil**	1202	3		Liquid flammable		A3	~~II~~	~~305 Y305~~	~~5 L 1 L~~	~~307~~	~~60 L~~
							III	309 Y309	60 L 10 L	310	220 L
A **Gasoline**	1203	3		Liquid flammable	AU 1	A100	II	305 Y305	5 L 1 L	307	60 L
A Gasoline, casinghead, see ~~**Natural Gasoline**~~											
Gas, refrigerated liquid, n.o.s.*	3158	2.2		Gas non-flammable				202	50 kg	202	500 kg
A **Gas sample, non-pressurized, flammable, n.o.s.,** not ~~deeply~~ refrigerated liquid	3167	2.1		Gas flammable				206	1 L	206	5 L
A **Gas sample, non-pressurized, toxic, n.o.s.,** not ~~deeply~~ refrigerated liquid	3169	2.3		Gas toxic	US 30	A1		Forbidden		206	1 L
A **Gas sample, non-pressurized, toxic, flammable, n.o.s.,** not ~~deeply~~ refrigerated liquid	3168	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		Forbidden		206	1 L
Gelatin, blasting, see **Explosive, blasting, type A**											
Gelatin dynamites, see **Explosive, blasting, type A**											
Genetically modified micro-organisms	3245	9		Miscellaneous		A47		913	No limit	913	No limit
Germane	2192	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Germanium hydride, see **Germane**											
Glycerol-1,3-dichlorohydrin, see **1,3-Dichloropropanol-2**											
Glycerol-1,3-dinitrate	Forbidden										
Glycerol gluconate trinitrate	Forbidden										
Glycerol lactate trinitrate	Forbidden										
A **Glycerol alpha-monochlorohydrin**	2689	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Glyceryl trinitrate, see **Nitroglycerin**, etc.											
Glycidaldehyde	2622	3	6.1	Liquid flammable & Poison	US 1		II	305 Y305	1 L 1 L	307	60 L
Grenades, hand or rifle, with bursting charge †	0284	1.1D						Forbidden		Forbidden	
Grenades, hand or rifle, with bursting charge †	0292	1.1F						Forbidden		Forbidden	
Grenades, hand or rifle, with bursting charge †	0285	1.2D						Forbidden		Forbidden	
Grenades, hand or rifle, with bursting charge †	0293	1.2F						Forbidden		Forbidden	
Grenades, illuminating †, see **Ammunition, illuminating**, etc.											
Grenades, practice, hand or rifle †	0372	1.2G						Forbidden		Forbidden	
Grenades, practice, hand or rifle †	0318	1.3G						Forbidden		Forbidden	
Grenades, practice, hand or rifle †	0452	1.4G		Explosive 1.4				Forbidden		156	75 kg
Grenades, practice, hand or rifle †	0110	1.4S		Explosive 1.4				156	25 kg	156	100 kg
Grenades, smoke, see **Ammunition, smoke**, etc.											
Guanidine nitrate	1467	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Guanyl nitrosaminoguanylidene hydrazine (dry)	Forbidden										
Guanyl nitrosaminoguanylidene hydrazine, wetted with not less than 30% water, by mass	0113	1.1A						Forbidden		Forbidden	
Guanyl nitrosaminoguanyltetrazene (dry)	Forbidden										
Guanyl nitrosaminoguanyltetrazene, wetted with not less than 30% water, or mixture of alcohol and water, by mass	0114	1.1A						Forbidden		Forbidden	
Gunpowder, granular or as a meal ~~granular or as a meal, see **Black powder** (UN 0027)~~	0027	1.1D						Forbidden		Forbidden	
Gunpowder, compressed	0028	1.1D						Forbidden		Forbidden	
Gunpowder in pellets	0028	1.1D						Forbidden		Forbidden	
Gutta percha solution, see **Rubber solution**											

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1	2	3	4	5	6	7	8	9	10	11	12
Hafnium powder, dry	2545	4.2		Spontaneous combustion		A3	I II III	Forbidden 416 416	 15 kg 25 kg	Forbidden 418 418	 50 kg 100 kg
Hafnium powder, wetted with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	1326	4.1		Solid flammable		A35	II	416 Y416	15 kg 5 kg	418	50 kg
Hair, wet, see **Fibres**, etc. (UN 1373)											
Halogenated irritating liquid, n.o.s.*	1610	6.1		Poison		A3	I II	Forbidden 609 Y609	 5 L 1 L	Forbidden 611	 60 L
Hand signal device, see **Signal devices, hand**											
~~**Heaters, liquid fuel type (containing fuel)**~~								~~Forbidden~~		~~Forbidden~~	
Heat producing articles, battery operated equipment, such as underwater torches or soldering equipment, which, if accidentally activated, will generate extreme heat and can cause fire	–	9		Miscellaneous		A93		Forbidden		Forbidden	
Heavy hydrogen, see **Deuterium**											
Helium, compressed	1046	2.2		Gas non-flammable				200	75 kg	200	150 kg
Helium-oxygen mixture, see **Rare gases and oxygen mixtures**											
Helium, refrigerated liquid	1963	2.2		Gas non-flammable				202	50 kg	202	500 kg
n-Heptaldehyde	3056	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
n-Heptanal, see **n-Heptaldehyde**											
Heptanes	1206	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
4-Heptanone, see **Dipropyl ketone**											
n-Heptene	2278	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Hexachloroacetone	2661	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Hexachlorobenzene	2729	6.1		Poison ~~Keep away from food~~	US 1		III	619 ~~611~~ Y611 Y619	100kg ~~60 L~~ ~~2 L~~ 10Kg	619 ~~618~~	200Kg ~~220 L~~
Hexachlorobutadiene	2279	6.1		Poison ~~Keep away from food~~	US 1		III	611 Y611	60 L 2 L	618	220 L

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Hexachlorocyclopentadiene	2646	6.1			US 1			Forbidden		Forbidden	
A **Hexachlorophene**	2875	6.1		Poison ~~Keep away from food~~	US 1		III	619 Y619	100 kg 10 kg	619	200 kg
Hexachloro-2-propanone, see **Hexachloroacetone**											
Hexadecyltrichlorosilane	1781	8		Corrosive		A1	II	Forbidden		813	30 L
Hexadiene	2458	3		Liquid flammable			II I	305 Y305	5 L 1 L	307	60 L
A **Hexaethyl tetraphosphate and compressed gas mixture**	1612	2.3			US 30	A2		Forbidden		Forbidden	
A **Hexaethyl tetraphosphate, liquid**	1611	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~	US 1	A3 A4	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Hexaethyl tetraphosphate, solid**	1611	6.1		Poison ~~(Gr. II)~~ ~~Keep away from food (Gr. III)~~	US 1	A3 A5	II III	613 Y613 619 Y619	25 kg 1 kg 100 kg 10 kg	615 619	100 kg 200 kg
A **Hexafluoroacetone**	2420	2.3	8	Gas toxic & Corrosive	US 30	A1		Forbidden		200	25 kg
Hexafluoroacetone hydrate	2552	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Hexafluoroethane	2193	2.2		Gas non-flammable				200	75 kg	200	150 kg
Hexafluorophosphoric acid	1782	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Hexafluoropropylene	1858	2.2		Gas non-flammable				200	75 kg	200	150 kg
Hexahydrobenzene, see **Cyclohexane**											
Hexahydrocresol, see **Methylcyclohexanols, etc.**											
Hexahydromethyl phenol, see **Methylcyclohexanols, etc.**											
Hexahydrotoluene, see ***Methylcyclohexane***											
Hexaldehyde	1207	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Hexamethylene, see **Cyclohexane**											
Hexamethylenediamine, solid	2280	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Hexamethylenediamine solution	1783	8		Corrosive		A3	II	808 Y808	1 L 0.5 L	812	30 L
							III	818 Y818	5 L 1 L	820	60 L
Hexamethylene diisocyanate	2281	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Hexamethyleneimine	2493	3	8	Liquid flammable & Corrosive			II	306 Y306	1 L 0.5 L	308	5 L
A Hexamethylenetetramine; ~~see Hexamine~~	1328	4.1		Solid Flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Hexamethylene triperoxide diamine (dry)	Forbidden										
Hexamethylol benzene hexanitrate	Forbidden										
A ~~Hexamine~~, See Hexamethylenetetramine	~~1328~~	~~4.1~~		~~Solid flammable~~			~~III~~	~~419~~ ~~Y419~~	~~25 kg~~ ~~10 kg~~	~~420~~	~~100 kg~~
Hexanes	1208	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Hexanitroazoxy benzene	Forbidden										
2,2',4,4',6,6'-Hexanitro-3,3'-dihydroxyazobenzene (dry)	Forbidden										
Hexanitrodiphenylamine	0079	1.1D			US 6			Forbidden		Forbidden	
2,3',4,4',6,6'-Hexanitrodiphenylether	Forbidden										
N,N'-(Hexanitrodiphenyl) ethylene dinitramine (dry)	Forbidden										
Hexanitrodiphenyl urea	Forbidden										
Hexanitroethane	Forbidden										
Hexanitrooxanilide	Forbidden										
Hexanitrostilbene	0392	1.1D						Forbidden		Forbidden	
Hexanoic acid, see **Caproic acid**											
Hexanols	2282	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
A Hexanonal; ~~cast~~ ~~Hexatonal, cast~~	0393	1.1D						Forbidden		Forbidden	
1-Hexene	2370	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Hexogen; ~~see Cyclotrimethylenetrinitramine, etc.~~	See "Additions of PSNs as result of WP/39" Nos. 12-15										
Hexolite, dry or wetted with less than 15% water, by mass	0118	1.1D						Forbidden		Forbidden	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
J Hexyl/~~see Hexanitrodiphenylamine~~	0079	1.1D			US6			Forbidden		Forbidden	
Hexyltrichlorosilane	1784	8		Corrosive		A1	II	Forbidden		813	30 L
High explosives, see individual explosives entries											
~~**HMX**, see Cyclotetramethylene-tetranitramine, etc.~~		See "Additions of PSNs as result of WP 39 Nos 16-18									
A **Hydrazine, anhydrous**	2029	~~8~~	~~3~~ 6.1 ~~8~~	& Liquid flammable & Poison & Corrosive	US 1		I	Forbidden		~~304~~ 813	2.5 L
A ~~**Hydrazine, aqueous solutions with more than 64% hydrazine, by mass**~~	~~2029~~	~~8~~	~~6.1~~ ~~8~~	~~Liquid flammable & Poison & Corrosive~~	~~US 1~~		~~I~~	~~Forbidden~~		~~304~~	~~2.5 L~~
A **Hydrazine, aqueous solution** with not more than 64% hydrazine, by mass not less than 37% but	2030	8	6.1	Corrosive & Poison		A1	II	Forbidden		812	30 L
64 →											
Hydrazine azide	Forbidden										
Hydrazine chlorate	Forbidden										
Hydrazine dicarbonic acid diazide	Forbidden										
Hydrazine hydrate	2030	8	6.1	Corrosive & Poison		A1	II	Forbidden		812	30 L
Hydrazine perchlorate	Forbidden										
Hydrazine selenate	Forbidden										
Hydriodic acid, anhydrous, see **Hydrogen iodide, anhydrous**											
Hydriodic acid solution	1787	8		Corrosive		A3	II	809 Y809	1 L 0.5 L	813	30 L
							III	819 Y819	5 L 1 L	821	60 L
Hydrobromic acid, anhydrous, see **Hydrogen bromide, anhydrous**											
Hydrobromic acid solution, more than 49% strength	1788	8			US 30	A2		Forbidden		Forbidden	
Hydrobromic acid solution, not more than 49% strength	1788	8		Corrosive		A3	II	809 Y809	1 L 0.5 L	813	30 L
							III	819 Y819	5 L 1 L	821	60 L
Hydrobromic ether, see **Ethyl bromide**											
Hydrocarbon gas, compressed, n.o.s.* †	1964	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Hydrocarbon gas, liquefied, n.o.s.* †	1965	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Hydrocarbon gas mixture, compressed, n.o.s.*	1964	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Hydrocarbon gas mixture, liquefied, n.o.s.*	1965	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Hydrocarbon gas powered small devices, see **Devices, small, hydrocarbon gas powered** with release device											
Hydrocarbon gas refills for small devices with release device ~~see Devices, small, hydrocarbon gas powered with release device~~	3150	2.1		Gas flammable				201	1kg	201	15kg
Hydrochloric acid, anhydrous, see **Hydrogen chloride, anhydrous**											
Hydrochloric acid solution	1789	8		Corrosive		A3	II	809 Y809	1 L 0.5 L	813	30 L
							III	819 Y819	5 L 1 L	821	60 L
Hydrocyanic acid, anhydrous, see **Hydrogen cyanide, stabilized**											
Hydrocyanic acid, aqueous solutions with not more than 20% ~~hydrocyanic acid~~ hydrogen cyanide	1613	6.1						Forbidden		Forbidden	
Hydrofluoboric acid, see **Fluoboric acid**											
Hydrofluoric acid and sulphuric acid mixture	1786	8	6.1	Corrosive & Poison		A1	I	Forbidden		809	2.5 L
Hydrofluoric acid, anhydrous, see **Hydrogen fluoride, anhydrous**											
Hydrofluoric acid solution, more than 60% strength	1790	8	6.1	Corrosive & Poison			I	807	0.5 L	809	2.5 L
Hydrofluoric acid solution, not more than 60% strength	1790	8	6.1	Corrosive & Poison			II	809 Y809	1 L 0.5 L	813	30 L
Hydrofluosilicic acid, see **Fluosilicic acid**											
Hydrogen and methane mixture, compressed	2034	2.1		Gas flammable		A1		Forbidden		200	150 kg
Hydrogen arsenide, see **Arsine**											
Hydrogen bromide, anhydrous	1048	2.3	8	Gas toxic & Corrosive	US 30	A1		Forbidden		200	25 kg
Hydrogen bromide solution, see **Hydrobromic acid solution**											
Hydrogen chloride, anhydrous	1050	2.3	8		US 30	A2		Forbidden		Forbidden	
Hydrogen chloride, refrigerated liquid	2186	2.3	8		US 30			Forbidden		Forbidden	

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1	2	3	4	5	6	7	8	9	10	11	12
66 67 **Hydrogen, compressed**	1049	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
A **Hydrogen cyanide, ~~anhydrous~~ stabilized** containing less than 3% water	1051	6.1	3					Forbidden		Forbidden	
A **Hydrogen cyanide, ~~anhydrous~~, stabilized,** absorbed in a porous inert material containing less than 3% water and	1614	6.1						Forbidden		Forbidden	
Hydrogen cyanide, unstabilized	Forbidden										
68 69 **Hydrogen fluoride, anhydrous**	1052	8	6.1		US 30	A2		Forbidden		Forbidden	
Hydrogen fluoride solution, see **Hydrofluoric acid solution**, etc.											
Hydrogen iodide, anhydrous	2197	2.3	8		US 30	A2		Forbidden		Forbidden	
Hydrogen iodide solution, see **Hydriodic acid solution**											
A **Hydrogen peroxide and peroxyacetic acid mixture** with acid(s), water and not more than 5% peroxyacetic acid, stabilized	3149	5.1	8	Oxidizer & Corrosive		A96	II	501 Y501	1 L 0.5 L	506	5 L
A **Hydrogen peroxide, aqueous solution** with not less than 8% but less than 20% hydrogen peroxide (stabilized as necessary)	2984	5.1		Oxidizer		A17	III	514 Y514	2.5 L 1 L	515	30 L
A **Hydrogen peroxide, aqueous solution** with not less than 20% but not more than 40% hydrogen peroxide (stabilized as necessary)	2014	5.1	8	Oxidizer & Corrosive			II	501 Y501	1 L 0.5 L	506	5 L
A **Hydrogen peroxide, aqueous solution** with more than 40% but not more than 60% hydrogen peroxide (stabilized as necessary)	2014	5.1	8		US 30	A2		Forbidden		Forbidden	
A **Hydrogen peroxide, aqueous solution, stabilized** with more than 60% hydrogen peroxide	2015	5.1	8					Forbidden		Forbidden	
Hydrogen peroxide, stabilized	2015	5.1	8					Forbidden		Forbidden	
Hydrogen phosphide, see **Phosphine**											
Hydrogen, refrigerated liquid	1966	2.1						Forbidden		Forbidden	
Hydrogen selenide, anhydrous	2202	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Hydrogen silicide, see **Silane**											
A Hydrogen sulphate, see **Sulphuric acid**, etc.											
Hydrogen sulphide, liquefied	1053	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Hydroquinol, see **Hydroquinone**											
A **Hydroquinone**	2662	6.1		~~Keep away from food~~ Poison			III	619 Y619	100 kg 10 kg	619	200 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Hydroselenic acid, see **Hydrogen selenide, anhydrous**											
Hydrosilicofluoric acid, see **Fluosilicic acid**											
Hydroxybenzene, see **Phenol**											
3-Hydroxybutan-2-one, see **Acetyl methyl carbinol**											
Hydroxyl amine iodide	Forbidden										
Hydroxylamine sulphate	2865	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
1-Hydroxy-3-methyl-2-penten-4-yne, see **1-Pentol**											
3-Hydroxyphenol, see **Resorcinol**											
Hypochlorites, inorganic, n.o.s. †	3212	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Hypochlorite solutions with more than 5% but less than 16% available chlorine †	1791	8		Corrosive		A14	III	819 Y819	5 L 1 L	821	60 L
Hypochlorite solutions with not less than 16% available chlorine †	1791	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Hyponitrous acid	Forbidden										
Igniter fuse, metal clad, see **Fuse, igniter, tubular, metal clad**											
Igniters †	0121	1.1G						Forbidden		Forbidden	
Igniters †	0314	1.2G						Forbidden		Forbidden	
Igniters †	0315	1.3G						Forbidden		Forbidden	
Igniters †	0325	1.4G		Explosive 1.4				Forbidden		159	75 kg
Igniters †	0454	1.4S		Explosive 1.4				159	25 kg	159	100 kg
Ignition element for lighter, containing pyrophoric liquid	Forbidden										
3,3'-Iminodipropylamine	2269	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Indiarubber, see **Rubber solution**											
Infectious substances, affecting animals* only	2900	6.2		Infectious	AU 6 CA 4 VU 2	A81		602	50 mL or 50 g	602	4 L or 4 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Infectious substances, affecting humans*	2814	6.2		Infectious	AU 6 CA 4 VU 2	A81		602	50 mL or 50 g	602	4 L or 4 kg
Inflammable, see Flammable											
Ink, printer, flammable, see **Printing ink**											
Inositol hexanitrate (dry)	Forbidden										
Insecticide, see appropriate pesticide											
Insecticide gas, n.o.s.*	1968	2.2		Gas non-flammable				200 or 203 Y203	75 kg 30 kg G	200 or 203	150 kg
Insecticide gas, toxic, n.o.s.*	1967	2.3			US 30	A2		Forbidden		Forbidden	
Inulin trinitrate (dry)	Forbidden										
Iodine azide (dry)	Forbidden										
Iodine monochloride	1792	8		Corrosive		A1	II	Forbidden		817	50 kg
Iodine pentafluoride	2495	5.1	6.1 8	Oxidizer & Poison & Corrosive			I	Forbidden		501	2.5 L
2-Iodobutane	2390	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Iodomethane, see **Methyl iodide**											
Iodomethylpropanes	2391	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Iodopropanes	2392	3		Liquid flammable		~~A3~~	~~II~~	~~305~~ Y305	~~5 L~~ 1 L	~~307~~	~~60 L~~
							III	309 Y309	60 L 10 L	310	220 L
alpha-Iodotoluene, see **Benzyl iodide**											
Iodoxy compounds (dry)	Forbidden										
IPDI, see **Isophorone diisocyanate**											
Iridium nitratopentamine iridium nitrate	Forbidden										
Iron arsenate, see **Ferrous arsenate**											
Iron chloride, see **Ferric chloride, anhydrous**											
Iron chloride solution, see **Ferric chloride solution**											
Iron oxide, spent † (obtained from coal gas purification)	1376	4.2			US 30	A2 A3		Forbidden		Forbidden	
Iron pentacarbonyl	1994	6.1	3					Forbidden		Forbidden	
Iron perchloride, see **Ferric chloride, anhydrous**											

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
	1	2	3	4	5	6	7	8	9	10	11	12
A	Iron powder, pyrophoric, see Pyrophoric metals, n.o.s. or Pyrophoric alloys, n.o.s.											
A	Iron sesquichloride, see Ferric chloride, anhydrous											
	Iron sponge, spent † (obtained from coal gas purification)	1376	4.2			US 30	A2 A3		Forbidden		Forbidden	
	Iron swarf, see Ferrous metal, etc.											
A	Irritating agents, see Tear gas substances, etc.											
	Isobutane	1969	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
A	Isobutane mixture	1969	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
	Isobutanol	1212	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
	Isobutene, see Isobutylene											
	Isobutyl acetate	1213	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
	Isobutyl acrylate	2527	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
J	Isobutyl alcohol, ~~see Isobutanol~~	1212	3		Liquid flammable			III	309 Y309	60L 10L	310	220L
J	Isobutyl aldehyde, ~~see Isobutyraldehyde~~	2045	3		Liquid flammable			II	305 Y305	5L 1L	307	60L
A	Isobutylamine	1214	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	5 L
	Isobutylene	1055	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
	Isobutyl formate	2393	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
	Isobutyl isobutyrate	2528	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
	Isobutyl isocyanate	2486	3	6.1	Liquid flammable & Poison			II	306 Y306	1 L 1 L	308	60 L
	Isobutyl methacrylate	2283	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
	Isobutyl propionate	2394	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
	Isobutyraldehyde	2045	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L

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1	2	3	4	5	6	7	8	9	10	11	12
Isobutyric acid	2529	3	8	Liquid flammable & Corrosive			III	309 Y309	5 ~~60~~ L 1 ~~10~~ L	310	~~220~~ L 60
Isobutyric anhydride	2530	3	8	Liquid flammable & Corrosive			III	309 Y309	5 ~~60~~ L 1 ~~10~~ L	310	~~220~~ L 60
Isobutyronitrile	2284	3	6.1	Liquid flammable & Poison			II	305 Y305	1 L 1 L	307	60 L
Isobutyryl chloride	2395	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	5 L
Isocrotonic acid, see **Crotonic acid, liquid**											
~~**Isocyanates, n.o.s.***, boiling point not less than 300°C †~~	~~2207~~	~~6.1~~		~~Keep away from food~~			~~III~~	~~611~~ ~~Y611~~	~~60 L~~ ~~2 L~~	~~618~~	~~220 L~~
Isocyanates, n.o.s.*, ~~flash point less than 23°C †~~ flammable, toxic	2478	3	6.1	Liquid flammable & Poison		~~A60~~ A3	II III	306 Y306 309 Y309	1 L 1 L 60L 2L	308 310	60 L 220L
Isocyanates, n.o.s.*, ~~flash point more than 60.5°C and boiling point less than 300°C †~~ toxic,	2206	6.1		Poison		A3	II III	609 Y609 611 Y611	5 L 1 L 60L 2L	611 618	60 L 220L
Isocyanates, n.o.s.*, ~~flash point not less than 23°C and not more than 60.5°C and boiling point less than 300°C †~~ toxic, flammable, & Liquid flammable	3080	6.1	3	Poison			II	609 Y609	5 L 1 L	611	60 L
~~**Isocyanate solutions, n.o.s.***, boiling point not less than 300°C †~~	~~2207~~	~~6.1~~		~~Keep away from food~~			~~III~~	~~611~~ ~~Y611~~	~~60 L~~ ~~2 L~~	~~618~~	~~220 L~~
Isocyanate solutions, n.o.s.*, ~~flash point less than 23°C †~~ flammable, toxic	2478	3	6.1	Liquid flammable & Poison		~~A60~~ A3	II III	306 Y306 309 Y309	1 L 1 L 60L 2L	308 310	60 L 220L
Isocyanate solutions, n.o.s.*, ~~flash point more than 60.5°C and boiling point less than 300°C †~~ toxic,	2206	6.1		Poison		A3	II III	609 Y609 611 Y611	5 L 1 L 60L 2L	611 618	60 L 220L
Isocyanate solutions, n.o.s.*, ~~flash point not less than 23°C and not more than 60.5°C and boiling point less than 300°C †~~ toxic, flammable, & Liquid flammable	3080	6.1	3	Poison			II	609 Y609	5 L 1 L	611	60 L
Isocyanatobenzotrifluorides	2285	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Isododecane, see **Pentamethylheptane**											
Isoheptene	2287	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Isohexene	2288	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Isooctane, see **Octanes**											
Isooctene	1216	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A **Isopentane**, see Pentanes, liquid	~~1265~~	~~3~~		~~Liquid flammable~~			~~II~~	~~309~~	~~1 L~~	~~303~~	~~30 L~~
Isopentanoic acid, see **Corrosive liquid, n.o.s.**											
Isopentenes	2371	3		Liquid flammable			I	306	1 L	304	30 L
Isopentylamine, see **Amylamine**											
Isopentyl nitrite, see **Amyl nitrite**											
Isophoronediamine	2289	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
A **Isophorone diisocyanate**	2290	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Isoprene, inhibited	1218	3		Liquid flammable			I	302	1 L	303	30 L
Isopropanol	1219	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Isopropenyl acetate	2403	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Isopropenylbenzene	2303	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Isopropyl acetate	1220	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Isopropyl acid phosphate	1793	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
J **Isopropyl alcohol**, ~~see Isopropanol~~	1219	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A **Isopropylamine**	1221	3	8	Liquid flammable & Corrosive			I	302	~~1~~ L 0.5	303	~~2~~ L 2.5
Isopropylbenzene	1918	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Isopropyl bromide, see **2-Bromopropane**											
Isopropyl butyrate	2405	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Isopropyl chloride, see **2-Chloropropane**											
Isopropyl chloroacetate	2947	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Isopropyl chloroformate	2407	6.1	8	Poison & Liquid flammable & Corrosive	US 34	A1	I	Forbidden		604	2.5L
Isopropyl 2-chloropropionate	2934	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Isopropyl-alpha-chloropropionate, see **Isopropyl-2-chloropropionate**											
Isopropylcumyl hydroperoxide, more than 72% in solution	Forbidden										
Isopropyl ether, see **Diisopropyl ether**											
Isopropylethylene, see **3-Methyl-1-butene**											
Isopropyl formate, see **Propyl formates**											
Isopropyl isobutyrate	2406	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Isopropyl isocyanate	2483	3	6.1	Liquid flammable & Poison			I	Forbidden		304	30 L
Isopropyl mercaptan, see **Propanethiols**											
Isopropyl nitrate	1222	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Isopropyl phosphoric acid, see **Isopropyl acid phosphate**											
Isopropyl propionate	2409	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Isopropyltoluene, see **Cymenes**											
Isopropyltoluol, see **Cymenes**											
Isosorbide dinitrate mixture with not less than 60% lactose, mannose, starch or calcium hydrogen phosphate	2907	4.1		Solid flammable		A49	II	415 Y415	15 kg 5 kg	417	50 kg
Isothiocyanic acid	Forbidden										
Isovaleraldehyde, see **Valeraldehyde**											
Jet fuel, see **Fuel, aviation, turbine engine**											
Jet perforating guns, charged, oil well, without detonator †	0124	1.1D						Forbidden		Forbidden	
Jet perforating guns, charged, oil well, without detonator †	0494	1.4D		Explosive 1.4		A24		Forbidden		158	300 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Jet perforators, see **Charges, shaped, commercial**											
Jet tappers, without detonator, see **Charges, shaped, commercial**											
Jet thrust igniters, for rocket motors or Jato, see **Igniters**											
Jet thrust unit (Jato), see **Rocket motors**											
Jute, see **Fibres, etc.** (UN 1373)											
Kapok, see **Fibres, etc.** (UN 1373)											
Kerosene	1223	3		Liquid flammable		~~A3~~	~~II~~	~~305~~ Y305	~~5 L~~ ~~1 L~~	~~307~~	~~60 L~~
							III	309 Y309	60 L 10 L	310	220 L
Ketone oils, see **Acetone oils**											
Ketones, liquid, n.o.s.*	1224	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Krypton, compressed	1056	2.2		Gas non-flammable		A69		200	75 kg	200	150 kg
Krypton, refrigerated liquid	1970	2.2		Gas non-flammable				202	50 kg	202	500 kg
Lacquer base or lacquer chips, nitrocellulose, dry †, see **Nitrocellulose, etc.** (UN 2557)											
Lacquer base or lacquer chips, plastic, wet with alcohol or solvent, see **Nitrocellulose** (UN 2059, 2555, 2556) or **Paint, etc.**											
Lead acetate	1616	6.1		~~Poison~~ ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Lead arsenates	1617	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Lead arsenites	1618	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Lead azide (dry)	Forbidden										
Lead azide, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0129	1.1A						Forbidden		Forbidden	

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
	1	2	3	4	5	6	7	8	9	10	11	12
A	Lead chloride, solid, see **Lead compounds, soluble, n.o.s.**											
A	**Lead compounds, soluble, n.o.s.**	2291	6.1		Poison ~~Keep away from food~~		A92	III	619 Y619	100 kg 10 kg	619	200 kg
	Lead cyanide	1620	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
	Lead dioxide	1872	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
	Lead nitrate	1469	5.1	6.1	Oxidizer & Poison			II	508 Y508	5 kg 1 kg	511	25 kg
	Lead nitroresorcinate (dry)	Forbidden										
	Lead perchlorate	1470	5.1	6.1	Oxidizer & Poison			II	508 Y508	5 kg 1 kg	511	25 kg
	Lead peroxide, see **Lead dioxide**											
	Lead phosphite, dibasic	2989	4.1		Solid flammable		A3	II III	415 Y415 419 Y419	5 kg 5 kg 15 kg 10 kg	417 420	25 kg 50 kg
	Lead picrate (dry)	Forbidden										
	Lead styphnate (dry)	Forbidden										
	Lead styphnate, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0130	1.1A						Forbidden		Forbidden	
	Lead sulphate with more than 3% free acid	1794	8		Corrosive	US 1		II	814 Y814	15 kg 5 kg	816	50 kg
A	Lead tetraethyl, see **Motor fuel anti-knock mixtures**											
A	Lead tetramethyl, see **Motor fuel anti-knock mixtures**											
J	Lead trinitroresorcinate (dry)	Forbidden										
J	**Lead trinitroresorcinate**, ~~see Lead styphnate, etc.~~ wetted with not less than 20% water, or mixture of alcohol and water, by mass	0130	1.1A						Forbidden		Forbidden	
	Leather bleach or dressing, see **Flammable liquid**, etc.											
	Life-saving appliances, not self-inflating containing dangerous goods as equipment	3072	9		Miscellaneous		A48 A87		see 905		see 905	
	Life-saving appliances, self-inflating (Applies to life-saving appliances that present a hazard if the self-inflating device is activated accidentally)	2990	9		Miscellaneous		A48 A87		see 905		see 905	
	Lighter flints, see **Ferrocerium**											
	Lighter fluid, see **Flammable liquid, n.o.s.**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A Lighter refills ~~(and similar devices, each not exceeding 65 grams), see Lighters~~ (cigarettes) containing flammable gas	1057	2.1		Gas flammable				201	1 kg	201	15 kg
Lighters (cigarettes) containing flammable gas	1057	2.1		Gas flammable	US 31			201	1 kg	201	15 kg
Lighters (cigarettes) containing pyrophoric liquid	Forbidden										
Lighters (cigarettes) **with lighter fluids**								Forbidden		Forbidden	
Lighters, fuse †	0131	1.4S		Explosive 1.4				159	25 kg	159	100 kg
Lime-nitrogen, see **Calcium cyanamide**, etc.											
Lime, unslaked, see **Calcium oxide**											
Limonene, inactive, see **Dipentene**											
Liquefied gas, n.o.s.*	3163	2.2		Gas non-flammable				200	75 kg	200	150 kg
Liquefied gases, non-flammable, charged with nitrogen, carbon dioxide or air	1058	2.2		Gas non-flammable				200	75 kg	200	150 kg
Liquefied gas, flammable, n.o.s.*	3161	2.1		Gas flammable		A1		Forbidden		200	150 kg
Liquefied gas, oxidizing, n.o.s.*	3157	2.2	5.1	Gas non-flammable & Oxidizer				200	75 kg	200	150 kg
Liquefied gas, toxic, n.o.s.*	3162	2.3			US 30	A2		Forbidden		Forbidden	
Liquefied gas, toxic, flammable, n.o.s.*	3160	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Liquefied hydrocarbon gas, see **Hydrocarbon gas, liquefied, n.o.s.**, etc.											
Liquefied natural gas, see **Methane, refrigerated liquid** or **Natural gas, refrigerated liquid**											
Liquefied petroleum gas, see **Petroleum gases, liquefied**											
Liquids, other than those classified as flammable, corrosive, or poisonous, charged with nitrogen, carbon dioxide or air, see **Compressed gas, n.o.s.**											
Liquor, see **Alcoholic beverages**, etc.											
A **Lithium**	1415	4.3		Danger if wet		A1	I ~~II~~	Forbidden		~~412~~ 418	15 kg ~~50 kg~~

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Lithium acetylide ethylenediamine complex, see **Water-reactive solid, n.o.s.**											
Lithium alkyls	2445	4.2	4.3					Forbidden		Forbidden	
Lithium aluminium hydride	1410	4.3		Danger if wet			I	Forbidden		412	15 kg
Lithium aluminium hydride, ethereal	1411	4.3	3	Danger if wet & Liquid flammable			I	Forbidden		409	1 L
Lithium amide, see **Alkali metal amides**											
Lithium batteries, liquid cathode†	3090	9		Miscellaneous	US 25	A1 A45	II	Forbidden		903	35 kg G
Lithium batteries, solid cathode†	3090	9		Miscellaneous	US 25	A45	II	903	5 kg G	903	35 kg G
Lithium batteries contained in equipment†	3091	9		Miscellaneous	US 25	A45 A48	II	see 912		see 912	
Lithium borohydride	1413	4.3		Danger if wet			I	Forbidden		412	15 kg
Lithium ferrosilicon	2830	4.3		Danger if wet			II	415 Y415	15 kg 5 kg	417	50 kg
Lithium hydride	1414	4.3		Danger if wet			I	Forbidden		412	15 kg
Lithium hydride, fused solid	2805	4.3		Danger if wet			II	416 Y416	15 kg 5 kg	418	50 kg
Lithium hydroxide monohydrate	2680	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Lithium hydroxide solution	2679	8		Corrosive		A3	II III	809 Y809 819 Y819	1 L 0.5 L 5 L 1 L	813 821	30 L 60 L
Lithium hypochlorite, dry	1471	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Lithium hypochlorite mixtures	1471	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Lithium in cartouches, see **Lithium**											
Lithium nitrate	2722	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Lithium nitride	2806	4.3		Danger if wet			I	Forbidden		411	15 kg
Lithium peroxide	1472	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Lithium silicide, see **Lithium silicon**											
Lithium silicon †	1417	4.3		Danger if wet			II	416 Y416	15 kg 5 kg	418	50 kg
LNG, see **Methane, refrigerated liquid or Natural gas, refrigerated liquid**											
London Purple	1621	6.1		Poison		A6	II	613 Y613	25 kg 1 kg	615	100 kg
LPG, see **Petroleum gases, liquefied**											
Lye, see **Sodium hydroxide, solid**											
Lythene, see **Petroleum ~~solid~~ distillates, n.o.s.**											
Magnesium in pellets, turnings or ribbons	1869	4.1		Solid flammable		A15	III	419 Y419	25 kg 10 kg	420	100 kg
Magnesium alkyls	3053	4.2						Forbidden		Forbidden	
Magnesium alloys with more than 50% magnesium in pellets, turnings or ribbons	1869	4.1		Solid flammable		A15	III	419 Y419	25 kg 10 kg	420	100 kg
Magnesium alloys powder	1418	4.3	4.2	Danger if wet & Spontaneous combustion		A3	I II III	Forbidden 415 419	 15 kg 25 kg	411 417 420	15 kg 50 kg 100 kg
Magnesium aluminium phosphide	1419	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Magnesium arsenate	1622	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Magnesium bisulphite solution, see **Bisulphites, ~~inorganic~~ aqueous solutions, n.o.s.**											
Magnesium bromate	1473	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Magnesium chlorate	2723	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Magnesium chloride and chlorate mixtures, see **Chlorate and *magnesium chloride mixtures***											
Magnesium diamide	2004	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
Magnesium diphenyl	2005	4.2						Forbidden		Forbidden	
Magnesium dross, wet or hot	Forbidden										
Magnesium fluorosilicate	2853	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Magnesium granules, coated, particle size not less than 149 microns	2950	4.3		Danger if wet			III	419 Y419	25 kg 10 kg	420	100 kg
Magnesium hydride	2010	4.3		Danger if wet			I	Forbidden		412	15 kg
Magnesium nitrate	1474	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Magnesium perchlorate	1475	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Magnesium peroxide	1476	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Magnesium phosphide	2011	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Magnesium powder	1418	4.3	4.2	Danger if wet & Spontaneous combustion		A3	I II III	Forbidden 415 419	 15 kg 25 kg	411 417 420	15 kg 50 kg 100 kg
Magnesium scrap †, see **Magnesium or Magnesium alloys** (UN 1869)											
Magnesium silicide	2624	4.3		Danger if wet			II	416 Y416	15 kg 5 kg	418	50 kg
Magnesium silicofluoride, see **Magnesium fluorosilicate**											
Magnetized material	2807	9		Magnetic		A63		902	No limit	902	No limit
Maleic anhydride	2215	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Malonic dinitrile, see **Malononitrile**											
Malonic ethyl ester nitrile, see **Ethyl cyanoacetate**											
Malononitrile	2647	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Maneb	2210	4.2	4.3	Spontaneous combustion & Danger if wet			III	419	25 kg	420	100 kg
Maneb preparations with not less than 60% maneb	2210	4.2	4.3	Spontaneous combustion & Danger if wet			III	419	25 kg	420	100 kg
Maneb preparations, stabilized against self-heating	2968	4.3		Danger if wet		A30	III	419 Y419	25 kg 10 kg	420	100 kg
Maneb stabilized against self-heating	2968	4.3		Danger if wet		A30	III	419 Y419	25 kg 10 kg	420	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Manganese ethylene-di-dithiocarbamate, see **Maneb**											
Manganese ethylene-1,2-di-dithiocarbamate, see **Maneb**											
Manganese nitrate	2724	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Manganese resinate	1330	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Mannitan tetranitrate	Forbidden										
Mannitol hexanitrate (dry)	Forbidden										
Mannitol hexanitrate, wetted with not less than 40% water, or mixture of alcohol and water, by mass	0133	1.1D						Forbidden		Forbidden	
Matches, fusee †	2254	4.1			US 30	A2		Forbidden		Forbidden	
Matches, safety (book, card or strike on box) †	1944	4.1		Solid flammable			III	404 Y404	25 kg 10 kg	404	100 kg
Matches, 'strike anywhere' †	1331	4.1			US 30	A2		Forbidden		Forbidden	
Matches, trick, see **Fireworks**, etc.											
Matches, wax 'vesta'	1945	4.1		Solid flammable			III	404 Y404	25 kg 10 kg	404	100 kg
75 →											
L **Medicines, n.o.s.**, containing flammable aerosol and/or non-flammable aerosol and/or flammable liquid and/or toxic substance, in small inner packagings see Consumer commodity, etc.	—	9		Miscellaneous				910	25 kg G	910	25 kg G
A **Medicines, liquid, flammable, toxic, poisonous, n.o.s.**	3248	3	6.1	Liquid flammable & Poison		A3 A68 A80	II III	305 Y305 305 Y305	1 L 1 L 5 L 2 L	307 307	5 L 5 L
A **Medicines, liquid, poisonous, toxic, n.o.s.**	1851	6.1		Poison (Gr. II) Keep away from food (Gr. III)		A3	II III	609 Y609 609 Y609	5 L 1 L 5 L 2 L	611 611	5 L 5 L
A **Medicines, solid, toxic, poisonous, n.o.s.**	3249	6.1		Poison (Gr. II) Keep away from food (Gr. III)		A3	II III	613 Y613 613 Y613	5 kg 1 kg 5 kg 5 kg	615 615	5 kg 5 kg
p-Mentha-1,8-diene, see **Dipentene** flammable, toxic,											
A **Mercaptan mixture, liquid, n.o.s.***, flash point less than 23°C	1228	3	6.1	Liquid flammable & Poison		A1 A75 A3 A36	II III	Forbidden 306 Y306	5L 1L	308 308	60 L 220 L
toxic, flammable,											
A **Mercaptan mixture, liquid, n.o.s.***, flash point not less than 23°C	3071	6.1	3	Poison & Liquid flammable			II	610 Y610	5 L 1 L	612	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Flammable, toxic, Mercaptans, liquid, n.o.s.*, flash-point less than 23°C	1228	3	6.1	Liquid flammable & Poison		A1 ~~A75~~ A3 A36	II III	Forbidden 306 Y306	5L 1L	308 308	60 L 220 L
toxic, flammable, Mercaptans, liquid, n.o.s.*, flash-point not less than 23°C	3071	6.1	3	Poison & Liquid flammable			II	610 Y610	5 L 1 L	612	60 L
2-Mercaptoethanol, see **Thioglycol**											
2-Mercaptopropionic acid, see **Thiolactic acid**											
5-Mercaptotetrazol-1-acetic acid	0448	1.4C		Explosive 1.4				Forbidden		121	75 kg
Mercuric arsenate	1623	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercuric chloride	1624	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercuric compounds, see **Mercury compounds**, etc.											
Mercuric nitrate	1625	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Mercuric potassium cyanide	1626	6.1		Poison			I	606	5 kg	607	50 kg
Mercuric salts, see **Mercury compounds**, etc.											
Mercuric sulphate, see **Mercury sulphate**											
Mercurol, see **Mercury nucleate**											
Mercurous azide	Forbidden										
Mercurous compounds, see **Mercury compounds**, etc.											
Mercurous nitrate	1627	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Mercurous sulphate, see **Mercury sulphate**											
Mercury	2809	8		Corrosive	US 1		I	803	35 kg	803	35 kg
Mercury contained in manufactured articles	2809	8		Corrosive		A48 A69	I	see 805		see 805	
Mercury acetate	1629	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury acetylide	Forbidden										
Mercury ammonium chloride	1630	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Mercury based pesticides, liquid, flammable, toxic, n.o.s., flash point less than 23°C	2778	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A63~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L
Mercury based pesticides, liquid, toxic, n.o.s.	3012	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Mercury based pesticides, liquid, toxic, flammable, n.o.s., flash point not less than 23°C	3011	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Mercury based pesticides, solid, toxic, n.o.s.	2777	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Mercury benzoate	1631	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury bichloride, see **Mercuric chloride**											
Mercury bisulphate, see **Mercury sulphate**											
Mercury bromides	1634	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury compounds, liquid, n.o.s.	2024	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A3 A4 A6 A18	I II III	610 617 Y617 612 Y612	1 L 5 L 1 L 60 L 2 L	605 612 620	30 L 60 L 220 L
Mercury compounds, solid, n.o.s.	2025	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A3 A5 A6 A18	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Mercury cyanide	1636	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0135	1.1A						Forbidden		Forbidden	
Mercury gluconate	1637	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury iodide aquabasic ammonobasic (Iodide of Millon's base)	Forbidden										
Mercury iodide, solid	1638	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury iodide, solution	1638	6.1		Poison			II	610 Y610	5 L 1 L	612	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Mercury nitride	Forbidden										
Mercury nucleate	1639	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury oleate	1640	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury oxide	1641	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury oxycyanide, desensitized	1642	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury potassium iodide	1643	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury salicylate	1644	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Mercury sulphate	1645	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Mercury thiocyanate	1646	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Mercury vapour tubes, see **Mercury** contained in manufactured articles											
Mesitylene, see **1,3,5-Trimethylbenzene**											
Mesityl oxide	1229	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Metal alkyl halides, n.o.s.*	3049	4.2						Forbidden		Forbidden	
Metal alkyl hydrides, n.o.s.*	3050	4.2						Forbidden		Forbidden	
Metal alkyls, n.o.s.*	2003	4.2						Forbidden		Forbidden	
Metal aryl halides, n.o.s.*	3049	4.2						Forbidden		Forbidden	
Metal aryl hydrides, n.o.s.*	3050	4.2						Forbidden		Forbidden	
Metal aryls, n.o.s.*	2003	4.2						Forbidden		Forbidden	
76→ A **Metal catalyst, dry**	2881	4.2		Spontaneous combustion		A3 A36 ~~A84~~	I II III	Forbidden Forbidden 422	 25 kg	Forbidden 416 421	 50 kg 100 kg
A **Metal catalyst, wetted** with a visible excess of liquid	1378	4.2		Spontaneous combustion		A1 ~~A84~~	II	Forbidden		416	50 kg
Metaldehyde	1332	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Metal hydrides, flammable, n.o.s.*	3182	4.1		Solid flammable		A3	II III	416 Y416 422 Y422	15 kg 5 kg 25 kg 10 kg	418 421	50 kg 100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Metal hydrides, water-reactive, n.o.s.*	1409	4.3		Danger if wet			I	Forbidden		412	15 kg
							II	416	15 kg	418	50 kg
								Y416	5 kg		
Metallic substances, water-reactive, n.o.s.*	3208	4.3		Danger if wet		A3	I	Forbidden		412	15 kg
							II	416	15 kg	418	50 kg
								Y416	5 kg		
							III	422	25 kg	421	100 kg
								Y422	10 kg		
Metallic substances, water-reactive, self-heating, n.o.s.*	3209	4.3	4.2	Danger if wet & Spontaneous combustion		A3	I	Forbidden		412	15 kg
							II	416	15 kg	418	50 kg
							III	422	25 kg	421	100 kg
Metal powders, flammable, n.o.s.	3089	4.1		Solid flammable		A3	II	415	15 kg	417	50 kg
								Y415	5 kg		
							III	419	25 kg	420	100 kg
								Y419	10 kg		
Metal salts of organic compounds, flammable, n.o.s.*	3181	4.1		Solid flammable		A3	II	415	15 kg	417	50 kg
								Y415	5 kg		
							III	419	25 kg	420	100 kg
								Y419	10 kg		
Methacrylaldehyde	2396	3	6.1	Liquid flammable & Poison			II	305	1 L	307	60 L
								Y305	1 L		
Methacrylic acid, inhibited	2531	8		~~Corrosive~~		A2 [A66]	~~III~~	Forbidden ~~818~~	~~5 L~~	Forbidden ~~820~~	~~60 L~~
								~~Y818~~	~~1 L~~		
Methacrylonitrile, inhibited	3079	3	6.1	Liquid flammable & Poison			I	Forbidden		303	30 L
Methallyl alcohol	2614	3		Liquid flammable			III	309	60 L	310	220 L
								Y309	10 L		
Methanal, see **Formaldehyde solutions**											
Methane and hydrogen, mixtures, see **Hydrogen and methane, mixtures, etc.**											
Methane, compressed	1971	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Methane, refrigerated liquid	1972	2.1						Forbidden		Forbidden	
Methanesulphonyl chloride	3246	6.1	8	Poison & Corrosive			I	603	0.5 L	604	2.5 L
Methanol	1230	3	6.1	Liquid flammable & Poison		A104	II	305	1 L	307	60 L
								Y305	1 L		
Methazoic acid	Forbidden										
3-Methoxy-1-acetoxybutane, see **Butoxyl**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
2-Methoxyethyl acetate, see **Ethylene glycol monomethyl ether acetate**											
Methoxymethyl isocyanate	2605	3	6.1	Liquid - flammable & Poison	US 34		I	Forbidden		303	30 L
4-Methoxy-4-methylpentan-2-one	2293	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
1-Methoxy-2-nitrobenzene, see **Nitroanisole**											
2-Methoxy-3-nitrobenzene, see **Nitroanisole**											
1-Methoxy-4-nitrobenzene, see **Nitroanisole**											
1-Methoxy-2-propanol	3092	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Methyl acetate	1231	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A **Methyl acetylene and propadiene mixtures, stabilized** †	1060	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
beta-Methyl acrolein, see **Crotonaldehyde, stabilized**											
Methyl acrylate, inhibited	1919	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methylal	1234	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
FJ **Methyl alcohol** ~~see Methanol~~	1230	3	6.1	Liquid Flammable & Poison		A104	II	305 Y305	1L 1L	307	60L
Methylallyl alcohol, see **Methallyl alcohol**											
Methylallyl chloride	2554	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methylamine, anhydrous	1061	2.1		Gas flammable	US 1 US 30	A1		Forbidden		200	150 kg
A **Methylamine, aqueous solution**	1235	3	8	Liquid flammable & Corrosive			II	305 Y305	~~1 L~~ 0.5	307	~~60 L~~ 5
Methylamine dinitramine and dry salts thereof	Forbidden										
Methylamine nitroform	Forbidden										
Methylamine perchlorate (dry)	Forbidden										
Methylamyl acetate	1233	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Methyl amyl alcohol, see **Methyl isobutyl carbinol**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Methyl amyl ketone, see **Amyl methyl ketone**											
N-Methylaniline	2294	6.1		~~Poison~~ ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Methylated spirit, see **Alcohols, n.o.s.** or **Alcohols, toxic, n.o.s.**											
Methyl benzoate	2938	6.1		~~Poison~~ ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
alpha-Methylbenzyl alcohol	2937	6.1		~~Poison~~ ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Methyl bromide	1062	2.3			US 30	A2		Forbidden		Forbidden	
Methyl bromide and chloropicrin mixtures with more than 2% chloropicrin, see **Chloropicrin and methyl bromide mixtures**											
Methyl bromide and chloropicrin mixtures with not more than 2% chloropicrin, see **Methyl bromide**											
Methyl bromide and ethylene dibromide mixtures, liquid	1647	6.1		Poison		A1	I	Forbidden		605	30 L
Methyl bromoacetate	2643	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
3-Methylbutan-2-one	2397	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
2-Methyl-1-butene	2459	3		Liquid flammable			I	302	1 L	303	30 L
2-Methyl-2-butene	2460	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
3-Methyl-1-butene	2561	3		Liquid flammable			I	302	1 L	303	30 L
N-Methylbutylamine	2945	3	8	Liquid flammable Corrosive			II	305 Y305	~~1 L~~ 5 L ~~0.5 L~~ 1 L	307	~~60 L~~ 5 L
Methyl-tert-butyl ether	2398	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl butyrate	1237	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl cellosolve, see **Ethylene glycol monomethyl ether**											
Methyl cellosolve acetate, see **Ethylene glycol monomethyl ether acetate**											
Methyl chloride	1063	2.1		Gas flammable	US 30	A1		Forbidden		200	100 kg

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Methyl chloride and chloropicrin mixtures, see **Chloropicrin and methyl chloride mixtures**											
Methyl chloride and methylene chloride mixture	1912	2.1		Gas ~~non~~ flammable		A1 A52		Forbidden		200	150 kg
Methyl chloroacetate	2295	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Methyl chlorocarbonate, see **Methyl chloroformate**											
Methyl chloroform, see **1,1,1-Trichloroethane**											
Methyl chloroformate	1238	6.1	3 8					Forbidden		Forbidden	
Methyl chloromethyl ether	1239	6.1	3					Forbidden		Forbidden	
Methyl 2-chloropropionate	2933	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Methyl-alpha-chloropropionate, see **Methyl 2-chloropropionate**											
Methylchlorosilane	2534	2.3	2.1 8		US 30	A2		Forbidden		Forbidden	
~~**Methyl cyanide**~~, see Acetonitrile	~~1648~~	~~3~~	~~6.1~~	~~Liquid flammable & Poison~~			~~II~~	~~305 Y305~~	~~1 L 1 L~~	~~307~~	~~60 L~~
Methylcyclohexane	2296	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methylcyclohexanols, ~~flash point not more than 60.5°C~~ flammable	2617	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Methylcyclohexanone	2297	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Methylcyclopentane	2298	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl dichloroacetate	2299	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Methyldichlorosilane	1242	4.3	3 8	Danger if wet & Liquid flammable & Corrosive	US 34		I	Forbidden		409	1 L
Methylene bromide, see **Dibromomethane**											
Methylene chloride, see **Dichloromethane**											
Methylene chloride and methyl chloride mixture, see **Methyl chloride and methylene chloride mixture**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Methylene cyanide, see **Malononitrile**											
p,p'-Methylene dianiline, see **4,4'-Diaminodiphenylmethane**											
Methylene dibromide, see **Dibromomethane**											
Methylene-di-(phenylene diisocyanate), see **Diphenylmethane-4,4'-diisocyanate**											
Methylene-di-(4-phenyl isocyanate), see **Diphenylmethane-4,4'-diisocyanate**											
2,2'-Methylene-di-(3,4,6-trichlorophenol), see **Hexachlorophene**											
Methylene glycol dinitrate	Forbidden										
Methyl ethyl ether, see **Ethyl methyl ether**											
Methyl ethyl ketone ~~/ see Ethyl methyl ketone~~	1193	3		Liquid Flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl ethyl ketone peroxide(s), more than 50%	Forbidden										
2-Methyl-5-ethylpyridine	2300	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Methyl fluoride	2454	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Methyl formate	1243	3		Liquid flammable			I	302	1 L	303	30 L
2-Methylfuran	2301	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
a-Methylglucoside tetranitrate	Forbidden										
a-Methylglycerol trinitrate	Forbidden										
Methyl glycol acetate, see **Ethylene glycol monomethyl ether acetate**											
Methyl glycol, see **Ethylene glycol monomethyl ether**											
2-Methyl-heptanethiol-2, see **tert-Octylmercaptan**											
5-Methylhexan-2-one	2302	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Methyl hydrate, see **Methanol**											
Methylhydrazine	1244	6.1	3 8					Forbidden		Forbidden	
Methyl hydroxide, see **Methanol**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
1-Methylimidazole, see **Corrosive liquid, n.o.s.**											
K. **Methyl iodide**	2644	6.1		Poison	US 1		~~II~~	Forbidden ~~669~~ Y669	~~5 L~~ 1 L	Forbidden ~~611~~	~~60 L~~
Methyl isobutyl carbinol	2053	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Methyl isobutyl ketone	1245	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl isocyanate	2480	6.1	3					Forbidden		Forbidden	
Methyl isopropenyl ketone, inhibited	1246	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl isothiocyanate	2477	3	6.1	Liquid flammable & Poison	US 34	A1	II	Forbidden		307	60 L
Methyl isovalerate	2400	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl magnesium bromide in ethyl ether	1928	4.3	3	Danger if wet & Liquid flammable			I	Forbidden		409	1 L
Methyl mercaptan	1064	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		Forbidden		200	25 kg
A Methyl mercaptopropionaldehyde, see **2-Methylpentanal**											
Methyl methacrylate monomer, inhibited	1247	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methylmorpholine	2535	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	5 L
Methyl nitramine (dry), metal salts of	Forbidden										
Methyl nitrate	Forbidden										
Methyl nitrite	Forbidden										
A **Methyl orthosilicate**	2606	6.1	~~3~~ 6.1	& Liquid flammable & Poison	US 34		I	Forbidden		604 ~~308~~	30 L
Methyl oxide, see **Dimethyl ether**											
Methylpentadiene	2461	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methylpentanes, see **Hexanes**											
2-Methylpentan-2-ol	2560	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
4-Methylpentan-2-ol, see **Methyl isobutyl carbinol**											
3-Methyl-2-penten-4-one-ol, see **1-Pentol**											
Methylphenyldichlorosilane	2437	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
2-Methyl-2-phenylpropane, see **Butylbenzenes**											
Methyl phosphonous dichloride, see **Pyrophoric liquid, n.o.s.**											
Methyl picric acid (heavy metal salts of)	Forbidden										
1-Methylpiperidine	2399	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	60 L 5 L
2-Methyl-2-propanol, see **Butanols**											
Methyl propionate	1248	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methylpropylbenzene, see **Cymenes**											
Methyl propyl ether	2612	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl propyl ketone	1249	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl pyridines, see **Picolines**											
Methylstyrene, see **Vinyltoluene**, etc.											
alpha-Methylstyrene, see **Isopropenylbenzene**											
Methyl sulphate, see **Dimethyl sulphate**											
Methyl sulphide, see **Dimethyl sulphide**											
Methyltetrahydrofuran	2536	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Methyl trichloroacetate	2533	6.1		~~Keep away from food~~ Poison			III	611 Y611	60 L 2 L	618	220 L
Methyltrichlorosilane	1250	3	8	Liquid flammable & Corrosive	US 34	A1	I	Forbidden		304	2.5 L
Methyl trimethylol methane trinitrate	Forbidden										
alpha-Methylvaleraldehyde	2367	3		Liquid flammable			~~III~~ II	305 Y305	5 L 1 L	307	60 L
Methyl vinyl benzene, see **Vinyltoluene**, etc.											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Methyl vinyl ketone	1251	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Hexamethylenetetramine											
A Metramine, see ~~Hexemine~~											
MIBC, see **Methyl isobutyl carbinol**											
Mine rescue equipment containing carbon dioxide, see **Carbon dioxide**											
Mines with bursting charge †	0137	1.1D						Forbidden		Forbidden	
Mines with bursting charge †	0136	1.1F						Forbidden		Forbidden	
Mines with bursting charge †	0138	1.2D						Forbidden		Forbidden	
Mines with bursting charge †	0294	1.2F						Forbidden		Forbidden	
Mirbane oil, see **Nitrobenzene**											
Missiles, guided, see **Rockets, liquid fuelled**, etc. or **Rockets**, etc.											
A Mobility aids, see ~~Wheelchair, electric-powered equipment~~ or ~~battery-powered vehicle~~ Battery-powered equipment or battery-powered vehicle											
Molybdenum pentachloride	2508	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Monochloroacetic acid, see **Chloroacetic acid**, etc.											
Monochlorobenzene, see **Chlorobenzene**											
Monochlorodifluoromethane, see **Chlorodifluoromethane**											
Monochlorodifluoromethane and monochloropentafluoroethane mixture with fixed boiling point, with approximately 49% monochlorodifluoromethane, see **Chlorodifluoromethane and chloropentafluoroethane mixture**, etc.											
Monochlorodifluoromonobromomethane, see **Chlorodifluorobromomethane**											
Monochloropentafluoroethane and monochlorodifluoromethane mixture, see **Chlorodifluoromethane and chloropentafluoroethane mixture**, etc.											
Monoethylamine, see **Ethylamine**											
Monopropylamine, see **Propylamine**											
Morpholine	2054	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Motorcycles, see **Engines, internal combustion**											

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1		2	3	4	5	6	7	8	9	10	11	12
A	**Motor fuel anti-knock mixtures**	1649	6.1	3	Poison & Liquid flammable		A1 A803	I	Forbidden		605	30 L
A	**Motor spirit**	1203	3		Liquid flammable	AU1	A100	II	305 Y305	5 L 1 L	307	60 L
	Muriatic acid, see **Hydrochloric acid solution**											
J	**Musk xylene**, ~~see 5-tert-Butyl-2,4,6-trinitro-m-xylene~~	2956	4.1						Forbidden		Forbidden	
A	**Naphtha**, See Petroleum distillates, n.a.s.	~~2553~~	~~3~~		~~Liquid flammable~~		~~A3~~	~~I~~	~~303~~	~~1 L~~	~~303~~	~~30 L~~
								~~II~~	~~305~~	~~5 L~~	~~307~~	~~60 L~~
									~~Y305~~	~~1 L~~		
								~~III~~	~~309~~	~~60 L~~	~~310~~	~~220 L~~
									~~Y309~~	~~10 L~~		
A	**Naphtha**, petroleum, see Petroleum distillates, n.o.s.	~~1255~~	~~3~~		~~Liquid flammable~~		~~A3~~	~~I~~	~~303~~	~~1 L~~	~~303~~	~~30 L~~
								~~II~~	~~305~~	~~5 L~~	~~307~~	~~60 L~~
									~~Y305~~	~~1 L~~		
								~~III~~	~~309~~	~~60 L~~	~~310~~	~~220 L~~
									~~Y309~~	~~10 L~~		
A	**Naphtha**, solvent, see Petroleum products, n.o.s.	~~1256~~	~~3~~		~~Liquid flammable~~		~~A3~~	~~II~~	~~305~~	~~5 L~~	~~307~~	~~60 L~~
									~~Y305~~	~~1 L~~		
								~~III~~	~~309~~	~~60 L~~	~~310~~	~~220 L~~
									~~Y309~~	~~10 L~~		
	Naphthalene, crude	1334	4.1		Solid flammable	US1		III	419 Y419	25 kg 10 kg	420	100 kg
	Naphthalene diozonide	Forbidden										
	Naphthalene, molten	2304	4.1						Forbidden		Forbidden	
	Naphthalene, refined	1334	4.1		Solid flammable	US 1		III	419 Y419	25 kg 10 kg	420	100 kg
	Naphthene, see **Cyclohexane**											
A	**alpha-Naphthylamine**	2077	6.1		~~Poison Keep away from food~~	US1		III	619 Y619	100 kg 10 kg	619	200 kg
	beta-Naphthylamine	1650	6.1		Poison	US1		II	613 Y613	25 kg 1 kg	615	100 kg
	Naphthyl amineperchlorates	Forbidden										
77 →	**Naphthylthiourea**	1651	6.1		Poison	US1	A6	II	613 Y613	25 kg 1 kg	615	100 kg
	Naphthylurea	1652	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
	Natural gas, compressed with high methane content	1971	2.1		Gas flammable	US30	A1		Forbidden		200	150 kg
A	**Natural gasoline**, See Gasoline or Motor spirit or Petrol	~~1257~~	~~3~~		~~Liquid flammable~~			~~II~~	~~305~~ Y305	~~5 L~~ 1 L	~~307~~	~~60 L~~

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Natural gas, refrigerated liquid with high methane content	1972	2.1						Forbidden		Forbidden	
Neohexane, see **Hexanes**											
Neon, compressed	1065	2.2		Gas non-flammable				200	75 kg	200	150 kg
Neon, refrigerated liquid	1913	2.2		Gas non-flammable				202	50 kg	202	500 kg
Neopentane, see **2,2-Dimethylpropane**											
Neothyl, see **Methyl propyl ether**											
Nickel arsenate, solid, see **Arsenic compounds, solid, n.o.s.**											
Nickel carbonyl	1259	6.1	3					Forbidden		Forbidden	
Nickel catalyst, see **Metal catalyst, etc.**											
Nickel cyanide	1653	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Nickel nitrate	2725	5.1		Oxidizer	US 1		III	516 Y516	25 kg 10 kg	518	100 kg
Nickel nitrite	2726	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Nickel picrate	Forbidden										
Nicotine	1654	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Nicotine compounds, liquid, n.o.s.	3144	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~	US 1	A3 A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Nicotine compounds, solid, n.o.s.	1655	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~	US 1	A3 A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Nicotine hydrochloride	1656	6.1		Poison	US 1	A6	II	609 Y609	5 L 1 L	611	60 L
Nicotine hydrochloride solution	1656	6.1		Poison	US 1	A6	II	609 Y609	5 L 1 L	611	60 L
Nicotine preparations, liquid, n.o.s.	3144	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~	US 1	A3 A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Nicotine preparations, solid, n.o.s.	1655	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~	US 1	A3 A5 A6	I	606	5 kg	607	50 kg
							II	613 Y613	25 kg 1 kg	615	100 kg
							III	619 Y619	100 kg 10 kg	619	200 kg
Nicotine salicylate	1657	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Nicotine sulphate, solid	1658	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Nicotine sulphate solution	1658	6.1		Poison	US 1		II	609 Y609	5 L 1 L	611	60 L
Nicotine tartrate	1659	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Nitrates, inorganic, n.o.s.	1477	5.1		Oxidizer		A3	II	508 Y508	5 kg 2.5 kg	511	25 kg
							III	516 Y516	25 kg 10 kg	518	100 kg
Nitrates, inorganic, aqueous solutions, n.o.s.	3218	5.1		Oxidizer		A3	II	503 Y503	1 L 0.5 L	505	5 L
							III	514 Y514	2.5 L 1 L	515	30 L
Nitrates of diazonium compounds	Forbidden										
Nitrating acid mixtures with more than 50% nitric acid †	1796	8	5.1	Corrosive & Oxidizer			I	Forbidden		809	2.5 L
Nitrating acid mixtures with not more than 50% nitric acid †	1796	8		Corrosive		A1	II	Forbidden		813	30 L
Nitrating acid mixtures, spent with more than 50% nitric acid †	1826	8	5.1	Corrosive & Oxidizer		A34	I	Forbidden		809	2.5 L
Nitrating acid mixtures, spent with not more than 50% nitric acid †	1826	8		Corrosive		A1 A34	II	Forbidden		813	30 L
Nitric acid, other than red fuming, with more than 70% nitric acid	2031	8		Corrosive	US 34		I	Forbidden		809	2.5 L
Nitric acid, other than red fuming, with not more than 20% nitric acid	2031	8		Corrosive			II	807 Y807	1 L 0.5 L	813	30 L
Nitric acid, other than red fuming, with not more than 70% nitric acid	2031	8		Corrosive		A1	II	Forbidden		813	30 L
Nitric acid, red fuming	2032	8	5.1 6.1					Forbidden		Forbidden	
Nitric oxide	1660	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	
Nitric oxide and dinitrogen tetroxide mixtures	1975	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	
Nitric oxide and nitrogen dioxide mixtures, ~~see Nitric oxide and dinitrogen tetroxide mixtures~~	1975	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Nitrites, inorganic, n.o.s.	2627	5.1		Oxidizer		A33	II	508 Y508	5 kg 2.5 kg	511	25 kg
Nitrites, inorganic, aqueous solutions, n.o.s.	3219	5.1		Oxidizer		A3 A33	II III	503 Y503 514 Y514	1 L 0.5 L 2.5 L 1 L	505 515	5 L 30 L
N-Nitroaniline	Forbidden										
Nitroanilines (o-,m-,p-)	1661	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Nitroanisole, liquid	2730	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Nitroanisole, solid	2730	6.1		~~Poison Keep away from food~~			III	616 Y616	100 kg 10 kg	616	200 kg
Nitrobenzene	1662	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Nitrobenzene bromide, see **Nitrobromobenzene**											
m-Nitrobenzene diazonium perchlorate	Forbidden										
Nitrobenzenesulphonic acid	2305	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Nitrobenzol, see **Nitrobenzene**											
5-Nitrobenzotriazol	0385	1.1D						Forbidden		Forbidden	
Nitrobenzotrifluorides	2306	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Nitrobromobenzene, liquid	2732	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Nitrobromobenzene, solid	2732	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Nitrocellulose, dry or wetted with less than 25% water (or alcohol), by mass	0340	1.1D						Forbidden		Forbidden	
Nitrocellulose, unmodified or plasticized with less than 18% plasticizing substance, by mass	0341	1.1D						Forbidden		Forbidden	
Nitrocellulose, plasticized with not less than 18% plasticizing substance, by mass	0343	1.3C						Forbidden		Forbidden	
Nitrocellulose solutions, flammable with not more than 12.6% nitrogen, by mass, and not more than 55% nitrocellulose	2059	3		Liquid flammable	BE 3	A3 A91	I II III	302 305 Y305 309 Y309	1 L 5 L 1 L 60 L 10 L	303 307 310	30 L 60 L 220 L
Nitrocellulose, wetted with not less than 25% alcohol, by mass	0342	1.3C						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Nitrocellulose with alcohol, not less than 25% alcohol, by mass, and not more than 12.6% nitrogen, by dry mass	2556	4.1		Solid flammable	BE 3	A57	II	416 Y416	1 kg 1 kg	418	15 kg
Nitrocellulose with ~~plasticising substance, not less than 18% plasticizing substance, by mass, and~~ not more than 12.6% nitrogen, by dry mass, mixture, without pigment	2557	4.1		Solid flammable	BE 3	A57 A86	II	416 Y416	1 kg 1 kg	418	15 kg
Nitrocellulose with water, not less than 25% water by mass	2555	4.1		Solid flammable	BE 3	A57	II	416 Y416	15 kg 5 kg	418	50 kg
Nitrochlorobenzene, see **Chloronitrobenzenes**											
3-Nitro-4-chlorobenzotrifluoride	2307	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Nitrochloroform, see **Chloropicrin**											
Nitrocresols	2446	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
6-Nitro-4-diazotoluene-3-sulphonic acid (dry)	Forbidden										
Nitroethane	2842	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Nitroethylene polymer	Forbidden										
Nitroethyl nitrate	Forbidden										
Nitrogen, compressed	1066	2.2		Gas non-flammable				200	75 kg	200	150 kg
Nitrogen dioxide, liquefied, ~~see Dinitrogen tetroxide, liquefied~~	1067	2.3	5.1 8		US30	A2		Forbidden		Forbidden	
Nitrogen, mixtures with rare gases, see **Rare gases and nitrogen mixtures**											
Nitrogen monoxide, see **Nitrous oxide, compressed**											
Nitrogen, refrigerated liquid	1977	2.2		Gas non-flammable				202	50 kg	202	500 kg
Nitrogen trichloride	Forbidden										
Nitrogen trifluoride	2451	2.3	5.1	Gas toxic & Oxidizer	US30	A1		Forbidden		200	25 kg
Nitrogen triiodide	Forbidden										
Nitrogen triiodide monoamine	Forbidden										
Nitrogen trioxide	2421	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	

Name	UN No.	Class or division	Sub-sidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Nitroglycerin, desensitized with not less than 40% non-volatile water-insoluble phlegmatizer, by mass	0143	1.1D	6.1					Forbidden		Forbidden	
Nitroglycerin, liquid, not desensitized	Forbidden										
Nitroglycerin solution in alcohol with more than 1% but not more than 5% nitroglycerin	3064	3		Liquid flammable	BE 3		II	Forbidden		311	5 L
Nitroglycerin solution in alcohol with more than 1% but not more than 10% nitroglycerin	0144	1.1D				~~A42~~		Forbidden		Forbidden	
Nitroglycerin solution in alcohol with not more than 1% nitroglycerin	1204	3		Liquid flammable	BE 3		II	306 Y306	5 L 1 L	308	60 L
Nitroguanidine, dry or wetted with less than 20% water, by mass	0282	1.1D						Forbidden		Forbidden	
Nitroguanidine nitrate	Forbidden										
Nitroguanidine, wetted with not less than 20% water, by mass	1336	4.1		Solid flammable	BE 3	A40	I	416	1 kg	412	15 kg
1-Nitro hydantoin	Forbidden										
Nitrohydrochloric acid	1798	8		Corrosive		A1	I	Forbidden		809	2.5 L
Nitro isobutane triol trinitrate	Forbidden										
Nitromannite (dry) **Nitromannite, wetted**/~~see Mannitol hexanitrate, etc. with not less than 40% water, or mixture of alcohol and water~~, by mass	Forbidden 0133	1.1D						Forbidden		Forbidden	
Nitromethane	1261	3		Liquid flammable		A1 A39	II	Forbidden		307	60 L
N-Nitro-N-methylglycolamide nitrate	Forbidden										
2-Nitro-2-methylpropanol nitrate	Forbidden										
Nitromuriatic acid, see **Nitrohydrochloric acid**											
Nitronaphthalene	2538	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Nitrophenols (o-,m-,p-)	1663	6.1		~~Keep away from food~~ Poison	US 1		III	619 Y619	100 kg 10 kg	619	200 kg
m-Nitrophenyldinitro methane	Forbidden										
Nitropropanes	2608	3		Liquid flammable	US 1		III	309 Y309	60 L 10 L	310	220 L
p-Nitrosodimethylaniline	1369	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
Nitrostarch, dry or wetted with less than 20% water, by mass	0146	1.1D						Forbidden		Forbidden	
Nitrostarch, wetted with not less than 20% water, by mass	1337	4.1		Solid flammable	BE 3	A40	I	416	1 kg	412	15 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Nitrosugars (dry)	Forbidden										
Nitrosyl chloride	1069	2.3	8		US 30	A2		Forbidden		Forbidden	
Nitrosylsulphuric acid	2308	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Nitrotoluenes, liquid	1664	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Nitrotoluenes, solid	1664	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Nitrotoluidines (mono)	2660	6.1		~~Keep away from food~~ Poison	US 1		III	619 Y619	100 kg 10 kg	619	200 kg
Nitrotriazolone	0490	1.1D						Forbidden		Forbidden	
Nitrotrichloromethane, see **Chloropicrin**											
Nitro urea	0147	1.1D						Forbidden		Forbidden	
Nitrous ether, see **Ethyl nitrite solutions**											
Nitrous oxide and carbon dioxide mixtures, see **Carbon dioxide and nitrous oxide mixtures**											
Nitrous oxide, compressed	1070	2.2	5.1	Gas non-flammable & Oxidizer				200	75 kg	200	150 kg
Nitrous oxide, refrigerated liquid	2201	2.2	5.1			A2		Forbidden		Forbidden	
Nitroxylenes (o-,m-,p-)	1665	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Non-activated carbon, see **Carbon**											
Non-activated charcoal, see **Carbon**											
Nonanes	1920	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Non-flammable gas, n.o.s., see **Compressed** or **Liquefied gas, etc.**											
Non-liquefied gas, see **Compressed gas, etc.**											
Non-liquefied hydrocarbon gas, see ***Hydrocarbon gas, compressed, n.o.s.***											
Nonyltrichlorosilane	1799	8		Corrosive		A1	II	Forbidden		813	30 L
2,5-Norbornadiene	2251	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Nordhausen acid, see **Sulphuric acid, fuming**											

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
J Normal propyl alcohol/ ~~see n-Propanol~~	1274	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
J NTO/ ~~see Nitrotriazolone~~	0490	1.1D						Forbidden		Forbidden	
Octadecyltrichlorosilane	1800	8		Corrosive		A1		Forbidden		813	30 L
A Octadiene	2309	3		Liquid flammable		~~A3~~	II ~~III~~	305 Y305 ~~309~~ ~~Y309~~	5 L 1 L ~~60 L~~ ~~10 L~~	307 ~~310~~	60 L ~~220 L~~
1,7-Octadiene-3,5-diyne-1,8-dimethoxy-9-octadecynoic acid	Forbidden										
Octafluorobut-2-ene	2422	2.2		Gas non-flammable				200	75 kg	200	150 kg
Octafluorocyclobutane	1976	2.2		Gas non-flammable				200	75 kg	200	150 kg
Octafluoropropane	2424	2.2		Gas non-flammable				200	75 kg	200	150 kg
Octanes	1262	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Octogen/ ~~see Cyclotetramethylene-tetranitramine, etc.~~		See "Additions to PSNs as result of WP 39 Nos 19-21									
J Octol/ ~~see Octolite, etc. dry or wetted with less than 15% water, by mass~~	0266	1.1D						Forbidden		Forbidden	
Octolite, dry or wetted with less than 15% water, by mass	0266	1.1D						Forbidden		Forbidden	
87 → D Octyl aldehydes, flammable	1191	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
tert-Octyl mercaptan	3023	6.1	3	Poison & Liquid flammable	US 34	A1	II	Forbidden		612	60 L
Octyltrichlorosilane	1801	8		Corrosive		A1	II	Forbidden		813	30 L
Oenanthol, see n-Heptaldehyde											
A Oil gas †	1071	~~2.1~~ 2.3	2.1	Gas toxic & Gas flammable	US 30	A1		Forbidden		200	25 ~~150~~ kg
Oil well sampling device, charged, see Compressed or Liquefied gas, flammable, n.o.s.											
Oleum, see Sulphuric acid, fuming											
Organic peroxide type B, liquid*	3101	5.2			US 3			Forbidden		Forbidden	
Organic peroxide type B, liquid, temperature controlled*	3111	5.2			US 3			Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing Instruction	Max. net quantity per package	Packing Instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Organic peroxide type B, solid*	3102	5.2			US 3			Forbidden		Forbidden	
Organic peroxide type B, solid, temperature controlled*	3112	5.2			US 3			Forbidden		Forbidden	
H Organic peroxide type C, liquid*	3103	5.2		Organic peroxide	US 3	A20		500	5 L	502	10 L
Organic peroxide type C, liquid, temperature controlled*	3113	5.2			US 3			Forbidden		Forbidden	
H Organic peroxide type C, solid*	3104	5.2		Organic peroxide	US 3	A20		510	5 kg	513	10 kg
Organic peroxide type C, solid, temperature controlled*	3114	5.2			US 3			Forbidden		Forbidden	
H Organic peroxide type D, liquid*	3105	5.2		Organic peroxide	US 3	A20		500	5 L	502	10 L
Organic peroxide type D, liquid, temperature controlled*	3115	5.2			US 3			Forbidden		Forbidden	
H Organic peroxide type D, solid*	3106	5.2		Organic peroxide	US 3	A20		510	5 kg	513	10 kg
Organic peroxide type D, solid, temperature controlled*	3116	5.2			US 3			Forbidden		Forbidden	
H Organic peroxide type E, liquid*	3107	5.2		Organic peroxide	US 3	A20		500	10 L	502	25 L
Organic peroxide type E, liquid, temperature controlled*	3117	5.2			US 3			Forbidden		Forbidden	
H Organic peroxide type E, solid*	3108	5.2		Organic peroxide	US 3	A20		510	10 kg	513	25 kg
Organic peroxide type E, solid, temperature controlled*	3118	5.2			US 3			Forbidden		Forbidden	
H Organic peroxide type F, liquid*	3109	5.2		Organic peroxide	US 3	A20		500	10 L	502	25 L
Organic peroxide type F, liquid, temperature controlled*	3119	5.2			US 3			Forbidden		Forbidden	
H Organic peroxide type F, solid*	3110	5.2		Organic peroxide	US 3	A20		510	10 kg	513	25 kg
Organic peroxide type F, solid, temperature controlled*	3120	5.2			US 3			Forbidden		Forbidden	
88 → A Organochlorine pesticides, liquid, flammable, toxic, ~~n.o.s.~~, flash point less than 23°C	2762	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L
A Organochlorine pesticides, liquid, toxic, ~~n.o.s.~~	2996	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Organochlorine pesticides, liquid, toxic, flammable, n.o.s., flash point not less than 23°C	2995	6.1	3	Poison (Gr. I & II) Keep away from food (Gr. III) & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Organochlorine pesticides, solid, toxic, n.o.s.	2761	6.1		Poison (Gr. I & II) Keep away from food (Gr. III)		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Organometallic compounds, water-reactive, flammable, n.o.s.*	3207	4.3	3	Danger if wet & Liquid flammable		A3	I II III	Forbidden 409 431	 1 L 5 L	409 431 432	1 L 5 L 60 L
Organometallic dispersions, water-reactive, flammable, n.o.s.*	3207	4.3	3	Danger if wet & Liquid flammable		A3	I II III	Forbidden 409 431	 1 L 5 L	409 431 432	1 L 5 L 60 L
Organometallic solutions, water-reactive, flammable, n.o.s.*	3207	4.3	3	Danger if wet & Liquid flammable		A3	I II III	Forbidden 409 431	 1 L 5 L	409 431 432	1 L 5 L 60 L
Organophosphorus pesticides, liquid, flammable, toxic, n.o.s., flash point less than 23°C	2784	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L
Organophosphorus pesticides, liquid, toxic, n.o.s.	3018	6.1		Poison (Gr. I & II) Keep away from food (Gr. III)		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Organophosphorus pesticides, liquid, toxic, flammable, n.o.s., flash point not less than 23°C	3017	6.1	3	Poison (Gr. I & II) Keep away from food (Gr. III) & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Organophosphorus pesticides, solid, toxic, n.o.s.	2783	6.1		Poison (Gr. I & II) Keep away from food (Gr. III)		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Organotin compounds, liquid, n.o.s.	2788	6.1		Poison (Gr. I & II) Keep away from food (Gr. III)		A4 A6	I II III	610 610 Y610 611 Y611	1 L 5 L 1 L 60 L 2 L	605 612 618	30 L 60 L 220 L
Organotin compounds, solid, n.o.s.	3146	6.1		Poison (Gr. I & II) Keep away from food (Gr. III)		A3 A5 A6	I II III	608 614 Y614 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	608 616 619	50 kg 100 kg 200 kg
Organotin pesticides, liquid, flammable, toxic, n.o.s., flash point less than 23°C	2787	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Organotin pesticides, liquid, toxic ~~n.o.s.~~	3020	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Organotin pesticides, liquid, toxic, flammable ~~n.o.s.~~, flash point not less than 23°C	3019	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Organotin pesticides, solid, toxic ~~n.o.s.~~	2786	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Orthophosphoric acid, see **Phosphoric acid**											
Osmic acid anhydride, see **Osmium tetroxide**											
Osmium tetroxide	2471	6.1		Poison			I	608	5 kg	608	50 kg
Other regulated substances	–	9		Miscellaneous		A48		906	No limit	906	No limit
Oxidizing liquid, n.o.s.*	3139	5.1		Oxidizer		A3	II III	503 Y503 514 Y514	1 L 0.5 L 2.5 L 1 L	505 515	5 L 30 L
Oxidizing liquid, corrosive, n.o.s.*	3098	5.1	8	Oxidizer & Corrosive		A3	I II III	Forbidden 501 Y501 514 Y514	1 L 0.5 L 2.5 L 1 L	501 506 515	2.5 L 5 L 30 L
Oxidizing liquid, ~~poisonous~~ toxic, n.o.s.*	3099	5.1	6.1	Oxidizer & Poison		A3 ~~A68~~	I II III	Forbidden 501 Y501 514 Y514	1 L 0.5 L 2.5 L 1 L	501 506 515	2.5 L 5 L 30 L
Oxidizing solid, n.o.s.*	1479	5.1		Oxidizer		A3	I II III	509 508 Y508 516 Y516	1 kg 5 kg 2.5 kg 25 kg 10 kg	512 511 518	15 kg 25 kg 100 kg
Oxidizing solid, corrosive, n.o.s.*	3085	5.1	8	Oxidizer & Corrosive		A3	I II III	508 508 Y508 516 Y516	1 kg 5 kg 2.5 kg 25 kg 5 kg	511 511 518	15 kg 25 kg 100 kg
Oxidizing solid, flammable, n.o.s.*	3137	5.1	4.1					Forbidden		Forbidden	
Oxidizing solid, ~~poisonous~~ toxic, n.o.s.*	3087	5.1	6.1	Oxidizer & Poison		A3 ~~A68~~	I II III	508 508 Y508 516 Y516	1 kg 5 kg 1 kg 25 kg 10 kg	511 511 518	15 kg 25 kg 100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Oxidizing solid, self-heating, n.o.s.*	3100	5.1	4.2					Forbidden		Forbidden	
Oxidizing solid, water-reactive, n.o.s.*	3121	5.1	4.3					Forbidden		Forbidden	
Oxirane, see **Ethylene oxide**, etc.											
Oxygen and carbon dioxide mixtures, see **Carbon dioxide and oxygen mixtures**											
Oxygen, compressed	1072	2.2	5.1	Gas non-flammable & Oxidizer				200	75 kg	200	150 kg
Oxygen difluoride	2190	2.3	5.1 8		US 30	A2		Forbidden		Forbidden	
Oxygen generators, small, for personal use, containing oxidizing substances	–	5.1		Oxidizer			II	521	5 kg G	521	25 kg G
Oxygen, mixtures with rare gases, see **Rare gases and oxygen mixtures**											
Oxygen, refrigerated liquid	1073	2.2	5.1		US 30	A2		Forbidden		Forbidden	
1-Oxy-4-nitrobenzene, see **Nitrophenols**											
Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	1263	3		Liquid flammable		A3 A7 A72	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	3066	8		Corrosive		A3 A72	II III	808 Y808 818 Y818	1 L 0.5 L 5 L 1 L	812 820	30 L 60 L
Paint related material (including paint thinning or reducing compound)	1263	3		Liquid flammable		A3 A7 A72	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
Paint related material (including paint thinning or reducing compound)	3066	8		Corrosive		A3 A72	II III	808 Y808 818 Y818	1 L 0.5 L 5 L 1 L	812 820	30 L 60 L
Paper, unsaturated oil treated, incompletely dried (including carbon paper)	1379	4.2			US 30	A2		Forbidden		Forbidden	
Paraffin, see **Kerosene**											
Paraformaldehyde	2213	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Paraldehyde	1264	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
PCBs, see **Polychlorinated biphenyls**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Pentaborane	1380	4.2	6.1					Forbidden		Forbidden	
Pentachloroethane	1669	6.1		Poison	US 1		II	609 Y609	5 L 1 L	611	60 L
Pentachlorophenol	3155	6.1		Poison		A6	II	613 Y613	25 kg 1 kg	615	100 kg
Pentaerythrite tetranitrate (dry)	Forbidden										
Pentaerythrite tetranitrate with not less than 7% wax, by mass	0411	1.1D						Forbidden		Forbidden	
Pentaerythrite tetranitrate, desensitized with not less than 15% phlegmatizer by mass	0150	1.1D						Forbidden		Forbidden	
Pentaerythrite tetranitrate, wetted with not less than 25% water, by mass	0150	1.1D						Forbidden		Forbidden	
J Pentaerythritol tetranitrate (dry)	Forbidden										
J Pentaerythritol tetranitrate; ~~see. Pentaerythrite tetranitrate, etc. with~~ not less than 7% wax, by mass	0411	1.1D						Forbidden		Forbidden	
Pentafluoroethane	3220	2.2		Gas non-flammable				200	75 kg	200	150 kg
Pentamethylheptane	2286	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Pentanal, see **Valeraldehyde**											
Pentan-2,4-dione	2310	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
93→ A **n-Pentanes**, liquid	1265	3		Liquid flammable			I II	302 305 Y305	1 L 5L 1L	303 307	30 L 60L
Pentane, methyl, see **Hexanes**											
Pentanitroaniline (dry)	Forbidden										
3-Pentanol, see **Amyl alcohols**											
1-Pentene, see **n-Amylene**											
1-Pentol	2705	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Pentolite, dry or wetted with less than 15% water, by mass	0151	1.1D						Forbidden		Forbidden	
Pentyl nitrite, see **Amyl nitrite**											
A ***Percarbonates, inorganic, n.o.s.***	3217	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Perchlorates, inorganic, n.o.s.	1481	5.1		Oxidizer		A3	II	508 Y508	5 kg 2.5 kg	511	25 kg
							III	516 Y516	25 kg 10 kg	518	100 kg
A **Perchlorates, inorganic, aqueous solutions, n.o.s.**	3211	5.1		Oxidizer			II	501 Y501	1 L 0.5 L	506	5 L
J Pentaerythritol tetranitrate, desensitized with not less than 15% phlegmatized, by mass	0150	1.1D						Forbidden		Forbidden	
J Pentaerythritol tetranitrate, wetted with not less than 25% water by mass	0150	1.1D						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Perchloric acid with more than 50% but not more than 72% acid, by mass	1873	5.1	8	Oxidizer & Corrosive			I	Forbidden		501	2.5 L
Perchloric acid with more than 72% acid, by mass	Forbidden										
***Perchloric acid** with not more than* 50% acid, by mass	*1802*	*8*	5.1	Corrosive & Oxidizer		A1	II	Forbidden		813	30 L
Perchlorobenzene, see **Hexachlorobenzene**											
Perchlorocyclopentadiene, see **Hexachlorocyclopentadiene**											
Perchloroethylene, see **Tetrachloroethylene**											
Perchloromethane, see **Carbon tetrachloride**											
K **Perchloromethyl mercaptan**	1670	6.1		~~Poison~~	US 1 US 34	~~A1~~	~~I~~	Forbidden		Forbidden ~~605~~	~~30 L~~
Perchloryl fluoride	3083	2.3	5.1		US 30	A2		Forbidden		Forbidden	
Percussion caps, see **Primers, cap type**											
Perfluoroacetylchloride, see **Trifluoroacetyl chloride**											
Perfluoro-2-butene, see **Octafluorobut-2-ene**											
Perfluoroethylvinyl ether	3154	2.1		Gas flammable		A1		Forbidden		200	150 kg
Perfluoromethylvinyl ether	3153	2.1		Gas flammable		A1		Forbidden		200	150 kg
Perfluoropropane, see **Octafluoropropane**											
Perfumery products with flammable solvents	1266	3		Liquid flammable		A3	II	305 Y305	15 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Permanganates, inorganic, n.o.s.	1482	5.1		Oxidizer		A3 A37	II	508 Y508	5 kg 2.5 kg	511	25 kg
							III	516 Y516	25 kg 10 kg	518	100 kg
A **Permanganates, inorganic, aqueous solution, n.o.s.**	3214	5.1		Oxidizer		A37	II	503 Y503	1 L 0.5 L	505	5 L
Permeation devices for calibrating air quality monitoring equipment, see Special Provision A41											
Peroxide, organic, see **Organic peroxide, etc.**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Peroxides, inorganic, n.o.s.	1483	5.1		Oxidizer		A3	II	509 Y509	5 kg 2.5 kg	512	25 kg
							III	517 Y517	25 kg 10 kg	519	100 kg
Peroxyacetic acid, more than 43% and with more than 6% hydrogen peroxide	Forbidden										
A **Persulphates, inorganic, n.o.s.**	3215	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
A **Persulphates, inorganic, aqueous solutions, n.o.s.**	3216	5.1		Oxidizer			III	514 Y514	2.5 L 1 L	515	30 L
A **Pesticides, liquid, flammable, toxic, n.o.s.,* flash point less than 23°C**	3021	3	6.1	Liquid flammable & Poison		~~A8~~ ~~A68~~	I II	Forbidden 305 Y305	1 L 1 L	303 307	30 L 60 L
A **Pesticides, liquid, toxic, n.o.s.***	2902	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Pesticides, liquid, toxic, flammable, n.o.s.,* flash point not less than 23°C**	2903	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~ 4 Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Pesticides, solid, toxic, n.o.s.***	2588	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
A Pesticides, toxic, under compressed gas, n.o.s., see Aerosols											
~~PETN, see Pentaerythrite tetranitrate~~	See "Addition of PSNs as result of W°/39" Nos 22-25										
PETN/TNT, see Pentolite, etc.											
A **Petrol**	1203	3		Liquid flammable	AU 1	A100	II	305 Y305	5 L 1 L	307	60 L
Petroleum crude oil	1267	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
A **Petroleum distillates, n.o.s.**	1268	3		Liquid flammable		A3	I II III	302 305 Y305 309 Y309	1 L 5 L 1 L 60 L 10 L	303 307 310	30 L 60 L 220 L
A Petroleum ether, see Petroleum ~~spirit~~ distillates, n.o.s.											
Petroleum gases, liquefied	1075	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
A Petroleum naphtha, see ~~Naphtha~~ Petroleum distillates, n.o.s.											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Petroleum oil, see Petroleum products, n.o.s.	~~1270~~	~~3~~		~~Liquid flammable~~		~~A3~~	~~II~~	~~305~~	~~5 L~~	~~307~~	~~60 L~~
							~~III~~	~~Y305~~ ~~309~~ ~~Y309~~	~~1 L~~ ~~60 L~~ ~~10 L~~	~~310~~	~~220 L~~
Petroleum raffinate, see Petroleum distillates, n.o.s.											
Petroleum spirit, see Petroleum distillates, n.o.s.	~~1271~~	~~3~~		~~Liquid flammable~~		~~A3~~	~~I~~ ~~II~~	~~302~~ ~~305~~ ~~Y305~~	~~1 L~~ ~~5 L~~ ~~1 L~~	~~303~~ ~~307~~	~~30 L~~ ~~60 L~~
Phenacyl bromide	2645	6.1		*Poison*			II	613 Y613	25 kg 1 kg	615	100 kg
Phenetidines	2311	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Phenol, molten	2312	6.1						Forbidden		Forbidden	
Phenol, solid	1671	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Phenol solutions	2821	6.1		Poison		A3	II	609 Y609	5 L 1 L	611	60 L
							III	611 Y611	60 L 2 L	618	220 L
Phenolsulphonic acid, liquid	1803	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Phenoxy pesticides, liquid, flammable, toxic, ~~n.o.s.~~, flash point less than 23°C	2766	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	1 L 1 L	303 307	30 L 60 L
Phenoxy pesticides, liquid, toxic n.o.s.	3000	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Phenoxy pesticides, liquid, toxic, flammable, ~~n.o.s.~~, flash point not less than 23°C	2999	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Phenoxy pesticides, solid, toxic n.o.s.	2765	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Phenylacetonitrile, liquid	2470	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
Phenylacetyl chloride	2577	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Phenylamine, see Aniline											
1-Phenylbutane, see Butylbenzenes											
2-Phenyl butane, see Butylbenzenes											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Phenylcarbylamine chloride	1672	6.1						Forbidden		Forbidden	
Phenyl chloroformate	2746	6.1	8	Poison & Corrosive			II	609 Y609	1 L 1 L	611	30 L
Phenyl cyanide, see **Benzonitrile**											
m-Phenylene diamine diperchlorate (dry)	Forbidden										
A **Phenylenediamines** (o-,m-,p-)	1673	6.1		~~Poison~~ ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Phenylethylene, see **Styrene monomer, inhibited**											
Phenylhydrazine	2572	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Phenyl isocyanate	2487	6.1		Poison	US 34		II	610 Y610	5 L 1 L	612	60 L
97 → D K **Phenyl mercaptan**	2337	6.1	3	~~Poison & Liquid flammable~~	US 1 US 34		~~II~~	Forbidden ~~610~~ ~~Y610~~	Forbidden ~~5 L~~ ~~1 L~~	Forbidden ~~606~~	Forbidden ~~60 L~~
Phenylmercuric acetate	1674	6.1		Poison	US 1	A6	II	613 Y613	25 kg 1 kg	615	100 kg
A **Phenylmercuric compounds**, n.o.s.	2026	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A3 A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Phenylmercuric hydroxide	1894	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Phenylmercuric nitrate	1895	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
A **Phenyl phosphorus dichloride**	2798	8		Corrosive		A1	II	Forbidden		812	30 L
A **Phenyl phosphorus thiodichloride**	2799	8		Corrosive		A1	II	Forbidden		812	30 L
2-Phenylpropene, see **Isopropenylbenzene**											
Phenyltrichlorosilane	1804	8		Corrosive	US 34	A1	II	Forbidden		813	30 L
A **Phenyl urea pesticides**, liquid, flammable, toxic, ~~n.o.s.~~, flash point less than 23°C	2768	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	1 L 1 L	303 307	30 L 60 L
A **Phenyl urea pesticides**, liquid, toxic, ~~n.o.s.~~	3002	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Phenyl urea pesticides**, liquid, toxic, flammable, ~~n.o.s.~~, flash point not less than 23°C	3001	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A **Phenyl urea pesticides, solid, toxic** ~~n.o.s.~~	2767	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food (Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Phosgene	1076	2.3	8		US 30	A2		Forbidden		Forbidden	
9-Phosphabicyclononanes	2940	4.2		Spontaneous combustion			II	415	15 kg	417	50 kg
Phosphine	2199	2.3	2.1		US 30	A2		Forbidden		Forbidden	
Phosphoretted hydrogen, see **Phosphine**											
Phosphoric acid	1805	8		Corrosive			III	819 Y819	5 L 1 L	821	60 L
Phosphoric acid, anhydrous, see **Phosphorus pentoxide**											
Phosphoric anhydride, see **Phosphorus pentoxide**											
A **Phosphorous acid, ~~ortho~~**	2834	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Phosphorus, amorphous	1338	4.1		Solid flammable			III	422 Y422	25 kg 10 kg	421	100 kg
Phosphorus bromide, see **Phosphorus tribromide**											
Phosphorus chloride, see **Phosphorus trichloride**											
Phosphorus heptasulphide, free from yellow and white phosphorus	1339	4.1		Solid flammable			II	416 Y416	15 kg 5 kg	418	50 kg
Phosphorus oxybromide	1939	8		Corrosive		A1	II	Forbidden		817	50 kg
Phosphorus oxybromide, molten	2576	8						Forbidden		Forbidden	
Phosphorus oxychloride	1810	8		Corrosive	US 34	A1	II	Forbidden		813	30 L
Phosphorus pentabromide	2691	8		Corrosive		A1	II	Forbidden		817	50 kg
Phosphorus pentachloride	1806	8		Corrosive		A1	II	Forbidden		817	50 kg
A **Phosphorus pentafluoride**	2198	2.3	8		US 30	A2		Forbidden		Forbidden	
Phosphorus pentasulphide, free from yellow and white phosphorus	1340	4.3	4.1	Danger if wet & Solid flammable	US 1		II	416 Y416	15 kg 5 kg	418	50 kg
Phosphorus pentoxide	1807	8		Corrosive			II	815 Y815	15 kg 5 kg	817	50 kg
Phosphorus sesquisulphide, free from yellow and white phosphorus	1341	4.1		Solid flammable			II	416 Y416	15 kg 5 kg	418	50 kg
Phosphorus sulphochloride, see **Thiophosphoryl chloride**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Phosphorus tribromide	1808	8		Corrosive		A1	II	Forbidden		813	30 L
A **Phosphorus trichloride**	1809	8	6.1	Corrosive & Poison	US 34	A1	I ~~II~~	Forbidden		813	2.5 ~~30~~ L
Phosphorus trioxide	2578	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Phosphorus trisulphide, free from yellow and white phosphorus	1343	4.1		Solid flammable			II	416 Y416	15 kg 5 kg	418	50 kg
Phosphorus, white, dry	1381	4.2	6.1					Forbidden		Forbidden	
Phosphorus, white, in solution	1381	4.2	6.1					Forbidden		Forbidden	
Phosphorus, white, molten	2447	4.2	6.1					Forbidden		Forbidden	
L Phosphorus (white or red) and a chlorate, mixtures of	Forbidden										
Phosphorus, white, under water	1381	4.2	6.1					Forbidden		Forbidden	
Phosphorus, yellow, dry	1381	4.2	6.1					Forbidden		Forbidden	
Phosphorus, yellow, in solution	1381	4.2	6.1					Forbidden		Forbidden	
Phosphorus, yellow, under water	1381	4.2	6.1					Forbidden		Forbidden	
Phosphoryl chloride, see **Phosphorus oxychloride**											
Phthalic anhydride with more than 0.05% of maleic anhydride	2214	8		Corrosive		A74	III	822 Y822	25 kg 5 kg	823	100 kg
A **Phthalimide derivative pesticides, liquid, flammable, toxic, ~~n.o.s.~~**, flash point less than 23°C	2774	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A68~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L
A **Phthalimide derivative pesticides, liquid, toxic, ~~n.o.s.~~**	3008	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Phthalimide derivative pesticides, liquid, toxic, flammable, ~~n.o.s.~~**, flash point not less than 23°C	3007	6.1	3	Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A **Phthalimide derivative pesticides, solid, toxic, ~~n.o.s.~~**	2773	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Picolines	2313	3		Liquid flammable			~~II~~ I	309 ~~309~~ Y309 ~~309~~	~~60~~ 5 L ~~10~~ 1 L	~~307~~ 310	~~60~~ L 220
J **Picramide, ~~see Trinitroaniline~~**	0153	1.1D						Forbidden		Forbidden	
Picric acid, ~~see Trinitrophenol, etc.~~											
Picrite, ~~see Nitroguanidine, etc.~~											

See Additions of PSNs as result of WP/39 Nos. 26-29

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
J Picryl chloride ~~see Trinitrochlorobenzene~~	0155	1.1D						Forbidden		Forbidden	
alpha-Pinene	2368	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Pine oil	1272	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Piperazine	2579	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
A Piperidine	2401	3	8	Liquid flammable & Corrosive			II	305 Y305	1 ~~5~~ L 1 L 0.5	307	5 ~~60~~ L
Pivaloyl chloride, see **Trimethylacetyl chloride**											
Plastic *explosives*, see **Explosive, blasting, type D**											
Plastic moulding material in dough, sheet or extruded rope form	–	9		Miscellaneous			III	908	100 kg	908	200 kg
Plastics, nitrocellulose-based, self-heating, n.o.s.*	2006	4.2			US 30	A2		Forbidden		Forbidden	
Plastic solvent, n.o.s. †, see **Flammable liquid, n.o.s.**											
Plutonium nitrate solution, see Part 2, Chapter 7											
L ~~Poisonous, see Toxic~~ ~~Poisonous gas, n.o.s. see Compressed or Liquefied gas, flammable or toxic, n.o.s.~~											
A Toxic ~~Poisonous~~ liquid, organic, n.o.s.*	2810	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A3 A4	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
A Toxic ~~Poisonous~~ liquid, corrosive, organic, n.o.s.*	2927	6.1	8	Poison & Corrosive		A4	I II Y609	603 609	0.5 L 1 L 0.5 L	604 611	2.5 L 30 L
A Toxic ~~Poisonous~~ liquid, flammable, organic, n.o.s.*	2929	6.1	3	Poison & Liquid flammable		A4 ~~A60~~	I II Y609	603 609	1 L 5 L 1 L	604 611	30 L 60 L
A Toxic ~~Poisonous~~ liquid, oxidizing, n.o.s.*	3122	6.1	5.1	Poison & Oxidizer		A4	I II Y609	Forbidden 609	 1 L 1 L	604 611	2.5 L 5 L
A Toxic ~~Poisonous~~ liquid, water-reactive, n.o.s.*	3123	6.1	4.3	Poison & Danger if wet		A4	I II	Forbidden 609	 1 L	604 611	1 L 5 L
A Toxic ~~Poisonous~~ solid, organic, n.o.s.*	2811	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A3 A5	I II III Y619	606 613 Y613 619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Toxic organic, ~~Poisonous~~ solid, corrosive, n.o.s.*	2928	6.1	8	Poison & Corrosive		A5	I II	606 613 Y613	1 kg 15 kg 1 kg	607 615	25 kg 50 kg
Toxic organic, ~~Poisonous~~ solid, flammable, n.o.s.*	2930	6.1	4.1	Poison & Solid flammable		A5 ~~A65~~	I II	606 613 Y613	1 kg 15 kg 1 kg	607 615	15 kg 50 kg
Toxic ~~Poisonous~~ solid, oxidizing, n.o.s.*	3086	6.1	5.1	Poison & Oxidizer		A5	I II	606 613 Y613	1 kg 5 kg 1 kg	607 615	15 kg 25 kg
Toxic ~~Poisonous~~ solid, self-heating, n.o.s.*	3124	6.1	4.2	Poison & Spontaneous combustion		A5	I II	606 613	5 kg 15 kg	607 615	15 kg 50 kg
Toxic ~~Poisonous~~ solid, water-reactive, n.o.s.*	3125	6.1	4.3	Poison & Danger if wet		A5	I II	606 613 Y613	5 kg 15 kg 1 kg	607 615	15 kg 50 kg
~~Polyalkylamines, n.o.s. etc., see Alkylamines*, etc~~											
Polychlorinated biphenyls	2315	9		Miscellaneous	US 1		II	907	100 L	907	220 L
Polyester resin kits †	3269	~~9~~ 3		~~Organic peroxide~~ Liquid flammable		A66	II III	312 ~~520~~ 312 Y520	5 kg 1 kg	312 ~~520~~	5 kg
Polyhalogenated biphenyls, liquid	3151	9		Miscellaneous		A95	II	~~907~~ 312	5 kg 1 kg 100 L	312 907	5 kg 220 L
Polyhalogenated biphenyls, solid	3152	9		Miscellaneous		A95	II	911	100 kg	911	200 kg
Polyhalogenated terphenyls, liquid	3151	9		Miscellaneous		A95	II	907	100 L	907	220 L
Polyhalogenated terphenyls, solid	3152	9		Miscellaneous		A95	II	911	100 kg	911	200 kg
Polymeric beads, expandable, evolving flammable vapour †	2211	9		Miscellaneous		A38	III	908	100 kg	908	200 kg
Polystyrene beads, expandable, etc., see Polymeric beads, expandable, evolving flammable vapour											
Potassium	2257	4.3		Danger if wet		A1	I	Forbidden		412	15 kg
Potassium arsenate	1677	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Potassium arsenite	1678	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
~~Potassium bifluoride, solid~~ see Potassium hydrogendifluoride	~~1811~~	~~8~~	~~6.1~~	~~Corrosive & Poison~~			~~II~~	~~815~~ ~~Y815~~	~~15 kg~~ ~~5 kg~~	~~813~~	~~50 kg~~
~~Potassium bifluoride, solution~~	~~1811~~	~~8~~	~~6.1~~	~~Corrosive & Poison~~			~~II~~	~~809~~ ~~Y809~~	~~1 L~~ ~~0.5 L~~	~~813~~	~~30 L~~
Potassium bisulphate, see Potassium hydrogen sulphate											

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A Potassium bisulphite solution, see **Bisulphites, ~~inorganic~~, aqueous solutions, n.o.s.**											
Potassium borohydride	1870	4.3		Danger if wet			I	Forbidden		412	15 kg
Potassium bromate	1484	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Potassium carbonyl	Forbidden										
Potassium chlorate	1485	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Potassium chlorate, aqueous solution	2427	5.1		Oxidizer			II	503 Y503	1 L 0.5 L	505	5 L
Potassium chlorate mixed with mineral oil, see **Explosive, blasting, type C**											
Potassium cuprocyanide	1679	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Potassium cyanide	1680	6.1		Poison	US 1		I	606	5 kg	607	50 kg
102 → **Potassium dithionite**	1929	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
A **Potassium fluoride**	1812	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Potassium fluoroacetate	2628	6.1		Poison			I	606	5 kg	607	50 kg
A **Potassium fluorosilicate**	2655	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
103 → Potassium hydrate, see **Potassium hydroxide, solid**											
104 → 105 → Potassium hydrogen fluoride, see A **Potassium ~~bifluoride~~ hydrogen difluoride**											
Potassium hydrogen sulphate	2509	8		Corrosive			II	815 Y815	15 kg 5 kg	817	50 kg
J **Potassium hydrosulphite, ~~see Potassium dithionite~~**	1929	4.2		Spontaneous Combustion			II	416	15 Kg	418	50 Kg
Potassium hydroxide, liquid, see **Potassium hydroxide solution**											
Potassium hydroxide, solid	1813	8		*Corrosive*			II	814 Y814	15 kg 5 kg	816	50 kg
Potassium hydroxide solution	1814	8		Corrosive		A3	II III	809 Y809 819 Y819	1 L 0.5 L 5 L 1 L	813 821	30 L 60 L
A Potassium hypochlorite solution, see **Hypochlorite solutions**, etc.											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Potassium metal alloys	1420	4.3		Danger if wet		A1	I	Forbidden		412	15 kg
Potassium metal, liquid alloy †, see **Alkali metal alloys, liquid, n.o.s.**											
Potassium metavanadate	2864	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Potassium monoxide	2033	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Potassium nitrate	1486	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Potassium nitrate and sodium nitrite mixture	1487	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Potassium nitrite	1488	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Potassium perchlorate	1489	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Potassium permanganate	1490	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Potassium peroxide	1491	5.1		Oxidizer		A1	I	Forbidden		512	15 kg
Potassium persulphate	1492	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Potassium phosphide	2012	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Potassium salts of aromatic nitro-derivatives, explosive	0158	1.3C						Forbidden		Forbidden	
Potassium selenate, see **Selenates**											
Potassium selenite, see **Selenites**											
Potassium silicofluoride, see **Potassium fluorosilicate**											
Potassium sodium alloys †	1422	4.3		Danger if wet			I	Forbidden		412	15 kg
Potassium sulphide with less than 30% water of crystallization	1382	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
Potassium sulphide, anhydrous †	1382	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
Potassium sulphide, hydrated with not less than 30% water of crystallization	1847	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Potassium superoxide	2466	5.1		Oxidizer		A1	I	Forbidden		512	15 kg

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Powder cake, wetted with not less than 17% alcohol, by mass †	0433	1.1C						Forbidden		Forbidden	
Powder cake, wetted with not less than 25% water, by mass †	0159	1.3C						Forbidden		Forbidden	
Powder paste, † ~~see **Powder cake**, etc.~~ wetted with not less than 17% alcohol, by mass †	0433	1.1C						Forbidden		Forbidden	
Powder, smokeless †	0160	1.1C						Forbidden		Forbidden	
Powder, smokeless †	0161	1.3C						Forbidden		Forbidden	
Power device, explosive, see **Cartridges, power device**											
Pressurized products, see **Aerosols**											
Primers, cap type †	0377	1.1B						Forbidden		Forbidden	
Primers, cap type †	0378	1.4B		Explosive 1.4				Forbidden		160	75 kg
Primers, cap type †	0044	1.4S		Explosive 1.4				160	25 kg	160	100 kg
Primers, small arms, see **Primers, cap type**											
Primers, tubular †	0319	1.3G						Forbidden		Forbidden	
Primers, tubular †	0320	1.4G		Explosive 1.4				Forbidden		161	75 kg
Primers, tubular †	0376	1.4S		Explosive 1.4				161	25 kg	161	100 kg
Printing ink, flammable	1210	3		Liquid flammable		A3 A7 A72	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
Projectiles, illuminating, see **Ammunition, illuminating**, etc.											
Projectiles, inert with tracer †	0424	1.3G						Forbidden		Forbidden	
Projectiles, inert with tracer †	0425	1.4G		Explosive 1.4				Forbidden		128	75 kg
Projectiles, inert with tracer †	0345	1.4S		Explosive 1.4				128	25 kg	128	100 kg
Projectiles with burster or expelling charge †	0346	1.2D						Forbidden		Forbidden	
Projectiles with burster or expelling charge †	0426	1.2F						Forbidden		Forbidden	
Projectiles with burster or expelling charge †	0434	1.2G						Forbidden		Forbidden	
Projectiles with burster or expelling charge †	0347	1.4D		Explosive 1.4				Forbidden		128	75 kg
Powder paste, wetted with not less than 25% water, by mass	0159	1.3C						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing Instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Projectiles with burster or expelling charge †	0427	1.4F						Forbidden		Forbidden	
Projectiles with burster or expelling charge †	0435	1.4G		Explosive 1.4				Forbidden		128	75 kg
Projectiles with bursting charge †	0168	1.1D						Forbidden		Forbidden	
Projectiles with bursting charge †	0167	1.1F						Forbidden		Forbidden	
Projectiles with bursting charge †	0169	1.2D						Forbidden		Forbidden	
Projectiles with bursting charge †	0324	1.2F						Forbidden		Forbidden	
Projectiles with bursting charge †	0344	1.4D		Explosive 1.4				Forbidden		128	75 kg
Propadiene, inhibited	2200	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Propadiene mixed with methyl acetylene, see **Methyl acetylene and propadiene mixtures, stabilized**											
Propane	1978	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Propane mixture	1978	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Propanethiols	2402	3		Liquid flammable			II	306 Y306	5 L 1 L	308	60 L
n-Propanol	1274	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Propellants, single, double or triple base; see **Powder, smokeless**											
Propene, see **Propylene**											
Propionaldehyde	1275	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Propionic acid	1848	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Propionic anhydride	2496	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Propionitrile	2404	3	6.1	Liquid flammable & Poison		A1	II	Forbidden		307	60 L
Propionyl chloride	1815	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	5 L
n-Propyl acetate	1276	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Propyl alcohol, normal, ~~see n-Propanol~~	1274	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Propyl aldehyde, see **Propionaldehyde**											
A **Propylamine**	1277	3	8	Liquid flammable & Corrosive			II	306 Y306	1 L 0.5 L	308	5 L
n-Propylbenzene	2364	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Propyl chloride	1278	3		Liquid flammable		A1	II	Forbidden		308	60 L
n-Propyl chloroformate	2740	6.1	3 8	Poison & Liquid flammable & Corrosive	US 34		I	Forbidden		605	2.5 L
Propylene	1077	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Propylene chlorohydrin	2611	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
A **1,2-Propylenediamine**	2258	8	3	Corrosive & Liquid flammable			II	809 Y809	1 L 0.5 L	813	30 L
Propylene dichloride	1279	3		Liquid flammable			II	306 Y306	5 L 1 L	308	60 L
Propyleneimine, inhibited	1921	3		Liquid flammable	US 1		I	306	1 L	304	30 L
Propylene or liquefied petroleum gas, see **Petroleum gases, liquefied**											
Propylene oxide	1280	3		Liquid flammable			I	306	1 L	304	30 L
Propylene tetramer	2850	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Propylene trimer, see ***Tripropylene***											
Propyl formates	1281	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
KA **n-Propyl isocyanate**	2482	~~6.1~~	~~3~~	~~Liquid flammable & Poison~~			~~I~~	Forbidden		Forbidden ~~304~~	~~30 L~~
Propyl mercaptan, see **Propanethiols**											
n-Propyl nitrate	1865	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
A **Propyltrichlorosilane**	1816	8	3	Corrosive & Liquid flammable		A1	II	Forbidden		813	30 L
Prussic acid, see **Hydrogen cyanide**											
Pyrazine hexahydride, see **Piperazine**											
A **Pyridine**	1282	3	~~6.1~~	Liquid flammable ~~& Poison~~			II	305 Y305	5 L 1 L	307	60 L

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
	1	2	3	4	5	6	7	8	9	10	11	12
	Pyridine perchlorate	Forbidden										
A	**Pyrophoric alloys, n.o.s.***	1383	4.2						Forbidden		Forbidden	
	Pyrophoric liquid, inorganic, n.o.s.* †	3194	4.2						Forbidden		Forbidden	
	Pyrophoric liquid, organic, n.o.s.* †	2845	4.2						Forbidden		Forbidden	
A	**Pyrophoric metals, n.o.s.***	1383	4.2						Forbidden		Forbidden	
A	**Pyrophoric organometallic compounds, n.o.s.***	3203	4.2						Forbidden		Forbidden	
	Pyrophoric solid, inorganic, n.o.s.* †	3200	4.2						Forbidden		Forbidden	
	Pyrophoric solid, organic, n.o.s.* †	2846	4.2						Forbidden		Forbidden	
	Pyrosulphuryl chloride	1817	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
	Pyroxylin cement, see **Adhesives**, etc.											
	Pyroxylin plastic, see **Celluloid**											
A	Pyroxylin solution †, see **Nitrocellulose** ~~(UN 2059 and 2060)~~ Solution, flammable											
	Pyroxylin solvent, n.o.s., see **Flammable liquid, n.o.s.**											
A	**Pyrrolidine**	1922	3	8	Liquid: flammable & Corrosive			II	305 Y305	1 L 0.5 L	307	60 L 5
	Quebrachitol pentanitrate	Forbidden										
	Quicklime, see **Calcium oxide**											
J	**Quickmatch** ~~see Fuse, Instantaneous, non-detonating~~	0101	1.3G						Forbidden		Forbidden	
	Quicksilver, see **Mercury**											
	Quinol, see **Hydroquinone**											
A	**Quinoline**	2656	6.1		Poison ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
	Quinone, see **Benzoquinone**											
	R12, see **Dichlorodifluoromethane**											
	R12B1, see **Chlorodifluorobromomethane**											
	R13, see **Chlorotrifluoromethane**											
	R13B1, see **Bromotrifluoromethane**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
R14, see **Tetrafluoromethane**											
R21, see **Dichlorofluoromethane**											
R22, see **Chlorodifluoromethane**											
R114, see **Dichlorotetrafluoroethane**											
R115, see **Chloropentafluoroethane**											
R116, see **Hexafluoroethane**											
R124, see **1-Chloro-1,2,2,2-tetrafluoroethane**											
R133a, see **1-Chloro-2,2,2-trifluoroethane**											
R134a, see **1,1,1,2-Tetrafluoroethane**											
R152a, see **Difluoroethane**											
R500, see **Dichlorodifluoromethane and difluorethane**, etc.											
R502, see **Chlorodifluoromethane and chloropentafluoroethane mixture**, etc.											
R503, see **Chlorotrifluoromethane and trifluoromethane**, etc.											
RC318, see **Octafluorocyclobutane**											
Radioactive material, n.o.s.	2982	7		Radioactive	CA 3 ~~US 1~~	A78			See Part 2;7 and Part 3;9		
Radioactive material, excepted package, articles	2910	7		None	SU 1	A 78 A98			See Part 2;7 and Part 3;9		
Radioactive material, excepted package, articles manufactured from depleted uranium	2910	7		None	SU 1	A78 A98			See Part 2;7 and Part 3;9		
Radioactive material, excepted package, articles manufactured from natural thorium	2910	7		None	SU 1	A78 A98			See Part 2;7 and Part 3;9		
Radioactive material, excepted package, articles manufactured from natural uranium	2910	7		None	SU 1	A78 A98			See Part 2;7 and Part 3;9		
Radioactive material, excepted package, empty packaging	2910	7		None	SU 1	A78 A98			See Part 2;7 and Part 3;9		
Radioactive material, excepted package, instruments	2910	7		None	SU 1	A78 A98			See Part 2;7 and Part 3;9		
Radioactive material, excepted package, limited quantity of material	2910	7		None	SU 1	A78 A98			See Part 2;7 and Part 3;9		
Radioactive material, fissile, n.o.s.	2918	7		Radioactive	CA 1	A78			See Part 2;7 and Part 3;9		

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing Instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Radioactive material, low specific activity (LSA), n.o.s.	2912	7		Radioactive	CA 2 ~~US 7~~	A78		See Part 2;7 and Part 3;9			
Radioactive material, special form, n.o.s.	2974	7		Radioactive	CA 3 ~~US 4~~			See Part 2;7 and Part 3;9			
Radioactive material, surface contaminated objects (SCO)	2913	7		Radioactive		A78		See Part 2;7 and Part 3;9			
Railway torpedo, see **Signals, railway track, explosive**											
Rare gases and nitrogen mixtures	1981	2.2		Gas non-flammable				200	75 kg	200	150 kg
Rare gases and oxygen mixtures	1980	2.2		Gas non-flammable				200	75 kg	200	150 kg
Rare gases *mixture* (e.g. *Argon*; Helium; Krypton; Neon; Xenon)	1979	2.2		Gas non-flammable				200	75 kg	200	150 kg
RDX; ~~see Cyclotrimethylene-trinitramine, etc~~								See Additions of PSNs as result of WP/38 Nos 30-33			
Receptacles, small, containing gas (flammable) **without release device**, non-refillable	2037	2.1		Gas flammable				200	1 kg	200	15 kg
Red phosphorus, see **Phosphorus, amorphous**											
Refrigerant gas, n.o.s.* (e.g. non-flammable halocarbons)	1078	2.2		Gas non-flammable				200	75 kg	200	150 kg
Refrigerating machines containing flammable, non-toxic, liquefied gas	–	2.1			US 30	A103		Forbidden		Forbidden	
Refrigerating machines containing non-flammable, non-toxic, liquefied gas or ammonia solutions (UN 2673)	2857	2.2		Gas non-flammable		A26		See 211		See 211	
Refrigerating machines containing toxic, liquefied gas or ammonia solutions with more than 50% ammonia								Forbidden		Forbidden	
Release devices, explosive †	0173	1.4S		Explosive 1.4				162	25 kg	162	100 kg
Resinate of cobalt, precipitated, see **Cobalt resinate, precipitated**											
Resin solution, flammable	1866	3		Liquid flammable		A3 A7	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Resorcin, see **Resorcinol**											
Resorcinol	2876	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Rifle grenade, see **Grenades, hand or rifle, etc.**											
Rifle powder, see **Powder, smokeless** (UN 0160)											
Rivets, explosive	0174	1.4S		Explosive 1.4				162	25 kg	162	100 kg
Road asphalt or tar liquid, see **Tars, liquid, etc.**											
Rocket motors †	0280	1.1C						Forbidden		Forbidden	
Rocket motors †	0281	1.2C						Forbidden		Forbidden	
Rocket motors †	0186	1.3C		Explosive				Forbidden		163	220 kg
Rocket motors, liquid fuelled †	0395	1.2J						Forbidden		Forbidden	
Rocket motors, liquid fuelled †	0396	1.3J						Forbidden		Forbidden	
Rocket motors with hypergolic liquids with or without expelling charge †	0322	1.2L						Forbidden		Forbidden	
Rocket motors with hypergolic liquids with or without expelling charge †	0250	1.3L						Forbidden		Forbidden	
Rockets with bursting charge †	0181	1.1E						Forbidden		Forbidden	
Rockets with bursting charge †	0180	1.1F						Forbidden		Forbidden	
Rockets with bursting charge †	0182	1.2E						Forbidden		Forbidden	
Rockets with bursting charge †	0295	1.2F						Forbidden		Forbidden	
Rockets with expelling charge †	0436	1.2C						Forbidden		Forbidden	
Rockets with expelling charge †	0437	1.3C						Forbidden		Forbidden	
Rockets with expelling charge †	0438	1.4C		Explosive 1.4				Forbidden		163	75 kg
Rockets with inert head †	0183	1.3C						Forbidden		Forbidden	
Rockets, line-throwing †	0238	1.2G						Forbidden		Forbidden	
Rockets, line-throwing †	0240	1.3G		Explosive				Forbidden		164	75 kg
Rockets, line-throwing †	0453	1.4G		Explosive 1.4				Forbidden		164	75 kg
Rockets, liquid fuelled with bursting charge †	0397	1.1J						Forbidden		Forbidden	
Rockets, liquid fuelled with bursting charge †	0398	1.2J						Forbidden		Forbidden	
A **Rosin oil**	1286	3		Liquid flammable		A3	III II	309 Y309 305 Y305	60 L 10 L 5L 1L	310 307	220 L 60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Rubber scrap, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45%	1345	4.1		Solid flammable			II	415 Y415	15 kg 5 kg	417	50 kg
Rubber shoddy, powdered or granulated, not exceeding 840 microns and rubber content exceeding 45%	1345	4.1		Solid flammable			II	415 Y415	15 kg 5 kg	417	50 kg
Rubber solution	1287	3		Liquid flammable		A3 A7	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
Rubidium	1423	4.3		Danger if wet			I	Forbidden		412	15 kg
Rubidium hydroxide	2678	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Rubidium hydroxide solution	2677	8		Corrosive		A3	II III	809 Y809 819 Y819	1 L 0.5 L 5 L 1 L	813 821	30 L 60 L
Safety fuse, see **Fuse, safety**											
Safety squibs, see **Igniters** (UN 0325, 0454)											
Saltpetre, see **Potassium nitrate**											
Samples, explosive, other than initiating explosives	0190	1						Forbidden		Forbidden	
Sand acid, see **Fluosilicic acid**											
Security type attaché cases incorporating dangerous goods, for example lithium batteries or pyrotechnic material	Forbidden										
Seed cake with more than 1.5% oil and not more than 11% moisture	1386	4.2			US 30	A2		Forbidden		Forbidden	
Seed cake with not more than 1.5% oil and not more than 11% moisture	2217	4.2			US 30	A2 A55		Forbidden		Forbidden	
Seed expellers, see **Seed cake**, etc.											
Selenates	2630	6.1		Poison	US 1		I	606	5 kg	607	50 kg
Selenic acid	1905	8		Corrosive		A1	I	Forbidden		811	25 kg
Selenites	2630	6.1		Poison	US 1		I	606	5 kg	607	50 kg
Selenium disulphide	2657	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Selenium hexafluoride	2194	2.3	8		US 30	A2		Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Selenium nitride	Forbidden										
Selenium oxychloride	2879	8	6.1	Corrosive & Poison			I	807	0.5 L	809	2.5 L
Selenium powder	2658	6.1		~~Keep away from food~~ Poison			III	619 Y619	100 kg 10 kg	619	200 kg
Self-heating liquid, inorganic, n.o.s.*	3186	4.2		Spontaneous combustion		A3	II III	408 414	1 L 5 L	414 425	5 L 60 L
Self-heating liquid, inorganic, corrosive, n.o.s.*	3188	4.2	8	Spontaneous combustion & Corrosive		A3	II III	408 414	1 L 5 L	414 425	5 L 60 L
Self-heating liquid, toxic, inorganic, ~~poisonous~~, n.o.s.*	3187	4.2	6.1	Spontaneous combustion & Poison		A3 ~~A68~~	II III	408 414	1 L 5 L	414 425	5 L 60 L
Self-heating liquid, organic, n.o.s.*	3183	4.2		Spontaneous combustion		A3	II III	408 414	1 L 5 L	414 425	5 L 60 L
Self-heating liquid, organic, corrosive, n.o.s.*	3185	4.2	8	Spontaneous combustion & Corrosive		A3	II III	408 414	1 L 5 L	414 425	5 L 60 L
Self-heating liquid, toxic, organic, ~~poisonous~~, n.o.s.*	3184	4.2	6.1	Spontaneous combustion & Poison		A3 ~~A68~~	II III	408 414	1 L 5 L	414 425	5 L 60 L
Self-heating metal powders, n.o.s.*	3189	4.2		Spontaneous combustion		A3	II III	415 419	15 kg 25 kg	417 420	50 kg 100 kg
Self-heating solid, inorganic, n.o.s.*	3190	4.2		Spontaneous combustion		A3	II III	415 419	15 kg 25 kg	417 420	50 kg 100 kg
Self-heating solid, inorganic, corrosive, n.o.s.*	3192	4.2	8	Spontaneous combustion & Corrosive		A3	II III	415 419	15 kg 25 kg	417 420	50 kg 100 kg
Self-heating solid, toxic, inorganic, ~~poisonous~~, n.o.s.*	3191	4.2	6.1	Spontaneous combustion & Poison		A3 ~~A68~~	II III	415 419	15 kg 25 kg	417 420	50 kg 100 kg
Self-heating solid, organic, n.o.s.*	3088	4.2		Spontaneous combustion		A3	II III	415 419	15 kg 25 kg	417 420	50 kg 100 kg
Self-heating solid, organic, corrosive, n.o.s.*	3126	4.2	8	Spontaneous combustion & Corrosive		A3	II III	415 419	15 kg 25 kg	417 420	50 kg 100 kg
Self-heating solid, toxic, organic, ~~poisonous~~, n.o.s.*	3128	4.2	6.1	Spontaneous combustion & Poison		A3 ~~A68~~	II III	415 419	15 kg 25 kg	417 420	50 kg 100 kg
Self-heating solid, oxidizing, n.o.s.*	3127	4.2	5.1			A3		Forbidden		Forbidden	
Self-inflating passenger restraint systems (air bags) for motor vehicles, see Life-saving appliances, self-inflating (UN 2990) or Air bag inflators or Air bag modules or Seat-belt pre-tensioners or Seat-belt modules (UN 3268)											

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Battery-powered equipment or											
A Self-propelled vehicle, see Battery-powered vehicle ~~or equipment~~, or Engines, internal combustion ~~or Wheelchair, electric~~											
Self-reactive liquid type B*	3221	4.1						Forbidden		Forbidden	
Self-reactive liquid type B, temperature controlled*	3231	4.1						Forbidden		Forbidden	
H Self-reactive liquid type C*	3223	4.1		Solid flammable		A20	II	427	5 L	428	10 L
Self-reactive liquid type C, temperature controlled*	3233	4.1						Forbidden		Forbidden	
H Self-reactive liquid type D*	3225	4.1		Solid flammable		A20	II	427	5 L	428	10 L
Self-reactive liquid type D, temperature controlled*	3235	4.1						Forbidden		Forbidden	
H Self-reactive liquid type E*	3227	4.1		Solid flammable		A20	II	427	10 L	428	25 L
Self-reactive liquid type E, temperature controlled*	3237	4.1						Forbidden		Forbidden	
H Self-reactive liquid type F*	3229	4.1		Solid flammable		A20	II	427	10 L	428	25 L
Self-reactive liquid type F, temperature controlled*	3239	4.1						Forbidden		Forbidden	
Self-reactive solid type B*	3222	4.1						Forbidden		Forbidden	
Self-reactive solid type B, temperature controlled*	3232	4.1						Forbidden		Forbidden	
H Self-reactive solid type C*	3224	4.1		Solid flammable		A20	II	429	5 kg	430	10 kg
Self-reactive solid type C, temperature controlled*	3234	4.1						Forbidden		Forbidden	
H Self-reactive solid type D*	3226	4.1		Solid flammable		A20	II	429	5 kg	430	10 kg
Self-reactive solid type D, temperature controlled*	3236	4.1						Forbidden		Forbidden	
H Self-reactive solid type E*	3228	4.1		Solid flammable		A20	II	429	10 kg	430	25 kg
Self-reactive solid type E, temperature controlled*	3238	4.1						Forbidden		Forbidden	
H Self-reactive solid type F*	3230	4.1		Solid flammable		A20	II	429	10 kg	430	25 kg
Self-reactive solid type F, temperature controlled*	3240	4.1						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Shale oil	1288	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Shaped charges, commercial, see **Charges, shaped, commercial**											
Signal devices, hand †	0191	1.4G		Explosive 1.4				Forbidden		166	75 kg
Signal devices, hand †	0373	1.4S		Explosive 1.4				166	25 kg	166	100 kg
Signals, distress, ship †	0194	1.1G						Forbidden		Forbidden	
Signals, distress, ship †	0195	1.3G		Explosive				Forbidden		166	75 kg
Signals, distress, ship, water-activated, see **Contrivances, water-activated, etc.**											
Signals, highway, see **Signal devices, hand** or **Fireworks**											
Signals, railway track, explosive †	0192	1.1G						Forbidden		Forbidden	
Signals, railway track, explosive †	0193	1.4S		Explosive 1.4				167	25 kg	167	100 kg
Signals, railway track, explosive †	0492	1.3 G						Forbidden		Forbidden	
Signals, railway track, explosive †	0493	1.4 G		Explosive 1.4				Forbidden		167	75 kg
Signals, smoke †	0196	1.1G						Forbidden		Forbidden	
Signals, smoke †	0313	1.2G						Forbidden		Forbidden	
Signals, smoke †	0487	1.3G						Forbidden		Forbidden	
Signals, smoke †	0197	1.4G		Explosive 1.4				Forbidden		166	75 kg
Silane	2203	2.1			US 30	A2		Forbidden		Forbidden	
Silicofluoric acid, see **Fluosilicic acid**											
Silicofluorides, n.o.s., see **Fluorosilicates, n.o.s.**											
Silicon chloride, see **Silicon tetrachloride**											
Silicon powder, amorphous	1346	4.1		Solid flammable		A54	III	419 Y419	25 kg 10 kg	420	100 kg
Silicon tetrachloride	1818	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Silicon tetrafluoride	1859	2.3	8	Gas toxic & Corrosive	US 30	A1		Forbidden		200	25 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Silver acetylide (dry)	Forbidden										
Silver arsenite	1683	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Silver azide (dry)	Forbidden										
Silver chlorite (dry)	Forbidden										
Silver cyanide	1684	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Silver fulminate (dry)	Forbidden										
Silver nitrate	1493	5.1		Oxidizer	US 1		II	508 Y508	5 kg 2.5 kg	511	25 kg
Silver oxalate (dry)	Forbidden										
Silver picrate (dry)	Forbidden										
Silver picrate, wetted with not less than 30% water, by mass	1347	4.1			BE 3			Forbidden		Forbidden	
Sisal, see **Fibres, etc.** (UN 1373)											
Sludge acid †	1906	8		Corrosive		A1	II	Forbidden		813	30 L
Soda lime with more than 4% sodium hydroxide †	1907	8		Corrosive		A16	III	822 Y822	25 kg 5 kg	823	100 kg
Sodium	1428	4.3		Danger if wet	US 1	A1	I	Forbidden		412	15 kg
Sodium aluminate, solid	2812	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Sodium aluminate solution	1819	8		Corrosive		A3	II	808 Y808	1 L 0.5 L	812	30 L
							III	818 Y818	5 L 1 L	820	60 L
Sodium aluminium hydride	2835	4.3		Danger if wet		A1	II	Forbidden		418	50 kg
Sodium amalgam, see **Alkali metal amalgams**, solid											
Sodium amide, see **Alkali metal amides**											
Sodium ammonium vanadate	2863	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Sodium arsanilate	2473	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Sodium arsenate	1685	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Sodium arsenite, aqueous solution	1686	6.1		Poison (Gr. II) ~~Keep away from food (Gr. III)~~	US 1	A3 A6	II	609 Y609	5 L 1 L	611	60 L
							III	611 Y611	60 L 2 L	618	220 L
Sodium arsenite, solid	2027	6.1		Poison	US 1	A6	II	613 Y613	25 kg 1 kg	615	100 kg
Sodium azide	1687	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Sodium bifluoride, see **Sodium hydrogen difluoride**											
Sodium binoxide, see **Sodium peroxide**											
Sodium bisulphate solution, see ~~**Sodium hydrogen sulphate solution**~~ **Bisulphates, aqueous solution**											
Sodium bisulphite solution, see **Bisulphites, ~~inorganic, etc. aqueous~~ solutions, n.o.s.**											
Sodium borohydride	1426	4.3		Danger if wet			I	Forbidden		412	15 kg
Sodium bromate	1494	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Sodium cacodylate	1688	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Sodium chlorate	1495	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Sodium chlorate, aqueous solution	2428	5.1		Oxidizer			II	503 Y503	1 L 0.5 L	505	5 L
Sodium chlorate mixed with dinitrotoluene, see **Explosive, blasting, type C**											
Sodium chlorite	1496	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
~~**Sodium chlorite solution with more than 5% available chlorine**~~ **See Chlorite solution, etc.**	~~1908~~	~~8~~		~~Corrosive~~		~~A14~~	~~II~~	~~809 Y809~~	~~1 L 0.5 L~~	~~813~~	~~30 L~~
Sodium chloroacetate	2659	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Sodium cuprocyanide, solid	2316	6.1		Poison			I	606	5 kg	607	50 kg
Sodium cuprocyanide solution	2317	6.1		Poison			I	603	1 L	604	30 L
Sodium cyanide	1689	6.1		Poison	US 1		I	606	5 kg	607	50 kg
Sodium dimethylarsenate, see **Sodium cacodylate**											
Sodium dinitro-o-cresolate, dry or wetted with less than 15% water, by mass	0234	1.3C						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Sodium dinitro-o-cresolate, wetted with not less than 15% water, by mass	1348	4.1	6.1	Solid flammable & Poison	BE 3	A40	I	416	1 kg	412	15 kg
Sodium dioxide, see **Sodium peroxide**											
Sodium dithionite	1384	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
A **Sodium fluoride**	1690	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Sodium fluoroacetate	2629	6.1		Poison	US 1		I	606	5 kg	607	50 kg
A **Sodium fluorosilicate**	2674	6.1		Poison ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
118 → Sodium hydrate, see **Sodium hydroxide**											
Sodium hydride	1427	4.3		Danger if wet			I	Forbidden		412	15 kg
119 → A **Sodium hydrogen difluoride**, solid	2439	8		Corrosive	US 1		II	815 Y815	15 kg 5 kg	817	50 kg
A **Sodium hydrogen difluoride**, solution	2439	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
A ~~**Sodium hydrogen sulphate solution**~~ ~~see Bisulphates, aqueous solutions~~	~~2837~~	~~8~~		~~Corrosive~~		~~A3~~	~~II~~	~~809~~ ~~Y809~~	~~1 L~~ ~~0.5 L~~	~~813~~	~~30 L~~
							~~III~~	~~819~~ ~~Y819~~	~~5 L~~ ~~1 L~~	~~821~~	~~60 L~~
A Sodium hydrogen sulphite in solution, *see* ***Bisulphites, ~~inorganic~~, aqueous solutions, n.o.s.***											
Sodium hydrosulphide with less than 25% water of crystallization	2318	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
Sodium hydrosulphide with not less than 25% water of crystallization	2949	8		Corrosive			II	815 Y815	15 kg 5 kg	817	50 kg
J **Sodium hydrosulphite, ~~see Sodium dithionite~~**	1384	4.2		Spontaneous combustion			II	416	15Kg	418	50Kg
Sodium hydroxide, solid	1823	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Sodium hydroxide solution	1824	8		Corrosive		A3	II	809 Y809	1 L 0.5 L	813	30 L
							III	819 Y819	5 L 1 L	821	60 L
A Sodium hypochlorite solution, see **Hypochlorite solutions**											
A Sodium metal, *liquid alloy* †, see **Alkali metal alloys, liquid, n.o.s.**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Sodium methylate	1431	4.2	8	Spontaneous combustion & Corrosive			II	416	15 kg	418	50 kg
Sodium methylate solutions in alcohols	1289	3	8	Liquid flammable & Corrosive		A3	II III	305 Y305 309 Y309	1 L 0.5 L 5 L 1 L	307 310	5 L 60 L
Sodium monoxide	1825	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Sodium nitrate	1498	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Sodium nitrate and potassium nitrate mixtures	1499	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Sodium nitrite	1500	5.1		Oxidizer	US 1		III	516 Y516	25 kg 10 kg	518	100 kg
Sodium pentachlorophenate	2567	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Sodium percarbonates	2467	5.1		Oxidizer		A27	III	516 Y516	25 kg 10 kg	518	100 kg
Sodium perchlorate	1502	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Sodium permanganate	1503	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Sodium peroxide	1504	5.1		Oxidizer		A1	I	Forbidden		512	15 kg
Sodium peroxoborate, anhydrous	3247	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Sodium persulphate	1505	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
~~**Sodium phenolate, solid**~~, see **Phenolates, solid**	~~2497~~	~~8~~		~~Corrosive~~			~~III~~	~~822~~ ~~Y822~~	~~25 kg~~ ~~5 kg~~	~~823~~	~~100 kg~~
Sodium phosphide	1432	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Sodium picramate, dry or wetted with less than 20% water, by mass	0235	1.3C						Forbidden		Forbidden	
Sodium picramate, wetted with not less than 20% water, by mass	1349	4.1		Solid flammable	BE 3	A1 A40	I	Forbidden		412	15 kg
Sodium picryl peroxide	Forbidden										
Sodium potassium alloys, see **Potassium sodium alloys**											
Sodium salts of aromatic nitro-derivatives, n.o.s., explosive	0203	1.3C						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Sodium selenate, see **Selenates**											
Sodium selenite, see **Selenites**											
Sodium silicofluoride, see **Sodium fluorosilicate**											
Sodium sulphate, acid solution, see ~~Sodium hydrogen sulphate solution~~ Bisulphates, aqueous solution											
Sodium sulphide with less than 30% water of crystallization	1385	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
Sodium sulphide, anhydrous †	1385	4.2		Spontaneous combustion			II	416	15 kg	418	50 kg
Sodium sulphide, hydrated with not less than 30% water	1849	8		Corrosive			II	814 Y814	15 kg 5 kg	816	50 kg
Sodium superoxide	2547	5.1		Oxidizer		A1	I	Forbidden		512	15 kg
Sodium tetranitride	Forbidden										
Solids containing corrosive liquid, n.o.s.*	3244	8		Corrosive		A77	II	814 Y814	15 kg 5 kg	816	50 kg
Solids containing flammable liquid, n.o.s.*	3175	4.1		Solid flammable		A46	II	415 Y415	15 kg 5 kg	417	50 kg
Solids containing ~~poisonous~~ toxic **liquid, n.o.s.***	3243	6.1		Poison		A50	II	613 Y613	25 kg 1 kg	615	100 kg
Solvents, flammable †, n.o.s., see **Flammable liquid, n.o.s.**											
Solvents, flammable, toxic †, n.o.s., see **Flammable liquid,** ~~poisonous~~ toxic, **n.o.s.**											
Sounding devices, explosive †	0374	1.1D						Forbidden		Forbidden	
Sounding devices, explosive †	0296	1.1F						Forbidden		Forbidden	
Sounding devices, explosive †	0375	1.2D						Forbidden		Forbidden	
Sounding devices, explosive †	0204	1.2F						Forbidden		Forbidden	
Squibs, see **Igniters** (UN 0325, 0454)											
Stannic chloride, anhydrous	1827	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Stannic chloride pentahydrate	2440	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Stannic phosphides	1433	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Steel swarf, see **Ferrous metal, etc.**											
Stibine	2676	2.3	2.1		US 30	A2		Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Storage batteries, wet, see **Batteries, wet**, etc.											
Strontium alloys, see **Alkaline earth metal alloys, n.o.s.**											
Strontium alloys, pyrophoric, see **Pyrophoric metals, n.o.s.**, etc.											
Strontium arsenite	1691	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Strontium chlorate	1506	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Strontium dioxide, see **Strontium peroxide**											
Strontium nitrate	1507	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Strontium perchlorate	1508	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Strontium peroxide	1509	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Strontium phosphide	2013	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Strychnine	1692	6.1		Poison	US 1	A5	I II	606 613 Y613	5 kg 25 kg 1 kg	607 615	50 kg 100 kg
Strychnine salts	1692	6.1		Poison	US 1	A5	I II	606 613 Y613	5 kg 25 kg 1 kg	607 615	50 kg 100 kg
Styphnic acid, see ~~Trinitroresorcinol~~, etc.								See 'Additions & PSNs as result of WP/33' Nos 34-35			
Styrene monomer, inhibited	2055	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Substances, EVI, n.o.s.* †	0482	1.5 D						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0473	1.1A						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0474	1.1C						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0475	1.1D						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0476	1.1G						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0357	1.1L						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0358	1.2L						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0477	1.3C						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0478	1.3G						Forbidden		Forbidden	
Substances, explosive, n.o.s.*	0359	1.3L						Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Substances, explosive, n.o.s.*	0479	1.4C		Explosive 1.4	JP 18	A62		Forbidden		124	75 kg
Substances, explosive, n.o.s.*	0480	1.4D		Explosive 1.4	JP 18	A62		Forbidden		124	75 kg
Substances, explosive, n.o.s.*	0485	1.4G		Explosive 1.4	JP 18	A62		Forbidden		124	75 kg
Substances, explosive, n.o.s.*	0481	1.4S		Explosive 1.4	JP 18	A62		124	25 kg	124	100 kg
Substances, explosive, very insensitive, n.o.s.* †	0482	1.5D						Forbidden		Forbidden	
Substances liable to spontaneous combustion, n.o.s., see **Pyrophoric liquid/solid, organic/inorganic, n.o.s.** or **Self-heating liquid/solid, organic/inorganic, n.o.s.**											
Substituted nitrophenol pesticides, liquid, flammable, toxic, n.o.s. flash point less than 23°C	2780	3	6.1	Liquid flammable & Poison		~~A3~~ ~~A69~~	I II	Forbidden 305 Y305	 1 L 1 L	303 307	30 L 60 L
Substituted nitrophenol pesticides, liquid, toxic, n.o.s.	3014	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Substituted nitrophenol pesticides, liquid, toxic, flammable, n.o.s. flash point not less than 23°C	3013	6.1	3	Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Substituted nitrophenol pesticides, solid, toxic, n.o.s.	2779	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Sucrose octanitrate (dry)	Forbidden										
Sulphamic acid	2967	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Sulphur	1350	4.1		Solid flammable		A105 [A94]	III	NO LIMIT ~~419~~ ~~Y419~~	 ~~25 kg~~ ~~10 kg~~	NO LIMIT ~~420~~	 ~~100 kg~~
Sulphur chlorides	1828	8		Corrosive	US 34	A1	I	Forbidden		809	2.5 L
Sulphur dichloride, see **Sulphur chlorides**											
Sulphur dioxide, liquefied	1079	2.3	8	Gas toxic & Corrosive	US 30	A1		Forbidden		200	25 kg
Sulphur dioxide solution, see **Sulphurous acid**											
Sulphuretted hydrogen, see **Hydrogen sulphide, liquefied**											

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Sulphur hexafluoride	1080	2.2		Gas non-flammable				200	75 kg	200	150 kg
Sulphuric acid with more than 51% acid	1830	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Sulphuric acid, fuming †	1831	8	6.1	~~Corrosive & Poison~~		~~A1~~ A2	~~I~~	Forbidden		Forbidden ~~809~~	~~2.5 L~~
Sulphuric acid, spent †	1832	8		Corrosive		A1 A34	II	Forbidden		813	30 L
Sulphuric and hydrofluoric acid mixtures, see **Hydrofluoric acid and sulphuric acid mixtures**											
Sulphuric anhydride, see **Sulphur trioxide, inhibited**											
Sulphur, molten	2448	4.1						Forbidden		Forbidden	
Sulphur monochloride, see **Sulphur chlorides**											
Sulphurous acid	1833	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Sulphur tetrafluoride	2418	2.3	8	Gas toxic & Corrosive	US 30	A1		Forbidden		200	25 kg
Sulphur trioxide, inhibited	1829	8		Corrosive	US 34	A1	I	Forbidden		817	25 kg
Sulphuryl chloride	1834	8		~~Corrosive~~	US 34		~~I~~	Forbidden ~~807~~	~~0.5 L~~	Forbidden ~~808~~	~~2.5 L~~
Sulphuryl fluoride	2191	2.3		Gas toxic	US 30	A1		Forbidden		200	25 kg
Synthesis gas, see **Carbon monoxide and hydrogen mixture**											
Talcum with tremolite and/or actinolite, see **White asbestos**, etc.											
Tars, liquid, including road asphalt and oils, bitumen and cut backs	1999	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Tartar emetic, see **Antimony potassium tartrate**											
Tear gas candles	1700	6.1	4.1	Poison & Solid flammable		A1	II	Forbidden		601	50 kg
Tear gas cartridges, see **Ammunition, tear-producing**, etc.											
Tear gas devices, containing tear gas substances, see **Aerosols**											
Tear gas grenades, see **Tear gas candles**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
KA Tear gas substance, liquid, n.o.s.*	1693	6.1		Poison		A1 A36	~~II~~ I II	Forbidden		~~611~~ FORBIDDEN	~~5 L~~
KA Tear gas substance, solid, n.o.s.*	1693	6.1		Poison		A1 A36	~~II~~ I II	Forbidden		~~615~~ 611	~~25 kg~~ 5 L 15 kg
122 → A Tellurium hexafluoride	2195	2.3	8		US 30	A2	II	Forbidden		615	25 kg
Terpene hydrocarbons, n.o.s.	2319	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Terpinolene	2541	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Tertiary alcohol, see **Alcohols, n.o.s.**											
Tetraazido benzene quinone	Forbidden										
A Tetrabromoethane	2504	6.1		~~Poison Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
A ~~Poisonous solid~~ Toxic, organic, n.o.s.											
Tetrachloroethane	1702	6.1		Poison	US 1		II	610 Y610	5 L 1 L	612	60 L
A Tetrachloroethylene	1897	6.1		~~Poison Keep away from food~~	US 1		III	605 Y605	60 L 2 L	612	220 L
Tetrachloromethane, see **Carbon tetrachloride**											
Tetraethylammonium perchlorate (dry)	Forbidden										
Tetraethyl dithiopyrophosphate	1704	6.1		Poison	US 1 US 34	A6	II	609 Y609	5 L 1 L	611	60 L
A ~~Tetraethyl dithiepyrophosphate and gases, in solution~~	~~1703~~	~~2.3~~			~~US 30~~	~~A2~~		~~Forbidden~~		~~Forbidden~~	
A ~~Tetraethyl dithiopyrophosphate and gases, mixtures~~	~~1703~~	~~2.3~~			~~US 30~~	~~A2~~		~~Forbidden~~		~~Forbidden~~	
Tetraethylenepentamine	2320	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
A Tetraethyl lead, see **Motor fuel anti-knock mixtures**											
123 → A ~~Tetraethyl pyrophosphate and compressed gas mixtures~~	~~1705~~	~~2.3~~			~~US 30~~	~~A2~~		~~Forbidden~~		~~Forbidden~~	
Tetraethyl silicate	1292	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Tetrafluorodichloroethane, see **Dichlorotetrafluoroethane**											
1,1,1,2-Tetrafluoroethane	3159	2.2		Gas non-flammable				200	75 kg	200	150 kg
Tetrafluoroethylene, inhibited	1081	2.1		Gas flammable		A1		Forbidden		200	150 kg

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Tetrafluoromethane	1982	2.2		Gas non-flammable				200	75 kg	200	150 kg
1,2,3,6-Tetrahydrobenzaldehyde	2498	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Tetrahydrofuran	2056	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Tetrahydrofurfurylamine	2943	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Tetrahydro-1,4-oxazine, see **Morpholine**											
Tetrahydrophthalic anhydrides with more than 0.05% of maleic anhydride	2698	8		Corrosive		A74	III	822 Y822	25 kg 5 kg	823	100 kg
1,2,3,6-Tetrahydropyridine	2410	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Tetrahydrothiophene	2412	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Tetramethoxysilane, see **Methyl orthosilicate**											
Tetramethylammonium hydroxide	1835	8		Corrosive			II	808 Y808	1 L 0.5 L	812	30 L
Tetramethylene, see **Cyclobutane**											
Tetramethylene cyanide, see **Adiponitrile**											
Tetramethylene diperoxide dicarbamide	Forbidden										
Tetramethyl lead, see **Motor fuel anti-knock mixtures**											
Tetramethylsilane	2749	3		Liquid flammable		A1	I	Forbidden		304	30 L
Tetranitroaniline	0207	1.1D						Forbidden		Forbidden	
Tetranitro diglycerin	Forbidden										
Tetranitromethane	1510	5.1	6.1					Forbidden		Forbidden	
2,3,4,6-Tetranitrophenol	Forbidden										
2,3,4,6-Tetranitrophenyl methyl nitramine	Forbidden										
2,3,4,6-Tetranitrophenylnitramine	Forbidden										
Tetranitroresorcinol (dry)	Forbidden										
2,3,5,6-Tetranitroso-1,4-dinitrobenzene	Forbidden										
2,3,5,6-Tetranitroso nitrobenzene (dry)	Forbidden										

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A Tetrapropyl orthotitanate	2413	3		Liquid flammable			II	305 Y305	5 L 1 L	307 310	60 L 220
J Tetrazene ~~see Guanyl nitrosaminoguanyltetrazene~~ (dry)	Forbidden										
Tetrazine	Forbidden										
Tetrazol-1-acetic acid	0407	1.4C		Explosive 1.4				Forbidden		121	75 kg
Tetrazolyl azide (dry)	Forbidden										
J Tetryl ~~see Trinitrophenylmethylnitramine~~	0208	1.1D						Forbidden		Forbidden	
Thallium chlorate	2573	5.1	6.1	Oxidizer & Poison			II	508 Y508	5 kg 1 kg	511	25 kg
A Thallium compounds, n.o.s.	1707	6.1		Poison ~~(Gr. II)~~	US 1	A6	II	613 Y613	25 kg 1 kg	615	100 kg
				~~Keep away from food (Gr. III)~~			III	619 Y619	100 kg 10 kg	619	200 kg
Thallium nitrate	2727	6.1	5.1	Poison & Oxidizer			II	613 Y613	5 kg 1 kg	615	25 kg
124 A Thia-4-pentanal	2785	6.1		Poison ~~Keep away from food~~	US 34		III	611 Y611	60 L 2 L	618	220 L
Thioacetic acid	2436	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Thiocarbonylchloride, see **Thiophosgene**											
Thioglycol	2966	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Thioglycolic acid	1940	8		Corrosive			II	809 Y809	1 L 0.5 L	813	30 L
Thiolactic acid	2936	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
K Thionyl chloride	1836	8		~~Corrosive~~	US 34	A2 ~~A1~~	I	Forbidden		Forbidden ~~809~~	~~2.5 L~~
Thiophene	2414	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Thiophenol, see **Phenyl mercaptan**											
Thiophosgene	2474	6.1		Poison	US 34	A1	II	Forbidden		612	60 L
Thiophosphoryl chloride	1837	8		Corrosive		A1	II	Forbidden		813	30 L
Thorium metal, pyrophoric	2975	7	4.2	Radioactive & Spontaneous combustion		A79		See Part 2:7 and Part 3:9			
Thorium nitrate, solid	2976	7	5.1	Radioactive & Oxidizer		A73		See Part 2:7 and Part 3:9			
125 126 J Tetrazene, wetted with not less than 30% water, or mixture of alcohol and water, by mass	0114	1.1A						Forbidden		Forbidden	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Tinctures, medicinal	1293	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
Tinning flux, see **Zinc chloride**											
Tin tetrachloride, see **Stannic chloride, anhydrous**											
Tire assemblies inflated, unserviceable, damaged or above maximum rated pressure		9				A59		Forbidden		Forbidden	
Titanium disulphide	3174	4.2		Spontaneous combustion			III	419	25 kg	420	100 kg
Titanium hydride	1871	4.1		Solid flammable			II	416 Y416	15 kg 5 kg	418	50 kg
Titanium powder, dry	2546	4.2		Spontaneous combustion		A3	I	Forbidden		Forbidden	
							II	416	15 kg	418	50 kg
							III	416	25 kg	418	100 kg
Titanium powder, wetted with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	1352	4.1		Solid flammable		A35	II	416 Y416	15 kg 5 kg	418	50 kg
Titanium sponge granules	2878	4.1		Solid flammable		A3	III	419 Y419	25 kg 10 kg	420	100 kg
Titanium sponge powders	2878	4.1		Solid flammable		A3	III	419 Y419	25 kg 10 kg	420	100 kg
Titanium sulphate solution with not more than 45% sulphuric acid, see **Corrosive liquid, n.o.s.** acidic, inorganic											
Titanium tetrachloride	1838	8		Corrosive	US 34	A1	II	Forbidden		813	30 L
A **Titanium trichloride mixtures**	2869	8		Corrosive		A3	II	815 Y815	15 kg 5 kg	817	50 kg
							III	825 Y825	25 kg 5 kg	826	100 kg
A **Titanium trichloride mixtures, pyrophoric**	2441	4.2	8					Forbidden		Forbidden	
Titanium trichloride, pyrophoric	2441	4.2	8					Forbidden		Forbidden	
TNT, ~~see Trinitrotoluene, etc.~~		See Additions of PSNs as result of WP/39 Nos 36-40									
TNT mixed with aluminium, see **Tritonal**											
Toluene	1294	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Toluene diisocyanate	2078	6.1		Poison	US 1		II	609 Y609	5 L 1 L	611	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
~~Toluene sulphonic acid, liquid with more than 5% free sulphuric acid~~	~~2584~~	~~8~~		~~Corrosive~~			~~II~~	~~808~~ ~~Y808~~	~~1 L~~ ~~0.5 L~~	~~812~~	~~30 L~~
~~Toluene sulphonic acid, liquid, see with not more than 5% free sulphuric acid~~	~~2586~~	~~8~~		~~Corrosive~~			~~III~~	~~810~~ ~~Y810~~	~~5 L~~ ~~1 L~~	~~809~~	~~60 L~~
~~Toluenesulphonic acid, solid etc., with more than 5% free sulphuric acid~~	~~2583~~	~~8~~		~~Corrosive~~			~~II~~	~~814~~ ~~Y814~~	~~15 kg~~ ~~5 kg~~	~~816~~	~~50 kg~~
~~Toluene sulphonic acid, solid with not more than 5% free sulphuric acid~~	~~2585~~	~~8~~		~~Corrosive~~			~~III~~	~~820~~ ~~Y822~~	~~25 kg~~ ~~5 kg~~	~~823~~	~~100 kg~~
Toluidines, liquid	1708	6.1		Poison	US 1		II	609 Y609	5 L 1 L	611	60 L
Toluidines, solid	1708	6.1		Poison	US 1		II	613 Y613	25 kg 1 kg	615	100 kg
Toluol, see **Toluene**											
2,4-Toluylenediamine	1709	6.1		~~Poison~~ ~~Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Toluylene diisocyanate, see **Toluene diisocyanate**											
Tolylene diisocyanate, see **Toluene diisocyanate**											
Tolylethylene, see **Vinyltoluene**											
Torpedoes with bursting charge †	0451	1.1D						Forbidden		Forbidden	
Torpedoes with bursting charge †	0329	1.1E						Forbidden		Forbidden	
Torpedoes with bursting charge †	0330	1.1F						Forbidden		Forbidden	
Torpedoes, liquid fuelled with inert head †	0450	1.3J						Forbidden		Forbidden	
Torpedoes, liquid fuelled with or without bursting charge †	0449	1.1J						Forbidden		Forbidden	
Toxins, extracted from living sources, n.o.s.*, liquid	3172	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A3 A43	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Toxins, extracted from living sources, n.o.s.*, solid	3172	6.1		Poison ~~(Gr. I & II)~~ ~~Keep away from food~~ ~~(Gr. III)~~		A3 A43	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg ~~25 kg~~ 100 200 kg
Tracers for ammunition †	0212	1.3G						Forbidden		Forbidden	
Tracers for ammunition †	0306	1.4G		Explosive 1.4				Forbidden		169	~~75 kg~~
Tractors, see **Engines, internal combustion**											

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Tremolite, see **White asbestos, etc.**											
Triallylamine	2610	3	8	Liquid flammable & Corrosive			III	309 Y309	5 ~~60 L~~ 1 ~~10 L~~	310	60 ~~220~~ L
Triallyl borate	2609	6.1		~~Keep away from food~~ Poison			III	611 Y611	60 L 2 L	618	220 L
Triazine pesticides, liquid, flammable, toxic, ~~n.o.s.~~, flash point less than 23°C	2764	3	6.1	Liquid flammable & Poison		~~A5~~ ~~A66~~	I II	Forbidden 305 Y305	1 L 1 L	303 307	30 L 60 L
Triazine pesticides, liquid, toxic ~~n.o.s.~~	2998	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Triazine pesticides, liquid, toxic, flammable, ~~n.o.s.~~, flash point not less than 23°C	2997	6.1	3	Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~ & Liquid flammable		A4 A6	I II III	603 609 Y609 611 Y611	1 L 5 L 1 L 60 L 2 L	604 611 618	30 L 60 L 220 L
Triazine pesticides, solid, toxic ~~n.o.s.~~	2763	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~		A5 A6	I II III	606 613 Y613 619 Y619	5 kg 25 kg 1 kg 100 kg 10 kg	607 615 619	50 kg 100 kg 200 kg
Tris- ~~Tri~~-(1-aziridinyl) phosphine oxide solution	2501	6.1		Poison ~~(Gr. II) Keep away from food (Gr. III)~~		A3	II III	609 Y609 611 Y611	5 L 1 L 60 L 2 L	611 618	60 L 220 L
Tribromoborane, see **Boron tribromide**											
Tributylamine	2542	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
Trichloroacetaldehyde, see **Chloral, anhydrous, inhibited**											
Trichloroacetic acid	1839	8		Corrosive			II	815 Y815	15 kg 5 kg	817	50 kg
Trichloroacetic acid solution	2564	8		Corrosive		A3	II III	809 Y809 819 Y819	1 L 0.5 L 5 L 1 L	813 821	30 L 60 L
Trichloroaceticaldehyde, see **Chloral, anhydrous, inhibited**											
Trichloroacetyl chloride	2442	8			US 30	A2		Forbidden		Forbidden	
Trichlorobenzenes, liquid	2321	6.1		Poison ~~Keep away from food~~	US 1		III	611 Y611	60 L 2 L	618	220 L
Trichlorobutene	2322	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A **1,1,1-Trichloroethane**	2831	6.1		~~Poison~~ ~~Keep away from food~~			III	605 Y605	60 L 2 L	612	220 L
A **Trichloroethylene**	1710	6.1		~~Poison~~ ~~Keep away from food~~	US 1		III	605 Y605	60 L 2 L	612	220 L
Trichloroisocyanuric acid, dry	*2468*	*5.1*		*Oxidizer*			II	*508* Y508	*5 kg* 2.5 kg	511	25 kg
Trichloromethyl perchlorate	Forbidden										
Trichloronitromethane, see **Chloropicrin**											
Trichlorosilane	1295	4.3	3 8					Forbidden		Forbidden	
2,4,6-Trichloro-1,3,5-triazine, see **Cyanuric chloride**											
Tricresyl phosphate with more than 3% ortho isomer	2574	6.1		Poison			II	610 Y610	5 L 1 L	612	60 L
A **Triethylamine**	1296	3	8	Liquid flammable & Corrosive			II	305 Y305	1 L 0.5	307	~~60 L~~ 5
Triethyl borate, see **Ethyl borate**											
Triethylenetetramine	2259	8		Corrosive			II	808 *Y808*	1 L *0.5 L*	812	30 L
A Triethylmethyl lead mixtures, see **Motor fuel anti-knock mixtures**											
Triethyl orthoformate, see **Ethyl orthoformate**											
Triethyl phosphite	2323	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Trifluoroacetic acid	2699	8		Corrosive			I	807	0.5 L	809	2.5 L
Trifluoroacetyl chloride	3057	2.3	8		US 30	A2		Forbidden		Forbidden	
Trifluorobromomethane, see **Bromotrifluoromethane**											
Trifluorochloroethane, see **1-Chloro-2,2,2-trifluoroethane**											
Trifluorochloroethylene, inhibited	1082	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Trifluorochloromethane, see **Chlorotrifluoromethane**											
Trifluoroethane, compressed	2035	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Trifluoromethane	1984	2.2		Gas non-flammable				200	75 kg	200	150 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Trifluoromethane, refrigerated liquid	3136	2.2		Gas non-flammable				202	50 kg	202	500 kg
A **2-Trifluoromethylaniline**	2942	6.1		~~Poison~~ ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L
3-Trifluoromethylaniline	2948	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Triformoxime trinitrate	Forbidden										
A **Triisobutylene**	2324	3		Liquid flammable		~~A3~~	II	~~305~~ ~~Y305~~	~~5 L~~ ~~1 L~~	~~307~~	~~60 L~~
							III	309 Y309	60 L 10 L	310	220 L
Triisocyanatoisocyanurate of isophoronediisocyanate, solution, 70%; by mass	2906	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Triisopropyl borate	2616	3		Liquid flammable		A3	II	305 Y305	5 L 1 L	307	60 L
							III	309 Y309	60 L 10 L	310	220 L
K A **Trimethylacetyl chloride**	2438	~~8~~ 6.1	3 ~~8~~	~~Corrosive~~ ~~& Liquid flammable~~			~~II~~	Forbidden ~~809~~ ~~Y809~~	Forbidden ~~1 L~~ ~~0.5 L~~	Forbidden ~~813~~	Forbidden ~~30 L~~
Trimethylamine, anhydrous	1083	2.1		Gas flammable	US 1 US 30	A1		Forbidden		200	150 kg
A **Trimethylamine, aqueous solution, not more than 50% trimethylamine, by mass**	1297	3	8	Liquid flammable & Corrosive		A3	I II III	302 305 Y305 309 Y309	0.5L 1 L 0.5L 5 L 1 L	303 307 310	2.5L 5 L 60
1,3,5-Trimethylbenzene	2325	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Trimethyl borate	2416	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Trimethyl carbonyl, see **Butanols**											
A **Trimethylchlorosilane**	1298	3	8	Liquid flammable & Corrosive	US 34	~~A1~~	II	~~Forbidden~~ 306 Y306	~~1L~~ 0.5L	304	~~2.5 L~~ 5
Trimethylcyclohexylamine	2326	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
H Trimethylene chlorobromide, see ~~1-Chloro-3-bromopropane~~ 1-Bromo-3-chloropropane											
Trimethylene glycol diperchlorate	Forbidden										
Trimethylhexamethylenediamines	2327	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
A **Trimethylhexamethylene diisocyanate**	2328	6.1		~~Poison~~ ~~Keep away from food~~			III	611 Y611	60 L 2 L	618	220 L

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1	2	3	4	5	6	7	8	9	10	11	12
2,4,6-Trinitrophenyl nitramine	Forbidden										
2,4,6-Trinitrophenyl trimethylol methyl nitramine trinitrate (dry)	Forbidden										
Trinitroresorcinol, dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	0219	1.1D						Forbidden		Forbidden	
Trinitroresorcinol, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0394	1.1D						Forbidden		Forbidden	
2,4,6-Trinitroso-3-methyl nitraminoanisole	*Forbidden*										
Trinitrotetramine cobalt nitrate	Forbidden										
Trinitrotoluene, dry or wetted with less than 30% water, by mass	0209	1.1D						Forbidden		Forbidden	
A **Trinitrotoluene and hexanitrostilbene mixtures**	0388	1.1D						Forbidden		Forbidden	
A **Trinitrotoluene and trinitrobenzene mixtures**	0388	1.1D						Forbidden		Forbidden	
A **Trinitrotoluene mixtures containing *trinitrobenzene and hexanitrostilbene***	0389	1.1D						Forbidden		Forbidden	
Trinitrotoluene, wetted with not less than 30% water, by mass	1356	4.1		Solid flammable	BE 3	A40	I	416	0.5 kg	416	0.5 kg
2,4,6-Trinitro-1,3,5-triazido benzene (dry)	Forbidden										
Tri-(b-nitroxyethyl) ammonium nitrate	Forbidden										
A **Tripropylamine**	2260	3	8	Liquid flammable & Corrosive			I II	305 Y305	5 L 1 L	307 310	60 L 60 L
Tripropylene	2057	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
Tris, bis-bifluoroamino diethoxy propane (*TVOPA*)	Forbidden										
Tritonal	0390	1.1D						Forbidden		Forbidden	
Tropilidene, see **Cycloheptatriene**											
A **Tungsten hexafluoride**	2196	2.3	8		US 30	A2		Forbidden		Forbidden	
Turpentine	1299	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Turpentine substitute †	1300	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per packag
1	2	3	4	5	6	7	8	9	10	11	12
Tyre assemblies inflated, unserviceable, damaged or above maximum rated pressure	–	9				A59		Forbidden		Forbidden	
Undecane	2330	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Uranium hexafluoride, fissile excepted or non-fissile	2978	7	8	Radioactive & Corrosive		A76		See Part 2;7 and Part 3;9			
Uranium hexafluoride, fissile containing more than 1.0% U-235	2977	7	8	Radioactive & Corrosive		A76		See Part 2;7 and Part 3;9			
Uranium metal, pyrophoric	2979	7	4.2	Radioactive & Spontaneous combustion		A79		See Part 2;7 and Part 3;9			
Uranyl nitrate hexahydrate solution	2980	7	8	Radioactive & Corrosive		A78		See Part 2;7 and Part 3;9			
Uranyl nitrate, solid	2981	7	5.1	Radioactive & Oxidizer		A78		See Part 2;7 and Part 3;9			
Urea hydrogen peroxide	1511	5.1	8	Oxidizer & Corrosive			III	517 Y517	25 kg 5 kg	519	100 kg
Urea nitrate, dry or wetted with less than 20% water, by mass	0220	1.1D						Forbidden		Forbidden	
A **Urea nitrate, wetted** with not less than 20% water, by mass	1357	4.1		Solid flammable	BE 3	~~A16~~ ~~A42~~ ~~A102~~ A101	I	416	1 kg	412	15 kg
Urea peroxide, see **Urea hydrogen peroxide**											
Valeral, see **Valeraldehyde**											
Valeraldehyde	2058	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
n-Valeraldehyde, see **Valeraldehyde**											
A Valeric acid, see **Corrosive liquid, acidic, organic, n.o.s.**											
Valeric aldehyde, see **Valeraldehyde**											
A[133 134] **Valeryl chloride**	2502	8	3	Corrosive & Liquid flammable			II	809 Y809	1 L 0.5 L	813	30 L
Vanadium oxysulphate, see **Vanadyl sulphate**											
Vanadium oxytrichloride	2443	8		Corrosive		A1	II	Forbidden		813	30 L
Vanadium pentoxide, non-fused form	2862	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Vanadium tetrachloride	2444	8		Corrosive		A1	I	Forbidden		809	2.5 L
Vanadium trichloride	2475	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
~~**Vanadium trioxide, non fused form**~~	~~2860~~	~~6.1~~		~~Poison~~			~~II~~	~~613~~ ~~Y613~~	~~25 kg~~ ~~1 kg~~	~~615~~	~~100 kg~~
Vanadyl sulphate	2931	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Vehicles, self-propelled, see **Battery-powered vehicle** ~~or equipment~~, or **Engines, internal combustion** ~~or Wheelchair, electric~~											
Very signal cartridge, see **Cartridges, signal**											
Villiaumite, see **Sodium fluoride**											
Vinyl acetate, inhibited	1301	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Vinyl benzene, see **Styrene monomer, inhibited**											
Vinyl bromide, inhibited	1085	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Vinyl butyrate, inhibited	2838	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Vinyl chloride, inhibited	1086	2.1		Gas flammable	US 1 US 30	A1		Forbidden		200	150 kg
Vinyl chloroacetate	2589	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Vinyl cyanide, see **Acrylonitrile, inhibited**											
Vinyl ethyl ether, inhibited	1302	3		Liquid flammable			I	306	1 L	304	30 L
Vinyl fluoride, inhibited	1860	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Vinylidene chloride, inhibited	1303	3		Liquid flammable			I	302	1 L	303	30 L
Vinyl isobutyl ether, inhibited	1304	3		Liquid flammable			II	305 Y305	5 L 1 L	307	60 L
Vinyl methyl ether, inhibited	1087	2.1		Gas flammable	US 30	A1		Forbidden		200	150 kg
Vinyl nitrate polymer	Forbidden										
Vinylpyridines, inhibited	3073	6.1	3	Poison & Liquid flammable			II	609 Y609	5 L 1 L	611	60 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Vinyltoluene, inhibited, mixed isomers	2618	3		Liquid flammable			III	309 Y309	60 L 10 L	310	220 L
Vinyltrichlorosilane	1305	3	8	Liquid flammable & Corrosive		A1	I	Forbidden		304	2.5 L
Warheads for guided missiles, see **Warheads, rocket**											
Warheads, rocket with burster or expelling charge †	0370	1.4D		Explosive 1.4				Forbidden		128	75 kg
Warheads, rocket with burster or expelling charge †	0371	1.4F						Forbidden		Forbidden	
Warheads, rocket with bursting charge †	0286	1.1D						Forbidden		Forbidden	
Warheads, rocket with bursting charge †	0369	1.1F						Forbidden		Forbidden	
Warheads, rocket with bursting charge †	0287	1.2D						Forbidden		Forbidden	
Warheads, torpedo with bursting charge †	0221	1.1D						Forbidden		Forbidden	
Water gas, see ***Carbon monoxide and*** **hydrogen mixture**											
Water-reactive liquid, n.o.s.*	3148	4.3		Danger if wet		A3	I II III	Forbidden 413 414	 1 L 5 L	408 414 425	1 L 5 L 60 L
Water-reactive liquid, corrosive, n.o.s.*	3129	4.3	8	Danger if wet & Corrosive		A3	I II III	Forbidden 413 414	 1 L 5 L	408 414 425	1 L 5 L 60 L
A **Water-reactive liquid, ~~poisonous~~ toxic, n.o.s.***	3130	4.3	6.1	Danger if wet & Poison		~~A3~~ A3 ~~A66~~	I II III	Forbidden 413 414	 1 L 5 L	408 414 425	1 L 5 L 60 L
Water-reactive solid, n.o.s.*	2813	4.3		Danger if wet		A3	I II III 	Forbidden 415 Y415 419 Y419	 15 kg 5 kg 25 kg 10 kg	411 417 420 	15 kg 50 kg 100 kg
Water-reactive solid, corrosive, n.o.s.*	3131	4.3	8	Danger if wet & Corrosive		A3	I II III 	Forbidden 415 Y415 419 Y419	 15 kg 5 kg 25 kg 5 kg	411 417 420 	15 kg 50 kg 100 kg
A **Water-reactive solid, flammable, n.o.s.***	3132	4.3	4.1	Danger if wet & Solid flammable		A3 ~~A65~~	I II III 	Forbidden 415 Y415 419 Y419	 15 kg 5 kg 25 kg 10 kg	411 417 420 	15 kg 50 kg 100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Water-reactive solid, oxidizing, n.o.s.*	3133	4.3	5.1			A3		Forbidden		Forbidden	
A **Water-reactive solid, ~~toxic, poisonous~~, n.o.s.***	3134	4.3	6.1	Danger if wet & Poison		A3 ~~A68~~	I II	Forbidden 415 Y415	15 kg 1 kg	411 417	15 kg 50 kg
							III	419 Y419	25 kg 10 kg	420	100 kg
Water-reactive solid, self-heating, n.o.s.*	3135	4.3	4.2	Danger if wet & Spontaneous combustion		A3	I II III	Forbidden 415 419	15 kg 25 kg	411 417 420	15 kg 50 kg 100 kg
A **Wheelchair, electric** with batteries, ~~See Battery-powered equipment or Battery-powered vehicle~~	~~3171~~	~~9~~		~~Miscellaneous~~		~~A8 A67 A87~~		~~001~~	~~No limit~~	~~001~~	~~No limit~~
White arsenic, see **Arsenic trioxide**											
White asbestos (chrysotile, actinolite, anthophyllite, tremolite) †	2590	9		Miscellaneous	US 1	A61	III	909	200 kg	909	200 kg
White spirit, see **Turpentine substitute**											
Wood preservatives, liquid	1306	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
Xenon	2036	2.2		Gas non-flammable				200	75 kg	200	150 kg
Xenon, refrigerated liquid	2591	2.2		Gas non-flammable				202	50 kg	202	500 kg
Xylenes	1307	3		Liquid flammable		A3	II III	305 Y305 309 Y309	5 L 1 L 60 L 10 L	307 310	60 L 220 L
Xylenols	2261	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Xylidines	1711	6.1		Poison			II	609 Y609	5 L 1 L	611	60 L
Xylols, see **Xylenes**											
Xylyl bromide	1701	6.1		Poison	US 34	A1	II	Forbidden		612	60 L
p-Xylyl diazide	Forbidden										
Zinc ammonium nitrite	1512	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Zinc arsenate	1712	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Zinc arsenate and zinc arsenite mixtures	1712	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Zinc arsenite	1712	6.1		Poison			II	613 Y613	25 kg 1 kg	615	100 kg
Zinc ashes	1435	4.3		Danger if wet			III	419 Y419	25 kg 10 kg	420	100 kg
Zinc bisulphite solution, see **Bisulphites, ~~inorganic~~ aqueous solutions, n.o.s.**											
Zinc bromate	2469	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Zinc chlorate	1513	5.1		Oxidizer			II	509 Y509	5 kg 2.5 kg	512	25 kg
Zinc chloride, anhydrous	2331	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
Zinc chloride solution	1840	8		Corrosive		A3	III	818 Y818	5 L 1 L	820	60 L
Zinc cyanide	1713	6.1		Poison	US 1		I	606	5 kg	607	50 kg
Zinc dithionite	1931	9		Miscellaneous		A48	III	906	100 kg	906	200 kg
Zinc dust	1436	4.3	4.2	Danger if wet & Spontaneous combustion		A3	I II III	Forbidden 415 419	 15 kg 25 kg	411 417 420	15 kg 50 kg 100 kg
Zinc ethyl, see **Diethylzinc**											
Zinc fluorosilicate	2855	6.1		~~Poison Keep away from food~~			III	619 Y619	100 kg 10 kg	619	200 kg
Zinc hydrosulphite~~, see Zinc dithionite~~	1931	9		Miscellaneous		A48	III	906	100 kg	906	200 kg
Zinc muriate solution, see **Zinc chloride solution**											
Zinc nitrate	1514	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Zinc permanganate	1515	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Zinc peroxide	1516	5.1		Oxidizer			II	508 Y508	5 kg 2.5 kg	511	25 kg
Zinc phosphide	1714	4.3	6.1	Danger if wet & Poison			I	Forbidden		412	15 kg
Zinc powder	1436	4.3	4.2	Danger if wet & Spontaneous combustion		A3	I II III	Forbidden 415 419	 15 kg 25 kg	411 417 420	15 kg 50 kg 100 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Zinc resinate	2714	4.1		Solid flammable			III	419 Y419	25 kg 10 kg	420	100 kg
Zinc selenate, see **Selenates**											
Zinc selenite, see **Selenites**											
Zinc silicofluoride, see **Zinc fluorosilicate**											
Zirconium, dry, coiled wire, finished metal sheets, strip (thinner than 254 microns but not thinner than 18 *microns*)	2858	4.1		Solid flammable		A86	III	419 Y419	25 kg 10 kg	420	100 kg
Zirconium, dry, finished sheets, strip or coiled wire (thinner than 18 microns)	2009	4.2		Spontaneous combustion		A3	III	419	25 kg	420	100 kg
Zirconium hydride	1437	4.1		Solid flammable			II	416 Y416	15 kg 5 kg	418	50 kg
Zirconium nitrate	2728	5.1		Oxidizer			III	516 Y516	25 kg 10 kg	518	100 kg
Zirconium picramate, dry or wetted with less than 20% water, by mass	0236	1.3C						Forbidden		Forbidden	
Zirconium picramate, wetted with not less than 20% water, by mass	1517	4.1		Solid flammable	BE 3	A40	I	416	1 kg	412	15 kg
Zirconium powder, dry	2008	4.2		Spontaneous *combustion*		A3	I *II* III	Forbidden *416* 416	 *15 kg* 25 kg	Forbidden *418* 418	 *50 kg* 100 kg
Zirconium powder, wetted with not less than 25% water (a visible excess of water must be present) (a) mechanically produced, particle size less than 53 microns; (b) chemically produced, particle size less than 840 microns	1358	4.1		Solid flammable		A35	II	418 Y416	15 kg 5 kg	418	50 kg
Zirconium scrap	1932	4.2			US 30	A2 A3		Forbidden		Forbidden	
Flammable **Zirconium suspended in a liquid** †	1308	3		Liquid *flammable*		A1 A3 A108	I II III	Forbidden 305 ~~Forbidden~~ 5L Y305 1L 309 60L Y309 60L		303 307 310	30L 60 L 220L
Zirconium tetrachloride	2503	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg

ADDITIONS TO TABLE 2-14

		1	2	3	4	5	6	7	8	9 & 10		11 & 12	
A	1	Air bag inflators	3268	9		Miscellaneous		A56	III	917 ~~25 Kg (to be developed)~~		917 100 Kg	
A	2	Air bag modules	3268	9		Miscellaneous		A56	III	917 ~~25 Kg (to be developed)~~		917 100 Kg	
A	3	Alcoholates solution, n.o.s.*, in alcohol	3274	3	8	Liquid flammable & Corrosive			II	305 ~~5~~ 1 L Y305 ~~1~~ 0.5 L		307 ~~60~~ 5 L	
A	4	Alkylsulphuric acids*	2571	8		Corrosive			II	808 1 L Y808 0.5 L		812 30 L	
A	5	Aluminium dross, see Aluminium processing by-products											
HA	6	Amines, solid, corrosive, n.o.s.*	3259	8		Corrosive		A3	I II III	810 1 kg 814 15 kg Y814 5 kg 822 25 kg Y822 5 kg		811 25 kg 816 50 kg 823 100 kg	
A	7	Ammonium hexafluoro-silicate, see Ammonium fluorosilicate											
	8	Ammonium tetrachloro-mercurate, see Mercury ammonium chloride											
A	9	Aromatic liquids, see Extracts, aromatic, liquid											
AJ	10	Batteries, containing sodium†	3292	4.3		Danger if wet			II	Forbidden ~~(to be developed)~~		433 No limit	
A	11	Benzaldehyde	1990	9		Miscellaneous			III	907 100 L		907 220 L	
A	12	Biomedical waste, n.o.s.	3291	6.2		Infectious			II	622 No limit (UN 6.14.7)		622 No limit (UN 6.14.7)	
A	13	Bisulphates, aqueous solutions	2837	8		Corrosive		A3	II III	809 1 L Y809 0.5 L 819 5 L Y819 1 L		813 30 L 821 60 L	
A	14	tert-Butyl hypochlorite	3255	4.2	8					Forbidden		Forbidden	
AJ	15	Cells, containing sodium†	3292	4.3		Danger if wet			II	433 25 Kg G ~~(to be developed)~~		433 No limit	
	16	Chlorite solutions with more than 5% but less than 16% available chlorine	1908	8		Corrosive		A14	III	819 5 L Y819 1 L		821 60 L	

ADDITIONS TO TABLE 2-14

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
A	17 Chlorite solutions with not less than 16% available chlorine	1908	8		Corrosive			II	809 1 L Y809 0.5 L	813 30 L
K	18 2-Chloroethanal	2232	6.1						Forbidden	Forbidden
A	19 Chloroformates, toxic, corrosive, n.o.s.*	3277	6.1	8	Poison & Corrosive			II	609 1 L Y609 0.5 L	611 30 L
A	20 Chromium dichloride dioxide, see Chromium oxychloride									
A	21 Clinical waste, unspecified, n.o.s.	3291	6.2		Infectious			II	622 No limit ~~(UN 6.14.7)~~	622 No limit ~~(UN 6.14.7)~~
A	22 Corrosive liquid, acidic, inorganic, n.o.s.*	3264	8		Corrosive		A3	I II III	807 0.5 L 808 1 L Y808 0.5 L 818 5 L Y818 1 L	809 2.5 L 812 30 L 820 60 L
A	23 Corrosive liquid, acidic, organic, n.o.s.*	3265	8		Corrosive		A3	I II III	807 0.5 L 808 1 L Y808 0.5 L 818 5 L Y818 1 L	809 2.5 L 812 30 L 820 60 L
A	24 Corrosive liquid, basic, inorganic, n.o.s.*	3266	8		Corrosive		A3	I II III	807 0.5 L 808 1 L Y808 0.5 L 818 5 L Y818 1 L	809 2.5 L 812 30 L 820 60 L
A	25 Corrosive liquid, basic, organic, n.o.s.*	3267	8		Corrosive		A3	I II III	807 0.5 L 808 1 L Y808 0.5 L 818 5 L Y818 1 L	809 2.5 L 812 30 L 820 60 L
A	26 Corrosive liquid, self-heating, n.o.s.*	3301	8	4.2	Corrosive & Spontaneous combustion			I II	807 0.5 L 808 1 L	809 2.5 L 812 30 L
A	27 Corrosive solid, acidic, inorganic, n.o.s.*	3260	8		Corrosive		A3	I II III	810 1 kg 814 15 kg Y814 5 kg 822 25 kg Y822 5 kg	811 25 kg 816 50 kg 823 100 kg
A	28 Corrosive solid, acidic, organic, n.o.s.*	3261	8		Corrosive		A3	I II III	810 1 kg 814 15 kg Y814 5 kg 822 25 kg Y822 5 kg	811 25 kg 816 50 kg 823 100 kg

ADDITIONS TO TABLE 2-14

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
A 29	Corrosive solid, basic, inorganic, n.o.s.*	3262	8		Corrosive		A3	I II III	810 1 kg 814 15 kg Y814 5 kg 822 25 kg Y822 5 kg	811 25 kg 816 50 kg 823 100 kg
A 30	Corrosive solid, basic, organic, n.o.s.*	3263	8		Corrosive		A3	I II III	810 1 kg 814 15 kg Y814 5 kg 822 25 kg Y822 5 kg	811 25 kg 816 50 kg 823 100 kg
A 31	Cyanides, organic, flammable, toxic, n.o.s., see Nitriles, flammable, toxic, n.o.s.									
A 32	Cyanides, organic, toxic, n.o.s., see Nitriles, toxic, n.o.s.									
A 33	Cyanides, organic, toxic, flammable, n.o.s., see Nitriles, toxic, flammable, n.o.s.									
A 34	2-Dibutylaminoethanol, see Dibutylaminoethanol									
A 35	Di(2-chloroethyl) ether, see 2,2'-Dichlorodiethyl ether									
A 36	Diesel fuel	1202	3		Liquid flammable		A3	III	309 60 L Y309 10 L	310 220 L
A 37	1,1-Diethoxyethane, see Acetal									
A 38	2-Diethylaminoethanol, see Diethylaminoethanol									
A 39	Difluoromethane	3252	2.1		Gas flammable		A1		Forbidden	200 150 kg
A 40	2-Dimethylaminoethanol	2051	8	3	Corrosive & Liquid flammable			II	808 1 L Y808 0.5 L	812 30 L
41	1,1-Dimethylhydrazine, see Dimethylhydrazine, unsymmetrical									

ADDITIONS TO TABLE 2-14

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
A 42	N,N-Dimethyl-4-nitrosoaniline, see p-Nitrosodimethylaniline									
A 43	Disodium trioxosilicate, pentahydrate	3253	8		Corrosive			III	822 25 kg Y822 5 kg	823 100 kg
A 44	Elevated temperature liquid, n.o.s., at or above 100°C and below its flash point	3257	9						Forbidden	Forbidden
A 45	Elevated temperature liquid, flammable, n.o.s., with flash point above 60.5°C, at or above its flash point	3256	3						Forbidden	Forbidden
A 46	Elevated temperature solid, n.o.s., at or above 240°C	3259	9						Forbidden	Forbidden
A 47	Esters, n.o.s.*	3272	3		Liquid flammable		A3	II III	305 5 L Y305 1 L 309 60 L Y309 10 L	307 60 L 310 220 L
A 48	Ethers, n.o.s.*	3271	3		Liquid flammable		A3	II III	305 5 L Y305 1 L 309 60 L Y309 10 L	307 60 L 310 220 L
A 49	2-Ethylbutyl acetate, see Ethylbutyl acetate									
A 50	Ethylene oxide and carbon dioxide mixtures, with more than 9% but not more than 87% ethylene oxide	1041	2.1		Gas flammable	US 30	A1		Forbidden	200 25 kg
A 51	Ethylene oxide and carbon dioxide mixtures, with not more than 9% ethylene oxide	1952	2.2		Gas non-flammable				200 75 kg	200 150 kg
A 52	Ethylene oxide and carbon dioxide mixtures, with ~~not~~ more than 87% ethylene oxide	3300	2.3	2.1	Gas toxic & Gas flammable	US 1 US 30	A1		Forbidden	200 25 kg
A 53	Ethylene oxide and chlorotetrafluoroethane mixtures with not more than 8.8% ethylene oxide	3297	2.2		Gas non-flammable				200 75 kg	200 150 kg

ADDITIONS TO TABLE 2-14

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
A 54	Ethylene oxide and dichlorodifluoromethane mixture, with not more than 12.5% ethylene oxide	3070	2.2		Gas non-flammable				200 75 kg	200 150 kg
A 55	Ethylene oxide and pentafluoroethane mixture, with not more than 7.9% ethylene oxide	3298	2.2		Gas non-flammable				200 75 kg	200 150 kg
A 56	Ethylene oxide and tetrafluoroethane mixture, with not more than 5.6% ethylene oxide	3299	2.2		Gas non-flammable				200 75 kg	200 150 kg
A 57	Ethylene oxide with nitrogen up to a total pressure of 1 MPa at 50°C	1040	2.3	2.1	Gas toxic & Gas flammable	US 1 US 30	A1		Forbidden	209 25 kg
A 58	Flammable liquid, toxic, corrosive, n.o.s.*	3286	3	6.1 8	Liquid flammable & Poison & Corrosive			I II	Forbidden 305 1 L Y305 0.5 L	303 2.5 L 307 5 L
59	Fumaroyl dichloride, see Fumaryl chloride									
A 60	Heating oil, light	1202	3		Liquid flammable		A3	III	309 60 L Y309 10 L	310 220 L
A 61	Heptafluoropropane	3296	2.2		Gas non-flammable				200 75 kg	200 150 kg
A 62	Hexachloro-1,3-butadiene, see Hexachlorobutadiene									
A 63	Hexotol, see Hexolite, etc.									
A 64	Hydrazine, aqueous solutions with not more than 37% hydrazine, by mass	3293	6.1		Poison		A3	III	611 60 L Y611 2 L	618 220 L
A 65	Hydrocarbons, liquid, n.o.s.	3295	3		Liquid flammable		A3	I II III	302 1 L 305 5 L Y305 1 L 309 60 L Y309 10 L	303 30 L 307 60 L 310 220 L
66	Hydrogen cyanide, solution in alcohol with not more than 45% hydrogen cyanide	3294	6.1	3					Forbidden	Forbidden

ADDITIONS TO TABLE 2-14

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
A 67	Hydrogen cyanide, aqueous solutions with not more than 20% hydrogen cyanide	1613	6.1						Forbidden	Forbidden
A 68	Hydrogendifluorides, n.o.s., solid	1740	8		Corrosive		A3	II	815 15 kg Y815 5 kg	817 50 kg
								III	825 25 kg Y825 5 kg	826 100 kg
A 69	Hydrogendifluorides, n.o.s., solution	1740	8		Corrosive		A3	II	809 1 L Y809 0.5 L	813 30 L
								III	819 5 L Y819 1 L	821 60 L
A 70	3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, see Isophorone diisocyanate									
A 71	Isosorbide-5-mononitrate	3251	4.1						Forbidden	Forbidden
tJ 72	Lithium batteries packed with equipment†	3091	9		Miscellaneous	US 25	A45 ~~A48~~	II	918 see ~~912~~	918 see ~~912~~
~~73~~	~~Machinery or apparatus containing dangerous goods in excepted or limited quantities~~								~~see 916~~	~~see 916~~
A 74	Malo~~x~~no dinitrile, see Malo~~x~~no nitrile									
A 75	Medical waste, n.o.s.	3291	6.2		Infectious			II	622 No limit ~~(UN 6.14.7)~~	622 No limit ~~(UN 6.14.7)~~
A 76	Metal carbonyls, ~~toxic~~ n.o.s.*	3281	6.1		Poison		A3	I	603 1 L	604 30 L
							A4	II	609 5 L Y609 1 L	611 60 L
								III	611 60 L Y611 2 L	618 220 L
† 77	1-Naphthylthiourea, see Naphthylthiourea									
A 78	Nickel tetracarbonyl, see Nickel carbonyl									
A 79	Nitriles, flammable, toxic, n.o.s.*	3273	3	6.1	Liquid flammable & Poison			I	Forbidden	303 30 L
								II	305 1 L Y305 ~~0.5~~ 1 L	307 60 L
A 80	Nitriles, toxic, n.o.s.*, liquid	3276	6.1		Poison		A3	I	603 1 L	604 30 L
							A4	II	609 5 L Y609 1 L	611 60 L
								III	611 60 L Y611 2 L	618 220 L

ADDITIONS TO TABLE 2-14

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
A 81	Nitriles, toxic, n.o.s.*, solid	3276	6.1		Poison		A3 A5	I II III 	606 5 kg 613 25 kg Y613 1 kg 619 100 kg Y619 10 kg	607 50 kg 615 100 kg 619 200 kg
A 82	Nitriles, toxic, flammable, n.o.s.*	3275	6.1	3	Poison & Liquid flammable		A4	I II 	603 1 L 609 5 L Y609 0.5 L	604 30 L 611 60 L
A 83	Nitrocellulose membrane filters	3270	4.1		Solid flammable		A57 A73	II 	416 1 kg Y416 1 kg	418 15 kg
A 84	Nitrocellulose, with not more than 12.6% nitrogen, by dry mass, mixture, without plasticizer	2557	4.1		Solid flammable	BE 3	A57 A86	II 	416 1 kg Y416 1 kg	418 15 kg
A 85	Nitrocellulose, with not more than 12.6% nitrogen, by dry mass, mixture, with pigment	2557	4.1		Solid flammable	BE 3	A57 A86	II 	416 1 kg Y416 1 kg	418 15 kg
A 86	Nitrocellulose, with not more than 12.6% nitrogen, by dry mass, mixture, with plasticizer	2557	4.1		Solid flammable	BE 3	A57 A86	II 	416 1 kg Y416 1 kg	418 15 kg
A 87	Octonal	0496	1.1D						Forbidden	Forbidden
A 88	Organoarsenic compound, toxic, n.o.s.*	3280	6.1		Poison		A3 A5	I II III 	606 5 kg 613 25 kg Y613 1 kg 619 100 kg Y619 10 kg	607 50 kg 615 100 kg 619 200 kg
A 89	Organometallic compound, toxic, n.o.s.*	3282	6.1		Poison		A3 A5	I II III 	606 5 kg 613 25 kg Y613 1 kg 619 100 kg Y619 10 kg	607 50 kg 615 100 kg 619 200 kg
A 90	Organophosphorus compound, toxic, n.o.s.* liquid	3278	6.1		Poison		A3 A4 A6	I II III 	603 1 L 609 5 L Y609 1 L 611 60 L Y611 2 L	604 30 L 611 60 L 618 220 L
91	Organophosphorus compound, toxic, n.o.s.* solid	3278	6.1		Poison		A3 A5 A6	I II III 	606 5 kg 613 25 kg Y613 1 kg 619 100 kg Y619 10 kg	607 50 kg 615 100 kg 619 200 kg

ADDITIONS TO TABLE 2-14

	1	2	3	4	5	6	7	8	9 & 10		11 & 12	
92	Organophosphorus compound, toxic, flammable, n.o.s.*	3279	6.1	3	Poison & Liquid flammable		A4 A6	I II	603 609 Y609	1 L 5 L 1 L	604 611	30 L 60 L
93	n-Pentane, see Pentanes, liquid											
94	Petroleum products, n.o.s.	1268	3		Liquid flammable		A3	I II III 	302 305 Y305 309 Y309	1 L 5 L 1 L 60 L 10 L	303 307 310	30 L 60 L 220 L
95	Phenolates, liquid	2904	8		Corrosive			III	818 Y818	5 L 1 L	820	60 L
96	Phenolates, solid	2905	8		Corrosive			III	822 Y822	25 kg 5 kg	823	100 kg
97	Phenylisocyanodichloride, see Phenylcarbylamine chloride											
98	Polyalkylamines, flammable, corrosive, n.o.s.*	2733	3	8	Liquid flammable & Corrosive		A3	I II III 	302 305 Y305 309 Y309	0.5 L 1 L 0.5 L 5 L 1 L	303 307 310	2.5 L 5 L 60 L
99	Polyamines, liquid, corrosive, n.o.s.*	2735	8		Corrosive		A3	I II III 	807 808 Y808 818 Y818	0.5 L 1 L 0.5 L 5 L 1 L	809 812 820	2.5 L 30 L 60 L
100	Polyamines, liquid, corrosive, flammable, n.o.s.*	2734	8	3	Corrosive & Liquid flammable			I II 	807 808 Y808	0.5 L 1 L 0.5 L	809 812	2.5 L 30 L
101	Polyamines, solid, corrosive, n.o.s.*	3259	8		Corrosive		A3	I II III 	810 814 Y814 822 Y822	1 kg 15 kg 5 kg 25 kg 5 kg	811 816 823	25 kg 50 kg 100 kg
102	Potassium dicyanocuprate, see Potassium cuprocyanide											
103	Potassium hexafluoro-silicate, see Potassium fluorosilicate											
104	Potassium hydrogendifluoride, solid	1811	8	6.1	Corrosive & Poison			II	815 Y815	15 kg 5 kg	817	50 kg

ADDITIONS TO TABLE 2-14

		1	2	3	4	5	6	7	8	9 & 10	11 & 12
A	105	Potassium hydrogen-difluoride, solution	1811	.8	6.1	Corrosive & Poison			II	809 1 L Y809 0.5 L	813 30 L
A	106	Potassium tetracyano-mercurate, see Mercuric potassium cyanide									
A	107	Propellant, liquid	0497	1.1C						Forbidden	Forbidden
A	108	Propellant, liquid	0495	1.3C						Forbidden	Forbidden
A	109	Propellant, solid	0498	1.1C						Forbidden	Forbidden
A	110	Propellant, solid	0499	1.3C						Forbidden	Forbidden
A	111	R227, see Heptafluoropropane									
A	112	Regulated medical waste, n.o.s.	3291	6.2		Infectious			II	622 No limit ~~(UN 6.14.7)~~	622 No limit ~~(UN 6.14.7)~~
A	~~113~~ 114	Seat-belt ~~inflators~~ pre-tensioners	3268	9		Miscellaneous		A56	III	917 25 kg ~~(to be developed)~~	917 100 kg
A	~~114~~ 113	Seat-belt modules	3268	9		Miscellaneous		A56	III	917 25 kg ~~(to be developed)~~	917 100 kg
A	115	Selenium compound, ~~toxic,~~ n.o.s.	3283	6.1		Poison		A3	I	606 5-kg	607 ~~30~~ 50 kg
								A5	II	613 25 kg Y613 1 kg	615 100 kg
									III	619 100 kg Y619 10 kg	619 200 kg
A	116	Sodium dicyanocuprate, solid, see Sodium cuprocyanide, solid									
A	117	Sodium dicyanocuprate solution, see Sodium cuprocyanide solution									
A	118	Sodium hexafluorosilicate, see Sodium fluorosilicate									
A	119	Sodium hydrogen 4-amino-phenylarsenate, see Sodium arsanilate									
A	120	Sodium metasilicate pentahydrate, see Disodium trioxosilicate, pentahydrate									
A	121	Sulphuric acid with not more than 51% acid	2796	8		Corrosive			II	809 1 L Y809 0.5 L	813 30 L

ADDITIONS TO TABLE 2-14

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
A 122	Tellurium compound, ~~toxic~~, n.o.s.	3284	6.1		Poison		A3 A5	I II III	606 5 kg 613 25 kg Y613 1 kg 619 100 kg Y619 10 kg	607 ~~10~~ 50 kg 615 100 kg 619 200 kg
A 123	Tetraethyloxysilane, see Tetraethyl silicate									
A 124	Thia-4-pentanal, see 4-Thiapentanal									
A 125	Tin chloride anhydrous, see Stannic chloride, anhydrous									
A 126	Tin chloride pentahydrate, see Stannic chloride pentahydrate									
A 127	Toxic gas, n.o.s., see Compressed or Liquefied gas, toxic, etc.									
A 128	Toxic liquid, corrosive, inorganic, n.o.s.*	3289	6.1	8	Poison & Corrosive		A4	I II	603 0.5 L 609 1 L Y609 0.5 L	604 2.5 L 611 30 L
A 129	Toxic liquid, inorganic, n.o.s.*	3287	6.1		Poison		A3 A4	I II III	603 1 L 609 5 L Y609 1 L 611 60 L Y611 2 L	604 30 L 611 60 L 618 220 L
A 130	Toxic solid, corrosive, inorganic, n.o.s.*	3290	6.1	8	Poison & Corrosive		A5	I II	606 1 kg 613 15 kg Y613 1 kg	607 25 kg 615 50 kg
A 131	Toxic solid, inorganic, n.o.s.*	3288	6.1		Poison		A3 A5	I II III	606 5 kg 613 25 kg Y613 1 kg 619 100 kg Y619 10 kg	607 50 kg 615 100 kg 619 200 kg
A 132	Tributylphosphane	3254	4.2						Forbidden	Forbidden
A 133	Vanadium compound, ~~toxic~~, n.o.s.	3285	6.1		Poison		A3 A5	I II III	606 5 kg 613 25 kg Y613 1 kg 619 100 kg Y619 10 kg	607 50 kg 615 100 kg 619 200 kg
A 134	Vanadium oxide sulphate, see Vanadyl sulphate									

ADDITIONS TO TABLE 2-14

1	2	3	4	5	6	7	8	9 & 10	11 & 12
A 135 Vinyl chloride, stabilized	1086	2.1		Gas Flammable	US 1 US 30	A1		Forbidden	200 150 kg
A 136 Zinc hexafluorosilicate, see Zinc fluorosilicate									

J

ADDITIONS OF PROPER SHIPPING NAMES AS A RESULT OF WP/39

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per packgage
	1	2	3	4	5	6	7	8	9	10	11	12

INSERT Nos. 1 to 7 in page 2-11-40

~~1~~	~~Cartridges, small arms †~~	~~0328~~	~~1.2C~~						Forbidden		Forbidden	
2	Cartridges, small arms †	0417	1.3C						Forbidden		Forbidden	
3	Cartridges, small arms †	0339	1.4C		Explosive 1.4				Forbidden		132	75 kg
4	Cartridges, small arms †	0012	1.4S		Explosive 1.4				132	25 kg	132	100 kg
5	Cartridges, small arms, blank †	0327	1.3C						Forbidden		Forbidden	
6	Cartridges, small arms, blank †	0338	1.4C		Explosive 1.4				Fobidden		132	75 kg
7	Cartridges, small arms, blank †	0014	1.4S		Explosive 1.4				132	25 kg	132	100 kg

INSERT Nos. 8 to 11 in page 2-11-55

8	Cyclonite and cyclotetramethylenetetranitramine mixtures, desensitized with not less than 10% phlegmatizer, by mass	0391	1.1D						Forbidden		Forbidden	
9	Cyclonite and cyclotetramethylenetetranitramine mixtures, wetted with not less than 15% water, by mass	0391	1.1D						Forbidden		Forbidden	
10	Cyclonite, desensitized	0483	1.1D						Fobidden		Forbidden	
11	Cyclonite, wetted with not less than 15% water, by mass	0072	1.1D						Forbidden		Forbidden	

INSERT Nos. 12 to 15 in page 2-11-87

12	Hexogen and cyclotetramethylenetetranitramine mixtures, desensitized with not less than 10% phlegmatizer, by mass	0391	1.1D						Forbidden		Forbidden	
13	Hexogen and cyclotetramethylenetetranitramine mixtures, wetted with not less than 15% water, by mass	0391	1.1D						Forbidden		Forbidden	
14	Hexogen, desensitized	0483	1.1D						Forbidden		Forbidden	
15	Hexogen, wetted with not less than 15% water, by mass	0072	1.1D						Forbidden		Forbidden	

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Additions of PSNs as result of WP 139

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing insruction	Cargo aircraft: Max. net quantity per packgage
	1	2	3	4	5	6	7	8	9	10	11	12
	INSERT Nos. 16 to 18 in page 2-11-88											
16	HMX, desensitized	0484	1.1D						Fobidden		Forbidden	
17	HMX (dry or unphlegmatized)	Forbidden										
18	HMX, wetted with not less than 15% water, by mass	0226	1.1D						Forbidden		Forbidden	
	INSERT Nos. 19 to 21 in page 2-11-122											
19	Octogen, desensitized	0484	1.1D						Forbidden		Forbidden	
20	Octogen (dry or unphlegmatized)	Forbidden										
21	Octogen, wetted with not less than 15% water, by mass	0226	1.1D						Forbidden		Forbidden	
	INSERT Nos. 22 to 25 in page 2-11-129											
22	PETN (dry)	Forbidden										
23	PETN with not less than 7% wax, by mass	0411	1.1D						Forbidden		Forbidden	
24	PETN, desensitized with not less than 15% phlegmatizer by mass	0150	1.1D						Forbidden		Forbidden	
25	PETN, wetted with not less than 25% water, by mass	0150	1.1D						Forbidden		Forbidden	
	INSERT Nos. 26 to 29 in page 2-11-133											
26	Picric Acid, dry or wetted with less than 30% water, by mass	0154	1.1D						Forbidden		Forbidden	
~~27~~	~~Picric Acid, wetted with not less than 30% water, by mass~~	~~1344~~	~~4.1~~		~~Solid flammable~~	~~BB 3~~	~~A40~~	~~I~~	~~416~~	~~1 kg~~	~~412~~	~~15 kg~~
28	Picrite, dry or wetted with less than 20% water, by mass	0282	1.1D						Forbidden		Forbidden	
~~29~~	~~Picrite, wetted with not less than 20% water, by mass~~	~~1336~~	~~4.1~~		~~Solid flammable~~	~~BE 3~~	~~A40~~	~~I~~	~~416~~	~~1 kg~~	~~412~~	~~15 kg~~

J Additions of PSNs as result of WP/39

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing insruction	Cargo aircraft: Max. net quantity per packgage
	1	2	3	4	5	6	7	8	9	10	11	12
	INSERT Nos. 30 to 33 in page 2-11-143											
30	**RDX and cyclotetramethylenetetranitamine mixtures, desensitized with not less than 10% phlegmatizer, by mass**	*0391*	*1.1D*						*Forbidden*		*Forbidden*	
31	**RDX and cyclotetramethylenetetranitramine mixtures, wetted with not less than 15% water, by mass**	0391	1.1D						Forbidden		Forbidden	
32	**RDX, desensitized**	0483	1.1D						Forbidden		Forbidden	
33	**RDX, wetted with not less than 15% water, by mass**	0072	1.1D						Forbidden		Forbidden	
	INSERT Nos. 34 to 35 in page 2-11-154											
34	**Styphnic Acid, *dry or wetted with* less than 20% water, or mixture of alcohol and water, by mass**	*0219*	1.1D						Forbidden		*Forbidden*	
35	**Styphnic Acid, wetted with not less than 20% water, or mixture of alcohol and water, by mass**	0394	1.1D						Forbidden		Forbidden	
	INSERT Nos. 36 to 40 in page 2-11-160											
36	**TNT, dry or wetted with less than 30% water, by mass**	0209	1.1D						Forbidden		Forbidden	
37	**TNT and hexanitrostilbene mixtures**	0388	1.1D						Forbidden		Forbidden	
38	**TNT and trinitrobenzene mixtures**	0388	1.1D						Forbidden		Forbidden	
39	**TNT mixtures containing trinitrobenzene and hexanitrostilbene**	0389	1.1D						Forbidden		Forbidden	
~~40~~	~~TNT, wetted with not less than 30% water, by mass~~	~~1356~~	~~4.1~~		~~Solid Flammable~~	~~BE 3~~	~~A40~~	~~1~~	~~416~~	~~0.5 kg~~	~~416~~	~~0.5 kg~~

Chapter 12

SPECIAL PROVISIONS

Table 2-15 lists the special provisions referred to in Column 7 of Table 2-14 and the information contained in them is additional to that shown for the relevant entry.

Table 2-15. Special provisions

A1	This commodity may be transported on passenger aircraft only with the prior approval of the appropriate authority of the State of origin under the written conditions established by that authority. The conditions must include the quantity limitations and packing requirements and these must comply with Part S-2;11.2.2 of the Supplement. A copy of the document of approval, showing the quantity limitations and packing requirements, must accompany the consignment. The commodity may be carried on cargo aircraft in accordance with columns 11 and 12 of Table 2-14.
A2	This commodity may be transported on passenger aircraft and on cargo aircraft, only with the prior approval of the appropriate authority of the State of origin under the written conditions established by the authority. For passenger aircraft, where States have notified ICAO that they require prior approval of shipments made under this Special Provision, approval must also be obtained from the States of transit, overflight and destination and of the State of the operator, as appropriate. In each case the conditions must include the quantity limitations and packing requirements and these must comply with Part S-2;11.2.3 of the Supplement. A copy of the document(s) of approval, showing the quantity limitations and the packing and labelling requirements, must accompany the consignment.
A3	If the chemical or physical properties of a substance covered by this description are such that, when tested, it does not meet the established defining criteria for the class or division listed in column 3, or any other class or division, it is ~~considered non-dangerous.~~ not subject to these Instructions.
A4	Liquids having a vapour inhalation toxicity of Packing Group I are forbidden on both passenger and cargo aircraft. Liquids having a mist inhalation toxicity of Packing Group I are forbidden on a passenger aircraft. They may be carried on cargo aircraft providing they are packed in accordance with the packing instructions for the Packing Group I substance and the maximum net quantity per package does not exceed 5 L.
A5	Solids having an inhalation toxicity of Packing Group I are forbidden on passenger aircraft. They may be carried on cargo aircraft providing they are packed in accordance with the packing instruction for the Packing Group I substance and the maximum net quantity per package does not exceed 15 kg.
A6	See list of pesticides in Part 2, Table 2-5. Substances not included in that list must be classified using the toxicity criteria given in Part 2, Chapter 6.
A7	The criteria for the inclusion of viscous flammable liquids in Packing Group III are given in Part 2. Chapter 3.
A8	Battery-powered mobility aids are also included in this entry.
A9	Alcoholic beverages containing not more than 70 per cent alcohol by volume, when packed in receptacles of less than 5 L, are ~~considered non-dangerous.~~ not subject to these Instructions.

2-12-2

A10 This substance is ~~considered non-dangerous~~ not subject to these Instructions when it contains less than 30 per cent silicon, or 90 per cent or more silicon.

A11 Ferrosilicon, with not less than 70 per cent but less than 90 per cent silicon, is ~~considered non-dangerous~~ not subject to these Instructions provided that the appropriate national authority is satisfied, by the results of tests, that dangerous gases will not be evolved.

A12 Antimony sulphides and oxides which do not contain more than 0.5 per cent of arsenic calculated on the total mass are ~~considered non-dangerous.~~ not subject to these Instructions.

A13 Ferricyanides and ferrocyanides are ~~considered non-dangerous.~~ not subject to these Instructions.

A14 Solutions with not more than 5 per cent available chlorine are ~~considered non-dangerous.~~ not subject to these Instructions.

A15 These substances are ~~considered non-dangerous~~ not subject to these Instructions when they contain not more than 50 per cent magnesium.

A16 This substance is ~~considered non-dangerous~~ not subject to these Instructions when it does not contain more than 4 per cent sodium hydroxide.

A17 Hydrogen peroxide aqueous solutions with less than 8 per cent of hydrogen peroxide are ~~considered non-dangerous.~~ not subject to these Instructions.

A18 Mercurous chloride and cinnabar are ~~considered non-dangerous.~~ not subject to these Instructions.

A19 Fire extinguishers under this entry may include installed actuating cartridges (cartridges, power device of Division 1.4C or 1.4S), without changing the classification of Division 2.2 provided the aggregate quantity of deflagrating (propellant) explosives does not exceed 3.2 grams per extinguishing unit.

A20 During the course of transport this substance must be protected from direct sunshine and stored in a cool and well ventilated place, away from all sources of heat. A statement to this effect must be included in the Dangerous Goods Transport Document.

A21 This entry only applies to vehicles and equipment which are powered by wet batteries and which are transported with these batteries installed. Examples of such vehicles and equipment are electrically-powered cars, lawn mowers, wheelchairs and other mobility aids.

A22 The classification of this substance is expected to vary especially with the particle size and packaging but the borderlines have not been experimentally determined; classification should be verified by the appropriate national authority.

A23 ~~If the shipper declares that the consignment is not liable to become overheated it may be carried as a non-dangerous article~~

A24 The total quantity of explosive substance contained in the shaped charges and the detonating cord must not exceed 10 kg per assembled perforating gun.

A25 This entry must not be used for Pentachlorophenol (UN 3155).

A26 ~~Non-dangerous~~ Not subject to these Instructions if with less than 12 kg ~~non-flammable, non-toxic liquefied gas or if containing ammonia solutions with not more than 35% ammonia~~ of a gas in Division 2.2 or if containing less than 12 L ammonia solution (UN 2672).

A27 Sodium carbonate peroxyhydrate is ~~considered non-dangerous.~~ not subject to these Instructions.

A28 The dihydrated sodium salt of dichloroisocyanuric acid is ~~considered non-dangerous.~~ not subject to these Instructions.

A29 p-Bromobenzyl cyanide is ~~considered non-dangerous.~~ not subject to these Instructions.

A30 Maneb or maneb preparations, stabilized, ~~may be regarded as non-dangerous~~ are not subject to these Instructions provided that the appropriate authority of the State of origin is satisfied by the result of relevant tests that dangerous gases or vapours will not be evolved under normal conditions of transport.

A31 Products which have undergone sufficient heat treatment ~~to render them non-dangerous may be so regarded.~~ so they present no hazard during transport are not subject to these Instructions.

A32 A technical name is not needed for this entry if it is a controlled substance and a national law or international convention prohibits its disclosure.

A33 Ammonium nitrites and mixtures of an inorganic nitrite with an ammonium salt are prohibited.

A34 The transport of chemically unstable mixtures is prohibited.

A23 If the consignment ~~is not liable to become overheated~~ has no self-heating properties and the shipper makes a declaration to this effect on the air waybill or other similar document (such as a consignment note), it is not subject to these Instructions.

A35 This substance is ~~considered non-dangerous~~ not subject to these Instructions when:

- mechanically produced, particle size more than 53 microns; or.
- chemically produced, particle size more than 840 microns.

A36 The provisions of Special Provision A1 apply to this entry for Packing Group II only.

A37 This entry is not intended to include Ammonium permanganate, the transport of which is prohibited under any circumstances.

A38 These beads may be made from polystyrene, poly(methyl methacrylate) or other polymeric material.

A39 This substance possesses some dangerous explosive properties when transported in large volumes.

A40 This substance may be carried under provisions ~~other than those of Class 1~~ of Division 4.1 only if it is so packed that the percentage of water will not fall below that stated at any time during transport. ~~When wetted as stated it must not be capable of being detonated by means of a No. 8 test blasting cap at a temperature of 24°C 27°C or capable of mass detonation through the action of a powerful booster.~~

A41 Permeation devices that contain dangerous goods and that are used for purposes of calibrating air quality monitoring devices ~~may be considered non dangerous~~ are not subject to these Instructions provided the following requirements are met:

a) Each device must be constructed of a material compatible with the dangerous goods it contains;

b) The total contents of dangerous goods in each device is limited to 2 millilitres and the device must not be liquid full at 55°C;

c) Each permeation device must be placed in a sealed, high impact-resistant, tubular inner packaging of plastic or equivalent material. Sufficient absorbent material must be contained in the inner packaging to completely absorb the contents of the device. The closure of the inner packaging must be securely held in place with wire, tape or other positive means;

d) Each inner packaging must be contained in a secondary packaging constructed of metal, or plastic having a minimum thickness of 1.5 mm. The secondary packaging must be hermetically sealed;

e) The secondary packaging must be securely packed in strong outer packaging. The completed package must be capable of withstanding, without breakage or leakage of any inner packaging and without significant reduction in effectiveness-

(i) the following free drops onto a rigid, non-resilient, flat and horizontal surface from a height of 1.8 m:

— one drop flat on the bottom;

— one drop flat on the top;

— one drop flat on the long side;

— one drop flat on the short side;

— one drop on a corner at the junction of three intersecting edges; and

(ii) a force applied to the top surface for a duration of 24 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the test sample).

Note.— Each of the above tests may be performed on different but identical packages.

f) The gross mass of the completed package must not exceed 30 kg.

A42 Not used

~~A42 Nitroglycerin solution in alcohol with not more than 5 per cent nitroglycerin may be shipped as UN 1204 or UN 3064, as appropriate.~~

A43 Toxins from plant, animal or bacterial sources which contain infectious substances, or are contained in them, must be classified as Division 6.2.

A44 Chemical kits or first aid kits include boxes, cases, etc. containing small amounts of various compatible dangerous goods which are used for medical, analytical or testing purposes. Such kits must be classified and labelled according to the hazard class of the individual constituents. Any dangerous goods which are forbidden in passenger aircraft may not be included in these kits. The outer packagings containing the kits must be marked 'Chemical Kit' or 'First Aid Kit' as appropriate. Each package must be labelled according to each substance contained in the package; this includes the primary hazard label and any subsidiary risk labels applicable to each individual substance within the kit.

A45 Lithium cells and batteries are ~~considered non dangerous~~ not subject to these Instructions if they meet the following requirements:

1) each cell with a liquid cathode must contain not more than 0.5 g of lithium or lithium alloy and each cell with a solid cathode must contain not more than 1 g of lithium or lithium alloy;

If a subsidiary hazard has already been adequately indicated by the primary class or division label or subsidiary risk label applied for one of the other components in the kit, such a subsidiary risk label is not required.

2) each battery with a ~~solid~~ liquid cathode must contain not more than an aggregate quantity of 1 g of lithium or lithium alloy and each battery with a ~~liquid~~ solid cathode must contain not more than an aggregate quantity of ½ g of lithium or lithium alloy;

3) each cell or battery containing a liquid cathode must be hermetically sealed;

4) cells must be separated so as to prevent short circuits;

5) batteries must be separated so as to prevent short circuits and must be packed in strong packagings, except when installed in electronic devices;

6) if a liquid cathode battery contains more than 0.5 g of lithium or lithium alloy, or a solid cathode battery contains more than 1 g of lithium or lithium alloy, it must not contain a liquid or gas which is considered dangerous unless the liquid or gas, if free, would be completely absorbed or neutralized by other materials in the battery.

A46 Mixtures of ~~non-dangerous~~ solids which are not subject to these Instructions and flammable liquids may be transported under this entry without first applying the classification criteria of Division 4.1, providing there is no free liquid visible at the time the substance is packaged and the packaging is leakproof.

A47 Genetically modified micro-organisms which are infectious must be transported as UN 2814 or UN 2900. ~~Except when authorized for unconditional use by the appropriate authorities of the States of origin, transit and destination, other genetically modified micro-organisms, which do not meet the definition of infectious substances but which are capable of altering animals, plants or microbiological substances in a way not normally the result of natural reproduction, must be assigned to this entry.~~

A48 Packaging tests are not considered necessary.

A49 Other inert material or inert material mixture may be used at the discretion of the appropriate authority of the State of origin, provided this inert material has identical phlegmatizing properties.

A50 Mixtures of ~~non-dangerous~~ solids which are not subject to these Instructions and ~~poisonous~~ toxic liquids may be transported under this entry without first applying the classification criteria of Division 6.1, providing there is no free liquid visible at the time the substance is packaged and the packaging is leakproof. This entry must not be used for solids containing a Packing Group I liquid.

A51 Carbon, activated (UN 1362) and Carbon, animal or vegetable origin (non-activated) (UN 1361) in powdered, granulated or lump form, are ~~considered non-dangerous~~ not subject to these Instructions when:

a) in the case of lumps, the carbon has been cooled for 4 or more days since manufacture; or

b) in the case of powdered carbon or of granulated carbon in a granule size less than 8 mm, the carbon has been cooled for 8 or more days since manufacture either by being air-cooled in thin layers or by a process ensuring an equivalent degree of cooling; or

c) in the case of carbons made by processes which reduce the flammable volatile material, they cannot be ignited by a match and they meet the requirements of the following self-heating test:

SELF-HEATING TEST FOR CARBON

Apparatus

a) Oven. A laboratory oven fitted with internal air circulation and capable of being controlled at 140°C ± 2°C.

b) Wire mesh cube. Construct an open top cube, 100 mm side, from phosphor-bronze gauze 18 000 mesh per cm² (350 × 350 mesh). Insert it inside a slightly larger, well-fitting cube, made of phosphor-bronze gauze 11 mesh per cm² (8 × 8 mesh). Fit the outer cube with a handle or hooks so that it can be suspended from above.

c) Temperature measurement. A suitable system to measure and record the temperature of the oven and in the centre of the cube. Chromel-alumel thermocouples, made from 0.27 mm diameter wire, are suitable for measuring the temperature range expected.

Procedure

Fill the cube with carbon and tap down gently, adding carbon until the cube is full. Suspend the sample in the centre of the oven which has been preheated to 140°C ± 2°C. Insert one thermocouple in the centre of the sample and the other between the cube and the oven wall. Maintain the temperature of the oven at 140°C ± 2°C for 12 hours and record the oven temperature and the temperature within the sample.

Lithium cells and lithium batteries are also regarded as not subject to these Instructions if they meet the following requirements:

(7) each cell contains not more than 5 g of lithium or lithium alloy;

(8) each battery contains not more than 25 g of lithium or lithium alloy;

(9) each cell or battery is of the type proved to be non-dangerous by testing in accordance with the United Nations Recommendations on the Transport of Dangerous Goods: Tests and Criteria (UN Document ST/SG/AC.10/11). Such testing must be carried out on each type prior to the initial transport of the type; and

(10) cells and batteries are designed or packed in such a way as to prevent short circuits under the normal conditions of transport.

Results

a) Non-activated carbon, non-activated charcoal, carbon black, lamp black fail the test if the temperature within the sample at any time during the 12 hours exceeded 200°C.

b) Activated carbon, activated charcoal fail the test if the temperature within the sample at any time during the 12 hours exceeded 400°C.

J A53 This substance is ~~considered non-dangerous~~ not subject to these Instructions when coated.

J A54 This substance is ~~considered~~ ~~non-dangerous~~ not subject to these Instructions when in any other form.

J A55 Solvent extracted soya bean meal containing not more than 1.5 per cent oil and not more than 11 per cent moisture, which is substantially free of flammable solvent, is ~~considered non-dangerous.~~ not subject to these Instructions.

A57 Receptacles must be so constructed that explosion is not possible by an increase of internal pressure; otherwise, except for UN 2555, the substance must be classified as Class I.

J A58 An aqueous solution containing not more than 24 per cent alcohol by volume is ~~considered non-dangerous.~~ not subject to these Instructions.

J A59 A tire assembly unserviceable or damaged is not ~~regarded as an item of dangerous goods~~ subject to these Instructions if the tire is completely deflated. A tire assembly with a serviceable tire is not ~~regarded as an item of dangerous goods~~ subject to these Instructions provided the tire is not inflated to a gauge pressure exceeding the maximum rated pressure for that tire.

A ~~A60 Substances and mixtures having a flash point not less than 23°C need not show the 'Liquid flammable' subsidiary risk label.~~

J A61 Asbestos which is immersed or fixed in a natural or artificial binder (such as cement, plastics, asphalt, resins or mineral ore) in such a way that no escape of hazardous quantities of respirable asbestos fibres can occur during transport is ~~considered non-dangerous~~ not subject to these Instructions for transport. Manufactured articles, containing asbestos and not meeting this requirement, are nevertheless ~~considered non-dangerous~~ not subject to these Instructions for transport, when packed so that no escape of hazardous quantities of respirable asbestos fibres can occur during transport.

A62 This category must only be used when no other appropriate entry exists and then only with the approval of the appropriate national authority.

A63 Masses of ferro-magnetic metals such as automobiles, automobile parts, metal fencing, piping and metal construction material, even if not meeting the definition of magnetized materials in Part 2;9, may be subject to the operator's special stowage regulations since they may affect aircraft instruments, particularly the compasses.

J A64 Water solutions with not more than 10 per cent ammonia (relative density above 0.957 at 15°C) are ~~considered non-dangerous.~~ not subject to these Instructions.

J A65 Not used.

~~A65 Subsidiary risk label must not be used when the subsidiary risk is of Packing Group III in Division 4.1.~~

A A66 The organic peroxide included in a Polyester Resin Kit must be one of those listed in Table 2-14 as permitted for transport. ~~A Polyester Resin Kit must be consigned in accordance with the requirements for 'Flammable liquid, n.o.s.' if the organic peroxide contained therein is regarded as non-dangerous.~~

J A67 Non-spillable batteries are ~~considered to be non-dangerous~~ not subject to these Instructions if, at a temperature of 55°C, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow and if, when packaged for transport, the terminals are protected from short circuit.

J A68 Not used.

~~A68 The subsidiary risk poison label must not be used where the subsidiary risk is of Packing Group III in Division 6.1.~~

J A69 Articles, each containing not more than 100 mg of mercury or inert gas and packaged so that the quantity of mercury or inert gas per package does not exceed 1 g, are ~~considered non-dangerous.~~ not subject to these Instructions

J A70 Machines or other apparatuses, incorporating an internal combustion engine, the fuel tank of which has never contained any fuel, the fuel system of which is completely empty of fuel and without batteries or other dangerous goods, are ~~considered non-dangerous.~~ not subject to these Instructions.

J A71 This substance is ~~considered~~ ~~non-dangerous~~ not subject to these Instructions when it contains not more than 0.1 per cent calcium carbide.

A72 A substance specifically listed by name in Table 2-14 must not be transported under this entry. Materials transported under this entry may contain 20 per cent or less nitrocellulose provided the nitrocellulose contains not more than 12.6 per cent nitrogen.

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A74 Phthalic anhydride and Tetrahydrophthalic anhydrides with not more than 0.05 per cent of maleic anhydride are ~~considered non-dangerous~~ not subject to these Instructions.

A75 Not used.

~~A75 Subsidiary risk label required only if the substance or mixture meets the criteria for Division 6.1, Packing Group II.~~

A76 Packaging must be designed as a pressure vessel at a standard which conforms at least with the requirements of American National Standard ANSI N14 1-1982 and also with the requirements of Part 2;7 and Part 3;9.

A77 Mixtures of ~~non-dangerous~~ solids and corrosive liquids which are not subject to these Instructions may be transported under this entry without first applying the classification criteria of Class 8, providing there is no free liquid visible at the time the substance is packaged and the packaging is leakproof.

A78 Radioactive material with a subsidiary risk must be allocated to Packing Group I, II or III, as appropriate, by application of the grouping criteria provided by Part 2 of these Instructions corresponding to the nature of the predominant subsidiary risk. It must be packaged as required by Part 2;7 and Part 3;9 and must also, unless contained in a Type A or Type B package, be packaged in accordance with the requirements of the subsidiary risk.

A79 Solid pyrophoric radioactive material must be packaged in Type A or Type B packages, must be suitably inerted and, if the subsidiary risk is at Packing Group I level and a Type A package is used, it must comply with the test requirements for Packing Group I.

A80 The technical name of the flammable liquid component only of this solution or mixture must be shown in parenthesis, immediately following the proper shipping name.

A81 The quantity limits shown in Columns 10 and 12 do not apply to blood or blood products in primary receptacles not exceeding 500 ml and in outer packagings not exceeding 4 L, body parts, organs or whole bodies known to contain or suspected of containing infectious substances which must be packed in accordance with Packing Instruction 602 so as to present no hazard to persons or animals during shipment. This special provision does not apply to infectious substances carried in air mail.

A82 Barium sulphate is ~~considered non-dangerous~~ not subject to these Instructions.

A83 The commercial grade of calcium nitrate fertilizer, when consisting mainly of a double salt (calcium nitrate and ammonium nitrate) containing not more than 10% ammonium nitrate and at least 12% water of crystallization, is ~~considered non-dangerous~~ not subject to these Instructions.

A84 The group of alkali metals includes lithium, sodium, potassium, rubidium and caesium.

A85 The group of alkaline earth metals includes magnesium, calcium, strontium and barium.

A87 The 'miscellaneous dangerous goods' label is not required when the article is not fully enclosed by packaging, crates or other means that prevent the ready identification of the article.

A88 Zirconium wire, sheets and strip, dry, 254 microns or thicker, are not subject to these Instructions ~~considered non-dangerous~~ for air transport.

A89 In determining the ammonium nitrate content, all nitrate ions for which a molecular equivalent of ammonium ions is present in the mixture shall be calculated as ammonium nitrate.

A90 Ammonium nitrate fertilizers of this composition and within these limits are not subject to these Instructions ~~may be regarded as non-dangerous~~ if shown by a trough test (see United Nations Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Part IV (UN Document ST/SG/AC.10/11)) not to be liable to self-sustaining decomposition and provided that they do not contain an excess of nitrate greater than 10 per cent by mass (calculated as potassium nitrate).

A91 Nitrocellulose solutions containing not more than 20 per cent nitrocellulose may be transported under the requirements for 'Paint' or 'Printing ink' as applicable, see UN 1210, 1263 and 3066.

A92 Lead compounds which, when mixed in a ratio of 1:1000 with 0.07 M hydrochloric acid and stirred for 1 hour at a temperature of 23°C ±2°C, exhibit a solubility of 5 per cent or less are considered insoluble (see ISO ~~6713:1984~~ 3711:1990).

A93 A heat-producing article is not subject to these Instructions ~~regarded as an item of dangerous goods~~ when the heat-producing component or the energy source is removed to prevent unintentional functioning during transport.

~~A94 Metal catalysts based on nickel, cobalt, copper, manganese or their combinations only.~~

A95 This entry is not to be used for Polychlorinated biphenyls (UN 2315).

ADDITIONS TO TABLE 2-15

A ~~A42~~ A101 This substance may be carried under provisions other than those of Class 1 only if it is so packed that the percentage of water will not fall below that stated at any time during transport. When phlegmatized with water and inorganic inert material the content of urea nitrate may not exceed 75% by mass and the mixture must not be capable of being detonated by test 1 (a)(i) or test 1 (a)(ii) in the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria.

A A52 Mixtures not meeting the criteria for flammable gases (Division 2.1) must be transported under UN 3163.

A A56 This entry applies to articles which may be classified in Class 1 in accordance with Part 2;1.1.1, which are life-saving vehicle air bags or seat-belts, when transported as component parts and when packaged as for transport have been tested in accordance with the External Fire (Bonfire) Test, test series 6(c) of part I of the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, with no explosion of the device, no fragmentation of device casings, and no projection hazard or thermal effect which would significantly hinder fire-fighting or other emergency response efforts in the immediate vicinity. These air bags or seat-belts when installed in vehicles or in completed vehicle components such as steering columns and door panels are not subject to these Instructions. The quantities given in columns 10 and 12 of Table 2-14 Refer to the net mass of the finished article.
Note: For the carriage of a self-propelled vehicle, see Packing Instruction 901.

J A60 Not used.
~~[A60 Maintain temperature between 18°C and 40°C.]~~

A ~~A65~~ A102 This listing includes aluminium ashes, aluminium dross, aluminium potlining, aluminium skimmings, pot skimmings, spent cathodes, spent potliner, and waste cathodes.

A A73 The nitrogen content of the nitrocellulose must not exceed 11.5%. Each single filter sheet must be packed between sheets of glazed paper. The portion of glazed paper between the filter sheets must not be less than 65%, by mass. The membrane filters/papers arrangement must not be liable to propagate a detonation as tested by one of the tests described in the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, Part I, Test series 1 (a).

A A86 The formulation must be prepared so that it remains homogeneous and does not separate during transport. Formulations with low nitrocellulose contents are not subject to these Instructions provided that (i) they do not exhibit dangerous properties when tested for their liability to detonate, deflagrate or explode when heated under defined confinement by the appropriate test methods and criteria in the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria and (ii) they are not flammable solids when tested in accordance with Part 8;1.1.2 (chips, if necessary, crushed and ~~served~~ sieved to a particle size of less than 1.25 ~~0.5~~ mm)

A105 is transported in quantities of less than 400 kg per package, or when it

A94 Sulphur is not subject to these Instructions when it has been formed to a specific shape (e.g., prills, granules, pellets, pastilles or flakes).

A97 The assignment of substances to this entry is to be decided by the appropriate national authority.

A100 Gasoline, motor spirit and petrol must be assigned to this entry regardless of variation in volatility.

A103 **Not subject to these Instructions if containing less than 100 g flammable, non-toxic, liquefied gas.**

A104 **The poison subsidiary risk label should not be used.**

A94 Not used.

A106 This entry may only be used for samples of chemicals taken for analysis in connection with the implementation of the Chemical Weapons Convention.

They may be transported on a passenger or cargo aircraft providing prior approval has been granted by the appropriate authority of the State of origin or the Director General of the Organization for the Prohibition of Chemical Weapons and providing the samples comply with the requirements shown against the entry for Chemical samples in Table S-2-6 of the Supplement.

The substance is assumed to meet the criteria of Packing Group I for Division 6.1. Subsidiary risk labelling is not required.

A copy of the document of approval showing the quantity limitations and the packing requirements must accompany the consignment.

Note.— The transport of substances under this description must be in accordance with chain of custody and security procedures specified by the Organization for the Prohibition of Chemical Weapons.

A107 This entry only applies to machinery or apparatus containing dangerous goods as an integral element of the machinery or apparatus. It must not be used for machinery or apparatus for which a proper shipping name already exists in Table 2-14.

A108 The provisions of Special Provision A1 apply to this entry for Packing Group I only.

3-1-1

No harmful quantity of a dangerous substance must adhere to the outside of the package.

Chapter 1

GENERAL PACKING REQUIREMENTS

Parts of this Chapter are affected by State Variations IT 7, JP 20, NZ 3; see Table A-1

are free of any indication that their integrity has been compromised. Packagings

1.1 GENERAL REQUIREMENTS APPLICABLE TO ALL CLASSES EXCEPT CLASS 7

1.1.1 Dangerous goods must be packed in ~~receptacles~~ packagings of good quality which must be so constructed and so closed as to prevent the package prepared in every way for shipment from any leakage which might be caused, in normal conditions of air transport, by changes in temperature, humidity or pressure (resulting from altitude, for example) or by vibration. These provisions apply to both new ~~receptacles~~ packagings and ~~receptacles~~ which are reused. When a ~~receptacle~~ is reused, all measures must be taken to prevent contamination.

~~1.1.2 Packagings specified in the packing instructions and which are listed in the Index of Table 7-2 and Table 7-3 must meet the applicable requirements of Part 7 of these Instructions. Before reuse, every packaging must be inspected and must not be reused unless free from corrosion or other damage.~~

1.1.3 Packagings (including closures) in direct contact with dangerous goods must be resistant to any chemical or other action of such goods; the materials of the ~~receptacles~~ must not contain substances which may react dangerously with the contents, form hazardous products or significantly weaken the ~~receptacles~~. Materials, such as some plastics, which can be significantly softened or rendered brittle or permeable by the temperatures likely to be experienced during transport or because of the chemical action of the contents or the use of a refrigerant, must not be used. Even though certain packagings are specified in individual packing instructions, it is, nevertheless, the responsibility of the shipper to ensure that such packagings are, in every way, compatible with the articles or substances to be contained within such packagings. This particularly applies to corrosivity, permeability, softening, premature aging and embrittlement.

1.1.4 The body and the closure of any ~~receptacle~~ must be so constructed as to be able adequately to resist the effects of temperature and vibration occurring in normal conditions of transport. Stoppers, corks or other such friction-type closures must be held securely, tightly and effectively in place by positive means. The closure device must be so designed that it is unlikely that it can be incorrectly or incompletely closed, and must be such that it may be checked easily to determine that it is completely closed.

1.1.5 When filling ~~receptacles~~ for liquids sufficient ullage (outage) must be left to ensure that neither leakage nor permanent distortion of the ~~receptacle~~ will occur as a result of an expansion of the liquid caused by temperatures likely to prevail during transport. Liquids must not completely fill a ~~receptacle~~ at a temperature of 55°C.

1.1.6.1 Packagings for which retention of liquid is a basic function must be capable of withstanding without leakage an internal pressure which produces a pressure differential of not less than 95 kPa (not less than 75 kPa for liquids in Packing Group III of Class 3 or Division 6.1), or a pressure related to the vapour pressure of the liquid to be conveyed, whichever is the greater. The pressure related to the vapour pressure must be determined as either:

a) the total gauge pressure measured in the ~~receptacle~~ (i.e. the vapour pressure of the filling substance and the partial pressure of the air or other inert gases, less 100 kPa) at 55°C, multiplied by a safety factor of 1.5; this total gauge pressure should be determined on the basis of a degree of filling in accordance with 1.1.5 and a filling temperature of 15°C, or

b) 1.75 times the vapour pressure at 50°C less 100 kPa, but with a minimum of 95 kPa.

This is expressed as:

$P = (V_{p50} \times 1.75) - 100$ kPa with a minimum of 95 kPa where

P = Pressure requirement in kPa (gauge)

V_{p50} = Vapour pressure at 50°C; or

c) 1.5 times the vapour pressure at 55°C less 100 kPa, but with a minimum of 95 kPa.

This is expressed as:

$P = (V_{p55} \times 1.5) - 100$ kPa with a minimum of 95 kPa where

P = Pressure requirement in kPa (gauge)

V_{p55} = Vapour pressure at 55°C.

1.1.2 New, remanufactured, reused or reconditioned packagings of the types specified in the packing instructions and listed in the Index of Table 7-2 and Table 7-3, must meet the applicable requirements of Part 7 of these Instructions. Such packagings must be manufactured and tested under a quality assurance programme which satisfies the appropriate national authority, in order to ensure that such packagings meet those applicable requirements. Before being filled and handed over for transport, every packaging must be inspected to ensure that it is free from corrosion, contamination or other damage. Any packaging which shows signs of reduced strength as compared with the approved design type must no longer be used or must be so reconditioned that it is able to withstand the design type tests.

1.1.6.2 Notwithstanding the foregoing, dangerous goods may be contained in an inner packaging which does not itself meet the pressure requirement provided that the inner packaging is packed within a supplementary packaging which does meet the pressure requirement and all the other requirements of this Chapter and the applicable packing instruction.

1.1.7 Dangerous goods must not be packed together in the same outer packaging with dangerous or other goods if they react dangerously with each other and cause:

a) combustion and/or evolution of considerable heat;

b) evolution of flammable, ~~poisonous~~ toxic or asphyxiant gases;

c) the formation of corrosive substances; or

d) the formation of unstable substances.

1.1.8 Subject to 1.1.7 above an outer packaging may contain more than one item of dangerous goods provided that:

a) the inner packaging used for each item of dangerous goods and the quantity contained therein complies with the relevant part of the packing instruction applicable to that item;

b) the outer packagings used are permitted by all the packing instructions applicable to each item of dangerous goods;

c) the package as prepared for shipment meets the specification performance tests for the most restrictive packing group of a substance or article contained in the package;

e) the quantities of different dangerous goods contained in one outer packaging must be such that 'Q' does not exceed the value of 1, where 'Q' is calculated using the formulae:

$$Q = \frac{n_1}{M_1} + \frac{n_2}{M_2} + \frac{n_3}{M_3} \ldots$$

where n_1, n_2 etc. are the net quantities of the different dangerous goods and M_1, M_2 etc. are the maximum net quantities for these different dangerous goods according to Table 2-14 for passenger or cargo aircraft as applicable; ~~Where one of the items of dangerous goods is carbon dioxide, solid (dry ice), UN 1845, this need not be taken into account in the calculation of a 'Q' value; and~~

d) the dangerous goods do not require segregation according to Table 5-1, unless otherwise provided for in these Instructions; and

An outer packaging must not contain inner packagings of Division 6.2 (Infectious Substances) and inner packagings of other types of goods.

1.1.9 Inner packagings must be so packed, secured or cushioned as to prevent their breakage or leakage and so as to control their movement within the outer packaging during normal conditions of transport. Cushioning material must not react dangerously with the contents of the inner packagings. Any leakage of the contents must not substantially impair the protective properties of the cushioning material.

1.1.10 Unless otherwise provided in this paragraph or in the packing instructions, liquids in Classes 3, 4 or 8, or Divisions 5.1 or 6.1 of Packing Groups I or II, in glass or earthenware inner packagings must be packaged using material capable of absorbing the liquid. Absorbent material must not react dangerously with the liquid. Absorbent material is not required if the inner packagings are so protected that breakage of them and leakage of their contents from the outer packaging will not occur during normal conditions of transport. Where absorbent material is required and an outer packaging is not liquid tight, a means of containing the liquid in the event of a leakage must be provided in the form of a leakproof liner, plastic bag or other equally efficient means of containment. Where absorbent material is required, the quantity and disposition of it in each outer packaging must be as follows:

a) for packagings containing liquids in Packing Group I for transport on passenger aircraft; sufficient absorbent material to absorb the contents of all inner packagings containing such liquids;

b) for packagings containing liquids in Packing Group I for transport on cargo aircraft only and packagings containing liquids in Packing Group II for transport on passenger aircraft: sufficient absorbent material to absorb the contents of any one of the inner packagings containing such liquids and, where they are of different sizes and quantities, sufficient absorbent material to absorb the contents of the inner packaging containing the greatest quantity of such liquids.

Note.— For packagings containing liquids in Packing Group II for transport on cargo aircraft only, no absorbent material is required.

1.1.11 The nature and the thickness of the outer packaging must be such that friction during transport does not generate any heat likely to alter dangerously the chemical stability of the contents.

1.1.12 Venting of packagings to reduce internal pressure, which may develop by the evolution of gas from the contents, is not permitted for air transport, except as otherwise specified in these Instructions.

1.1.13 Combination packagings containing liquid dangerous goods, excluding flammable liquids in inner packagings of 120 mL or less, or infectious substances, must be packed so that the closures on the inner packagings are upward and the upright position of the package must be indicated on it by the 'Package orientation' label shown in Part 4; 3.2.10 b). The words 'This side up' or 'This end up' may also be displayed on the top cover of the package.

1.1.14 Except as provided in Part 4; 3.4.1.1 a), a package must be of such size that there is adequate space to affix all necessary labels and markings.

However, the following dangerous goods do not need to be taken into account in the calculation of the "Q" value:

(1) carbon dioxide, solid (dry ice), UN 1845;

(2) those where columns 10 and 12 of Table 2-14 indicate "No limit";

(3) those with the same UN number and packing group, providing they are the only dangerous goods in the package and the total net quantity does not exceed the maximum net quantity according to Table 2-14.

~~1.1.15 Unless otherwise provided in these Instructions, viscous substances with an outflow time via a DIN cup with 4 mm diameter outlet at 20°C exceeding 10 minutes (corresponding to an outflow time of more than 690 seconds at 20°C via a Ford cup 4 or to a viscosity of more than 2.68×10^{-3} m²/s) may be subject to the provisions applicable for packagings destined for solid substances.~~

1.1.15 If, because of the nature of their former contents, uncleaned empty packagings may present a hazard, they must be tightly closed and treated according to the hazard they constitute.

1.1.16 Packagings tested as prescribed in Part 7;4.5 and marked with the hydraulic test pressure prescribed in Part 7;2.1 d) 1) must be filled only with a liquid having a vapour pressure:

a) such that the total gauge pressure in the packaging (i.e. the vapour pressure of the filling substance plus the partial pressure of air or other inert gases, less 100 kPa) at 55°C, determined on the basis of a maximum degree of filling in accordance with 1.1.5 and a filling temperature of 15°C, will not exceed two-thirds of the marked test pressure; or

b) at 50°C less than four-sevenths of the sum of the marked test pressure plus 100 kPa; or

c) at 55°C less than two-thirds of the sum of the marked test pressure plus 100 kPa (see Table 3-1).

However, where the packaging is selected on the basis of 1.1.16 a) the hydraulic test pressure marked in accordance with Part 7;2.1 d) 1) must be not less than 100 kPa (not less than 80 kPa for liquids in Packing Group III of Class 3 or Division 6.1).

1.1.17 Packagings used for solids which may become liquid at temperatures encountered during air transport must also be capable of containing that substance in the liquid state.

Table 3-1. Examples of required marked test pressures calculated as in 1.1.16 c)

UN No.	Name	Class	Packing Group	V_{p55} (kPa)	$V_{p55} \times 1.5$ (kPa)	$(V_{p55} \times 1.5)$ minus 100 (kPa)	Required minimum test pressure (gauge) under Part 7;4.5.3 c) (kPa)	Minimum test pressure (gauge) to be marked on the packaging (kPa)
2056	Tetrahydrofuran	3	II	70	105	5	100	100
2247	n-Decane	3	III	1.4	2.1	−97.9	100	100
1593	Dichloromethane	6.1	III	164	246	146	146	150
1155	Diethyl ether	3	I	199	299	199	199	250

Note 1.— For pure liquids the vapour pressure at 55°C (V_{p55}) can often be obtained from scientific tables.

Note 2.— The maximum vapour pressures in 1.1.16 b) and c) refer to the basis of the formula while the minimum hydraulic test pressure in the last sentence of 1.1.16 refers to the aircraft altitude.

Note 3.— Table 3-1 refers to the use of 1.1.16 c) only, which means that the marked test pressure must exceed 1.5 times the vapour pressure at 55°C less 100 kPa. When, for example, the test pressure for n-Decane is determined according to Part 7;4.5.3 a) the minimum marked test pressure of 80 kPa applies.

Note 4.— For Diethyl ether the required minimum test pressure under Part 7;4.5.4 is 250 kPa.

Note 5.— Packagings for solids (both inner and single) which may be permitted by the applicable packing instruction, should not be used if they are unsuitable for containing liquids (e.g. paper or plastic bags as inner packagings, unlined fibre drums as single packagings, should not be used).

1.2 PACKING GROUP

Unless otherwise provided for, the specification packagings (i.e. those listed in Table 7-2) detailed in the packing instructions must meet the performance test requirements of the relevant packing group shown in column 8 of Table 2-14 for the particular substance or article.

1.3 TRANSITIONAL PACKAGING ARRANGEMENTS FOR RADIOACTIVE MATERIAL

For the arrangements for the use of packagings for radioactive material manufactured under earlier requirements, see Part 7;7.13.

1.4 TRANSITIONAL PACKAGING ARRANGEMENTS

PRIOR TO 1 January, 1995

Packagings which are manufactured, ~~remanufactured, reconditioned and~~ tested and marked in accordance with the 1993-1994 Edition of the Technical Instructions may continue to be used until ~~December 31, 1998~~, 31 December 1998 as equivalent to the packagings identified in this Part by the same packaging code (e.g., "1A1").

Chapter 3

CLASS 1 – EXPLOSIVES

Parts of this Chapter are affected by State Variations BE 2, ES 1, HK 3; see Table A-1

3.1 PACKING GROUP

Unless otherwise provided in these Instructions, the packaging used for goods of Class 1 must meet Packing Group II requirements.

3.2 GENERAL REQUIREMENTS

3.2.1 The general packing requirements of Part 3, Chapter 1 must be met.

3.2.2 Nails, staples and other closure devices made of metal having no protective covering must not penetrate to the inside of the outer packaging unless the inner packaging adequately protects the explosives against contact with the metal.

3.2.3 Inner packagings, fittings and cushioning materials and the placing of explosive substances or articles in packages must be such that no dangerous movement may occur within packages during transport.

3.2.4 If the body of steel drums is double seamed, steps must be taken to prevent the ingress of explosive substances into the recesses of the seams.

3.2.5 The closure device of aluminium or steel drums must include a suitable gasket; if the closure device includes a screw-thread, the ingress of explosive substances into the screw-thread must not be possible.

3.2.6 If metal-lined boxes are used for packing explosive substances, these boxes must be made in such a way that the explosive substances carried cannot get between the liner and the sides or bottom of the box.

3.2.7 Where the packing instructions allow large articles to be carried unpacked, the unpacked articles may be fixed to cradles or contained in crates.

3.2.8 Electro-explosive devices must be adequately protected against electro-magnetic radiation and stray currents.

3.2.9 Packing Instruction 124 may be adopted for any explosive provided that the product so packed has been tested, by the appropriate national authority, and proved to present no greater hazard than that presented when the product is packed by the method specified in Table 2-14.

3.2.9 Plastic packagings must not be liable to generate or accumulate sufficient static electricity that a discharge could cause the packaged explosive to ignite or the packaged article to function.

3.3 PACKING INSTRUCTIONS

117 PACKING INSTRUCTION 117 117

(UN packing method E 20)

Inner packagings:	Receptacles metal ~~fibreboard~~ plastic wooden
Outer packagings:	Boxes ~~aluminium (4B)~~ fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) ~~solid plastic (4H2)~~ steel, ~~with inner liner or coating~~ (4A) Drums fibre (1G)
Particular packing requirements or exceptions:	No more than 50 g of substance may be packed in an inner packaging.

121 PACKING INSTRUCTION 121 121

Transfer to Supplement page S-3-39

(UN packing method E 25)

Inner packagings:	Bags plastic
Outer packagings:	Drums fibre (1G) steel, removable head (1A2)

123 PACKING INSTRUCTION 123 123

(UN packing method E 102)

Inner packagings:	As specified by the appropriate national authority
Outer packagings:	Boxes ~~aluminium (4B)~~ expanded plastic (4H1) fibreboard (4G) natural wood, ordinary (4C1) natural wood, ordinary (4C1), with liner plastic, solid (4H2) plywood (4D) reconstituted wood (4F) steel (4A) ~~steel, with inner liner or coating (4A2)~~ Drums ~~aluminium, removable head (1B2)~~ steel, removable head (1A2) fibre (1G)
Particular packing requirements or exceptions:	- Open ends of inner packagings must be fitted with padded end caps or the outer packaging must be padded. - Large articles without propelling charge and without means of ignition or initiation may be carried unpacked. - For water-activated articles, approval from the appropriate national authority is required.

- Large articles without their means of initiation, or with their means of initiation containing at least two effective protective features, may be carried unpacked.

PACKING INSTRUCTION 124

(UN packing method E 103)

As specified by the appropriate national authority.

The State's distinguishing sign for motor vehicles in international traffic of the country for which the authority acts must be mark on the dangerous goods transport document as follows: 'Packaging authorized by the competent authority of ...'

Note.— In this instance the term 'competent authority' is used for inter-modal compatibility; it refers to the appropriate nationa authority.

125 PACKING INSTRUCTION 125 125

(UN packing method E 104)

Inner packagings:	Receptacles fibreboard metal paper plastic
Outer packagings:	Boxes ~~fibreboard (4G)~~ aluminium (4B) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) steel, ~~with inner liner or coating~~ (4A)
~~Particular packing requirements or exceptions:~~	~~Plastic packagings must not be liable to generate and/or accumulate sufficient static electricity that a discharge could cause the packaged articles to function.~~

126 PACKING INSTRUCTION 126 126

(UN packing method E 105)

Inner packagings:	Receptacles fibreboard metal plastic
Intermediate packagings:	Boxes fibreboard wooden
Outer packagings:	Boxes ~~fibreboard (4G)~~ aluminium (4B) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) steel, ~~with inner liner or coating~~ (4A)
Particular packing requirements or exceptions:	– More than 10 inner packagings must not be packed in an intermediate packaging. – The inner or intermediate packagings must be separated from the outer packaging by a gap of at least 25 mm using spacers (battens) or cushioning material, e.g. sawdust. – Detonators in metal inner packagings must be secured by cushioning material at both ends. – ~~Plastic packagings must not be liable to generate and/or accumulate sufficient static electricity that a discharge could cause the packaged articles to function.~~

~~Liner or inner coating required for metal outer packagings unless another means such as the use of an inner packaging or cushioning material protects the explosive substance from contact with the metal outer packaging during normal conditions of transport.~~

127 PACKING INSTRUCTION 127 127

(UN packing method E 105A)

Inner packagings:

Bags
paper
plastic
Boxes
fibreboard
Receptacles
fibreboard

A Outer packagings:

Boxes
~~fibreboard (4G)~~ aluminium (4B)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
A steel, ~~with inner liner or coating~~ (4A)

128 PACKING INSTRUCTION 128 128

(UN packing method E 106)

Inner packagings:

Not necessary

Outer packagings:

Boxes
~~natural wood, ordinary (4C1)~~ aluminium (4B)
A plastic, solid (4H2)
plywood (4D)
reconstituted wood (4F)
A steel (4A)
~~Drums~~
~~steel, removable head (1A2)~~

Particular packing requirements or exceptions:

Except for UN 0434 and 0435, large articles without their means of initiation or with their means of initiation containing at least two effective protective features may be carried unpacked.

132 PACKING INSTRUCTION 132 132

(UN packing method E 112)

Inner packagings:

Not necessary

A Outer packagings:

Boxes
~~fibreboard (4G)~~ aluminium (4B)
natural wood, ordinary (4C1)
plastic, solid (4H2)
plywood (4D)
reconstituted wood (4F)
A steel (4A)
~~steel, with inner liner or coating (4A)~~
A Drums
steel, removable head (1A2)

Particular packing requirements or exceptions:

Open ends of inner packagings must be fitted with padded end caps or the outer packaging must be padded.

133

PACKING INSTRUCTION 133

133

(UN packing method E 113)

Inner packagings:

Receptacles
fibreboard
metal
plastic

Outer packagings:

Boxes
fibreboard (4G)
natural wood, ordinary (4C1) — natural wood, sift-proof walls (4C2)
plywood (4D)
reconstituted wood (4F)
steel (4A)

134

PACKING INSTRUCTION 134

134

(UN packing method E 114)

Inner packagings:

Receptacles
fibreboard
metal
plastic
wooden

Outer packagings:

Boxes — aluminium (4B)
fibreboard (4G)
natural wood, ordinary (4C1) — natural wood, sift-proof walls (4C2)
plywood (4D)
reconstituted wood (4F)
steel, ~~with inner liner or coating~~ (4A)

Drums
steel, removable head (1A2)

135

PACKING INSTRUCTION 135

135

(UN packing method E 115)

Inner packagings:

Receptacles
fibreboard
metal
paper, kraft (for cartridges of 1.4G and 1.4S)
plastic
wooden

Outer packagings:

Boxes
fibreboard (4G) — aluminium (4B), expanded plastic (4H1)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F) — solid plastic (4H2)
steel, ~~with inner liner or coating~~ (4A)

136 PACKING INSTRUCTION 136 136

(UN packing method E 116)

Inner packagings:

Bags (for small cases)
plastic
textile
Boxes
fibreboard
plastic
wooden
Dividing partitions in the outer packaging

A Outer packagings:

Boxes
~~fibreboard (4G)~~ aluminium (4B)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
A steel (4A)

140 PACKING INSTRUCTION 140 140

(UN packing method E 120)

Inner packagings:

Dividing partitions in the outer packaging
Tubes
fibreboard or equivalent material

Outer packagings:

Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)

Particular packing requirements or exceptions:

- The shaped charges must be so packed that contact between them is prevented.
- The conical cavities of the shaped charges must face inward in pairs or groups to minimize the shaped charge (jetting) effect in the event of accidental initiation.

141 PACKING INSTRUCTION 141 141

(UN packing method E 121)

Inner packagings:

Not necessary

A Outer packagings:

Boxes
~~fibreboard (4G)~~ aluminium (4B)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
A ~~steel, with inner liner or coating~~ (4A)

Drums
aluminium, removable head (1B2)
steel, removable head (1A2)

A Particular packing requirements or exceptions:

- The ends of the article must be sealed or the use of bags, plastic as inner packagings is required.

A

- Liner or inner coating required for metal outer packagings unless another means such as the use of an inner packaging or cushioning material protects the explosive substance from contact with the metal outer packaging during normal conditions of transport.

144

PACKING INSTRUCTION 144

144

(UN packing method E 124)

Inner packagings:

Reels
Receptacles, metal

Outer packagings:

Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
aluminium (4B)

Drums
fibre (1G)
aluminium, removable head (1B2)
steel, removable head (1A2)

Particular packing requirements or exceptions:

The ends of the detonating cord must be sealed and tied fast.

145

PACKING INSTRUCTION 145

145

(UN packing method E 125)

Inner packagings:

Bags
plastic
Reels
Sheets
paper, kraft
plastic

Outer packagings:

Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
aluminium (4B)
steel (4A)

Drums
aluminium, removable head (1B2)
steel, removable head (1A2)

Particular packing requirements or exceptions:

The ends of the detonating cord must be sealed. Spaces must be filled with packing material.

146

PACKING INSTRUCTION 146

146

(UN packing method E 126)

Inner packagings:

Reels
Receptacles
fibreboard

Outer packagings:

Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
aluminium (4B)
steel (4A)

Drums
aluminium, removable head (1B2)
steel, removable head (1A2)

147

PACKING INSTRUCTION 147

147

(UN packing method E 127)

Inner packagings:

Receptacles
fibreboard
metal
plastic

Outer packagings:

Boxes
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
steel, ~~with inner liner or coating~~ (4A)
aluminium (4B)
fibreboard (4G)

148

PACKING INSTRUCTION 148

148

(UN packing method E 128)

Inner packagings:

Boxes fitted with dividing partitions
fibreboard
plastic
wooden
Trays fitted with dividing partitions
fibreboard
plastic
wooden
Cans fitted with dividing partitions
metal

Outer packagings:

Boxes
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
steel (4A)
aluminium (4B)
fibreboard (4G)

Particular packing requirements or exceptions:

- The inner packagings must be separated from the outer packaging by a gap of not less than 25 mm filled with cushioning material, e.g. sawdust, wood wool.
- Articles must be cushioned to prevent contact between them.

150

PACKING INSTRUCTION 150

150

(UN packing method E 130)

Inner packagings:

Receptacles
fibreboard
plastic
metal
Sheets
paper

Outer packagings:

Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
aluminium (4B)
expanded plastic (4H1)
Drums
steel (4A)
fibre (1G)
aluminium, removable head (1B2)

Particular packing requirements or exceptions:

Venturis of rockets (fireworks) must be plugged and means of ignition fully protected.

plastic, removable head (1H2)
steel, removable head (1A2)

151

PACKING INSTRUCTION 151

151

(UN packing method E 133)

Inner packagings: Dividing partitions in the outer packaging

Receptacles
- fibreboard
- metal
- plastic

Sheets
- paper, kraft

A Outer packagings:

Boxes
- ~~fibreboard (4G)~~ — aluminium (4B) / expanded plastic (4H1)
- natural wood, ordinary (4C1)
- plastic, solid (4H2)
- plywood (4D)
- reconstituted wood (4F)
- steel (4A)

A Drums — aluminium, removable head (1B2)
- fibre (1G)
- plastic, removable head (1H2)

A steel, removable head (1A2)

Particular packing requirements or exceptions: For water-activated articles, approval from the appropriate national authority is required.

152

PACKING INSTRUCTION 152

152

(UN packing method E 134)

Inner packagings:

Receptacles
- fibreboard
- metal
- plastic
- wooden

A Outer packagings:

Boxes
- fibreboard (4G) — aluminium (4B)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)
- steel (4A)

A Drums
- aluminium, removable head (1B2)

A steel, removable head (1A2)

153

PACKING INSTRUCTION 153

153

(UN packing method E 135)

Inner packagings:

Bags
- plastic

Reels

Sheets
- paper, kraft
- plastic

Outer packagings:

Boxes
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

154

(UN packing method E 136)

PACKING INSTRUCTION 154

154

Inner packagings: Not necessary

A Outer packagings:

Boxes — aluminium (4B)
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F) — solid plastic (4H2)
- steel, ~~with inner liner or coating~~ (4A)

Drums — aluminium, removable head (1B2)
- fibre (1G)
- steel, removable head (1A2)

Particular packing requirements or exceptions:
- The ends of the article must be sealed or the use of bags, plastic as inner packagings is required.

155

(UN packing method E 137)

PACKING INSTRUCTION 155

155

Inner packagings: Dividing partitions in the outer packaging

Receptacles
- fibreboard
- metal
- plastic
- wooden

Trays
- plastic
- wooden

A Outer packagings:

Boxes — aluminium (4B)
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plastic, solid (4H2)
- plywood (4D)
- reconstituted wood (4F)
- steel (4A)

Drums — steel, removable head (1A2)

Particular packing requirements or exceptions:
- For UN 0106, 0107, 0257, 0367, 0408, 0409 and 0410, the fuzes must be separated from each other in the inner packaging.
- For UN 0106 and 0107 fibreboard boxes (4G) must not be used as outer packagings.

156

(UN packing method E 138)

PACKING INSTRUCTION 156

156

Inner packagings: As specified by the appropriate national authority

A Outer packagings:

Boxes — aluminium (4B)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F) — solid plastic (4H2)
- steel (4A)

A - Liner or inner coating required for metal outer packagings unless another means such as the use of an inner packaging or cushioning material protects the explosive substance from contact with the metal outer packaging during normal conditions of transport.

PACKING INSTRUCTION 158

158 15

(UN packing method E 140)

Inner packagings:
Bags
water-resistant

Outer packagings:
Boxes ~~aluminium (4B)~~
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
steel, ~~with inner liner or coating~~ (4A)

PACKING INSTRUCTION 159

159 159

(UN packing method E 141)

Inner packagings:
Receptacles
fibreboard
metal
wooden
Sheets
paper
Trays
plastic

Outer packagings:
Boxes ~~aluminium (4B)~~
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
steel, ~~with inner liner or coating~~ (4A)

PACKING INSTRUCTION 160

160 160

(UN packing method E 142)

Inner packagings:
Boxes
fibreboard
metal
plastic
wooden
Cans
metal
Trays
fibreboard
plastic

Intermediate packagings:
Not necessary with inner boxes but mandatory with trays
Boxes
fibreboard

uter packagings:
Boxes ~~aluminium (4B)~~
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
steel, ~~with inner liner or coating~~ (4A)

icular packing requirements exceptions:
- The primers must be packed with shock absorbent layers of felt, paper or plastic to prevent propagation within the outer packaging.

~~- Liner or inner coating required for metal outer packagings unless another means such as the use of an inner packaging or cushioning material protects the explosive substance from contact with the metal outer packaging during normal conditions of transport.~~

161 PACKING INSTRUCTION 161 161

(UN packing method E 143)

Inner packagings:

Boxes
- fibreboard
- metal
- wooden

Tubes
- fibreboard

Trays
- plastic

A Outer packagings:

Boxes
- ~~natural wood, ordinary (4C1)~~ aluminium (4B)
- plywood (4D)
- reconstituted wood (4F)

A
- steel (4A)

162 PACKING INSTRUCTION 162 162

(UN packing method E 145)

Inner packagings:

Receptacles
- fibreboard
- metal, for rivets, explosive
- plastic
- wooden

A Outer packagings:

Boxes
- ~~fibreboard (4G)~~ aluminium (4B)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

A
- steel, ~~with inner liner or coating~~ (4A)

163 PACKING INSTRUCTION 163 163

(UN packing method E 146)

Inner packagings: Not necessary

Outer packagings: As specified by the appropriate national authority

164 PACKING INSTRUCTION 164 164

(UN packing method E 147)

Inner packagings:

Receptacles
- fibreboard
- metal

Outer packagings:

Boxes
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

Drums
- fibre (1G)

166

PACKING INSTRUCTION 166

166

(UN packing method E 150)

Inner packagings:

A Boxes
fibreboard
Receptacles
metal
plastic
Sheets
paper, kraft

Outer packagings:

A Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
A reconstituted wood (4F)
steel (4A)
A Drums
A fibre (1G)

Particular packing requirements or exceptions:

- Outer boxes of natural wood may be provided with tin-plate liner having a sealed lid.
- For water-activated articles, approval from the appropriate national authority is required.

167

PACKING INSTRUCTION 167

167

(UN packing method E 151)

Inner packagings:

Receptacles
fibreboard
metal
plastic
wooden

A Outer packagings:

Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
A reconstituted wood (4F)
steel (4A)
Drums
fibre (1G)

Particular parking requirements or exceptions:

- The signals must be separated to prevent contact with one another and kept apart from the bottom, walls and lid of the outer packaging, e.g. by cushioning material.
- Where the signals are contained in magazines for fitting into automatic units, the magazine may replace the inner packaging provided adequate cushioning material is used.
- Tin-plate inner packagings must be sealed.

169 PACKING INSTRUCTION 169 169

(UN packing method E 156)

Inner packagings:	Dividing partitions in the outer packaging Bags plastic Boxes fibreboard Tubes fibreboard metal plastic
A Outer packagings:	Boxes fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) steel (4A) ~~steel, with inner liner or coating (4A)~~

aluminium (4B)

H ~~170~~ PACKING INSTRUCTION 170 ~~170~~

Caps, toy (amorces) must be packed as follows:

Caps with composition between two pieces of paper:

in an inner plastic box with not more than 100 individual caps or one roll of not more than 100 shots (dots) per box; or in an inner fibreboard box with not more than 600 individual caps or six rolls of not more than 100 shots (dots) each per box.

Caps with composition in plastic cups, composition covered by varnishing or other means:

in rings or tapes in an inner fibreboard or plastic packaging.

The maximum amount of composition in any one inner packaging must not exceed 1 gram.

Inner packagings must be packed in outer boxes of natural wood, ordinary (4C1) or fibreboard (4G).

The particular packing requirements are made in the interest of safety generally and they do not guarantee that amorces so packed will be classified as 1.4S. Approval by the appropriate national authority for the classification of amorces as packaged is required.

171 PACKING INSTRUCTION 171 171

(UN packing method E 157)

Inner packagings:	Not necessary
A Outer packagings:	Boxes natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) A steel (4A)

aluminium (4B)

172 PACKING INSTRUCTION 172 **172**

(UN packing method E 158)

a)	Inner packagings:	Bags paper, kraft plastic textile textile, rubberized
	Outer packagings:	Boxes fibreboard (4G) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) solid plastic (4H2) Drums fibre (1G) plywood (1D) steel, removable head (1A2)
	Particular packing requirements or exceptions:	– The inside of metal packagings must be galvanized, painted or otherwise protected. Bare steel must not come into contact with the propellant. – Metal receptacles must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is reduced. ~~– Plastic packagings must not be liable to generate and/or accumulate sufficient static electricity that a discharge could cause the packaged articles to function.~~
b)	Inner packagings:	Receptacles fibreboard metal plastic
	Outer packagings:	Boxes fibreboard (4G) natural wood, ordinary (4C1) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F) solid plastic (4H2)
	Particular packing requirements or exceptions:	– Metal receptacles must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is reduced: ~~– Plastic packagings must not be liable to generate and/or accumulate sufficient static electricity that a discharge could cause the packaged articles to function.~~
c)	Composite packagings:	Boxes plastic receptacles with outer solid plastic box (6HH2)
	~~Particular packing requirements or exceptions:~~	~~– Plastic packagings must not be liable to generate and/or accumulate sufficient static electricity that a discharge could cause the packaged articles to function.~~

202 PACKING INSTRUCTION 202 202

Air, argon, carbon dioxide, helium, krypton, neon, nitrogen, nitrous oxide, oxygen, trifluoromethane and xenon refrigerated liquids may be carried to the extent permitted in these Instructions and in packagings meeting the following requirements. These requirements also apply to empty packagings unless all parts are at ambient temperatures. Packagings must be classified according to the maximum permissible service pressure, as non-pressurized, low pressure or pressurized.

General requirements for all packagings

a) Packagings must be designed for holding low temperature liquefied gases and must be strong enough to withstand all shocks and loadings normally incident to air transport and associated handling. Packaging accessories must be protected against damage in handling and must be designed to discourage tampering in transit.

b) Packagings must be protected by vent openings or safety relief devices to prevent excessive pressure within the package. Packagings having multiple liquid compartments must have each compartment individually protected. Vent openings and outlets from safety relief devices must be protected by a cover or other suitable means to prevent the entry of snow or water, including water from melted frost.

Note.— Changes in pressure and temperature, resulting from altitude variations, can cause malfunction of safety relief devices and plugging of vent lines unless the relief systems are specifically designed for these conditions. Failure of a liquid compartment to vent excess pressure can be prevented by placing safety relief devices to the vapour space on lines connected separately to the liquid compartment, by use of an absolute pressure safety relief device, or by use of a differential pressure relief device preceded by a heat exchanger.

c) Safety relief devices must be designed and located so that they will not malfunction, cause plugging or become detached under conditions normally incident to air transport.

d) Packagings must be designed or packed to strongly discourage loading or handling in any position other than upright.

e) Packages must bear instructions to be followed in the event of an emergency, delay en route, or if the consignment is unclaimed at destination.

f) The packaging specifications for refrigerated liquefied gases of Part 7, Chapter 5 must be met.

Note.— For special marking requirements see Part 4;2.4.6.

Specific requirements for packagings

a) NON-PRESSURIZED packagings must be metal vacuum insulated vessels or flasks vented to the atmosphere to prevent any increase in pressure within the package. The use of safety relief valves, check valves, frangible discs or similar devices in the vent lines is not permitted. Fill and discharge openings must be protected against the entry of foreign materials which might increase the internal pressure. NON-PRESSURIZED packagings are not permitted for air, carbon dioxide, helium, neon, nitrous oxide, oxygen and trifluoromethane refrigerated liquids.

b) LOW PRESSURE packagings must be designed for and equipped with safety relief devices set at an absolute pressure above 100 kPa and not more than 275 kPa (175 kPa gauge pressure). LOW PRESSURE packagings are not permitted for carbon dioxide, nitrous oxide, oxygen and trifluoromethane refrigerated liquids.

c) PRESSURIZED packagings must be designed for and equipped with safety relief devices set at an absolute pressure above 275 kPa (175 kPa gauge pressure). PRESSURIZED packagings are not permitted for helium refrigerated liquid.

Editorial note: See page 3-4-2A for continuation of Packing Instruction 202

203 PACKING INSTRUCTION 203 203

Aerosol products are permitted in inner non-refillable non-metal receptacles not exceeding 120 mL capacity each, or in inner non-refillable metal receptacles not exceeding 1 000 mL capacity each, providing in either case all the following conditions are met:

a) the pressure in the aerosol must not exceed 1 500 kPa at 55°C and each receptacle must be capable of withstanding without bursting a pressure of at least 1.5 times the equilibrium pressure of the contents at 55°C;

b) if the pressure in the aerosol exceeds 970 kPa at 55°C but does not exceed 1 105 kPa at 55°C, an 1P.7, IP.7A or 1P.7B metal receptacle must be used;

c) if the pressure in the aerosol exceeds 1 105 kPa at 55°C but does not exceed 1 245 kPa at 55°C, an IP.7A or IP.7B metal receptacle must be used;

d) if the pressure in the aerosol exceeds 1 245 kPa at 55°C, an IP.7B metal receptacle must be used;

e) the liquid content must not completely fill the closed receptacle at 55°C;

f) each aerosol exceeding 120 mL capacity must have been heated until the pressure in the aerosol is equivalent to the equilibrium pressure of the contents at 55°C, without evidence of leakage, distortion or other defect;

g) the valves must be protected by a cap or other suitable means during transport;

h) aerosols must be tightly packed, so as to prevent movement, in wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or plastic boxes (4H1, 4H2) of Packing Group II.

i) *IP.7B metal receptacles having a minimum burst pressure of 1800 kPa may be equipped with an inner metal capsule charged with a non-flammable, non-toxic compressed gas to provide the propellant function. In this case, the pressures indicated in a), b), c) or d) above do not apply to the pressure within the capsule.* The quantity of gas contained in the capsule must be so limited such that the minimum burst pressure of the receptacle would not be exceeded if the entire gas content of the capsule were released into an aerosol.

"Note. – Insulated packagings containing refrigerated liquid nitrogen fully absorbed in a porous material and intended for transport, at low temperature, of non-dangerous products are not subject to these Instructions provided the design of the insulated packaging would not allow the build-up of pressure within the container and would not permit the release of any refrigerated liquid nitrogen irrespective of the orientation of the insulated packaging."

***Editorial note: –** Add to end of Packing Instruction 202.*

Y203 PACKING INSTRUCTION Y203 Y203

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8 d) and 1.1.17 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

Aerosol products are permitted in inner non-refillable non-metal receptacles not exceeding 120 mL capacity each, or for an aerosol containing only a non-toxic substance or substances, in inner non-refillable metal receptacles not exceeding 1 000 mL capacity each, providing in either case all the following conditions are met:

a) the pressure in the aerosol must not exceed 1 245 kPa at 55°C and each receptacle must be capable of withstanding without bursting a pressure of at least 1.5 times the equilibrium pressure of the contents at 55°C;

b) if the pressure in the aerosol exceeds 970 kPa at 55°C but does not exceed 1 105 kPa at 55°C, an IP.7, IP.7A or IP.7B metal receptacle must be used;

c) if the pressure in the aerosol exceeds 1 105 kPa at 55°C, an IP.7A or IP.7B metal receptacle must be used;

e) the liquid content must not completely fill the closed receptacle at 55°C;

f) each aerosol exceeding 120 mL capacity must have been heated until the pressure in the aerosol is equivalent to the equilibrium pressure of the contents at 55°C, without evidence of leakage, distortion or other defect;

g) the valves must be protected by a cap or other suitable means during transport;

h) aerosols must be tightly packed, so as to prevent movement, in one of the following boxes:

Outer

Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Plastic box

204 PACKING INSTRUCTION 204 204

Aerosols, non-flammable, containing biological products or a medical preparation which will be deteriorated by a heat test are acceptable in inner non-refillable receptacles not exceeding 575 mL capacity each, providing all the following conditions are met:

a) the pressure in the aerosol must not exceed 970 kPa at 55°C;

b) the liquid contents must not completely fill the closed receptacle at 55°C;

c) one aerosol out of each lot of 500 or less must be heated until the pressure in the aerosol is equivalent to the equilibrium pressure of the contents at 55°C, without evidence of leakage, distortion or other defect;

d) the valves must be protected by a cap or other suitable means during transport;

e) aerosols must be tightly packed, so as to prevent movement, in wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or plastic boxes (4H1, 4H2) of Packing Group II.

Y204 PACKING INSTRUCTION Y204 Y204

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8 d) and 1.1.17 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

Aerosols, non-flammable, containing only a non-toxic substance or substances and biological products or a medical preparation which will be deteriorated by a heat test, are acceptable in inner non-refillable receptacles not exceeding 575 mL capacity each, providing all the following conditions are met:

a) the pressure in the aerosol must not exceed 970 kPa at 55°C;

b) the liquid contents must not completely fill the closed receptacle at 55°C;

~~e~~ d) *IP.7B metal receptacles having a minimum burst pressure of 1800 kPa may be equipped with an inner ~~metal~~ capsule charged with a non-flammable, non-toxic compressed gas to provide the propellant function. In this case, the pressures indicated in a), b) or c) above do not apply to the pressure within the capsule.* The quantity of gas contained in the capsule must be so limited such that the minimum burst pressure of the receptacle would not be exceeded if the entire gas content of the capsule were released into an aerosol.

(cont.)

Y204 PACKING INSTRUCTION Y204 *(cont.)* Y204

c) one aerosol out of each lot of 500 or less must be heated until the pressure in the aerosol is equivalent to the equilibrium pressure of the contents at 55°C, without evidence of leakage, distortion or other defect;

d) the valves must be protected by a cap or other suitable means during transport;

e) aerosols must be tightly packed, so as to prevent movement, in one of the following boxes:

Outer
- Wooden box
- Plywood box
- Reconstituted wood box
- Fibreboard box
- Plastic box

205 PACKING INSTRUCTION 205 205

Gas generator assemblies (aircraft) containing liquefied non-flammable, non-toxic gas and a solid propellant cartridge are permitted providing all the following conditions are met:

a) steel pressure cylinders must comply with the requirements of Packing Instruction 200, sub-paragraph b), but must not exceed 10.5 L internal volume and must have a minimum design burst gauge pressure of 19 700 kPa;

b) fittings must be protected against damage under conditions normally incident to transport, the trigger fitted with a safety locking pin, and the non-propulsive plug on discharge tube installed; and

c) each unit must be individually and tightly packed, so as to prevent movement, in wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or plastic boxes (4H1, 4H2) of Packing Group II, or in the original manufacturer's transit box.

Y205 PACKING INSTRUCTION Y205 Y205

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8a) and 1.1.2.16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

Gas generator assemblies (aircraft) containing liquefied non-flammable, non-toxic gas and a solid propellant cartridge are permitted providing all the following conditions are met:

a) steel pressure cylinders must comply with the requirements of Packing Instruction 200, sub-paragraph b), but must not exceed 10.5 L internal volume and must have a minimum design burst gauge pressure of 19 700 kPa;

b) fittings must be protected against damage under conditions normally incident to transport, the trigger fitted with a safety locking pin, and the non-propulsive plug on discharge tube installed; and

c) each unit must be individually and tightly packed, so as to prevent movement, in one of the following boxes:

Outer
- Wooden box
- Plywood box
- Reconstituted wood box
- Fibreboard box
- Plastic box
- Original manufacturer's transit box

206 PACKING INSTRUCTION 206 206

A gas sample may only be accepted for transport as a non-pressurized gas providing it is at a pressure corresponding to ambient atmospheric pressure at the time the containment system is closed and this must not exceed 105 kPa absolute.

The general packing requirements of Part 3, Chapter 1 must be met.

Non-pressurized gases must be contained in hermetically sealed glass (IP.1 or IP.8) or metal (IP.3 or IP.3A) inner packagings, the capacities of which do not exceed those shown below:

IP.1	*IP.8*	*IP.3*	*IP.3A*
1 L	0.5 L	1 L	1 L

A except that for 'Gas sample, non-pressurized, flammable, n.o.s.', being transported on a cargo aircraft only, the limit for IP.1, IP.3 or IP.3A is increased to 2.5 L.

The inner packaging(s) must be packed so as to prevent movement in steel drums (1A2), aluminium drums (1B2), wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or plastic boxes (4H1, 4H2) of Packing Group II.

208 PACKING INSTRUCTION 208 208

A Articles, pressurized pneumatic or hydraulic containing a non-flammable, non-liquefied and non-~~poisonous~~ toxic gas and constructed from materials which will not fragment under rupture, may be carried under the following conditions:

a) when installed in construction equipment and assembled machinery, articles must be designed and constructed with a burst pressure of not less than five times their charged pressure at 21°C when shipped;

Note.— Labelling, marking, dangerous goods transport document and information to pilot-in-command are not required.

b) when tightly packed to prevent movement in strong outer packagings and charged to not more than 1 380 kPa at 21°C, the following conditions also apply:

1) each article must have a fluid space not exceeding 41 L under stored pressure;

2) each article must be tested without failure or damage to at least three times its charged pressure at 21°C but not less than 830 kPa before initial shipment and before each refilling and reshipment;

c) when tightly packed to prevent movement in strong outer packagings and charged with a pressure exceeding 1 380 kPa at 21°C the following conditions also apply:

1) each article must have a fluid space not exceeding 41 L under stored pressure;

2) each article must be tested without failure or damage to at least three times its charged pressure at 21°C, but not less than 830 kPa before initial shipment and before each refilling and reshipment;

3) each article must be designed and constructed with a burst pressure of not less than five times its charged pressure at 21°C when shipped.

209 PACKING INSTRUCTION 209 209

A UN 1040, ~~UN 1041~~ and UN ~~3070~~ 3300 may be carried when shipped as follows:

a) in securely sealed glass ampoules IP.8 containing not more than 100 g of gas and filled with an ullage of not less than 10 per cent and not more than 20 per cent at 15°C. Each ampoule must be cushioned with vermiculite or any other equally efficient non-combustible material in a strong metal canister tightly closed. The foregoing inner receptacles must be tightly packed to prevent movement in wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or plastic boxes (4H1, 4H2) of Packing Group II. Not more than 100 g of gas is permitted per package;

b) in cylinders as permitted in Packing Instruction 200, on condition that they are seamless or welded steel and equipped with efficient safety devices. Each cylinder must be tested for leakage with an inert gas before each refilling and must be insulated with three coats of heat-retardant paint or in any other equally efficient manner. The filling density must not be more than 0.8 kg per litre capacity. The maximum net quantity per package is 25 kg;

c) securely sealed aluminium cartridges containing not more than 135 g each of gas packed in a strong outer metal packaging. The cartridges must be cushioned with vermiculite or any other equally efficient non-combustible material. Not more than 12 aluminium cartridges are permitted per metal packaging.

211 PACKING INSTRUCTION 211 211

Refrigerating machines or components containing non-toxic liquefied gases or Ammonia solutions (UN ~~2073~~ 2672) must meet the following requirements:

a) each pressure vessel must not contain more than 450 kg of non-flammable refrigerant as listed below or not more than 25 kg of any other refrigerant:

dichlorodifluoromethane (R12), chlorotrifluoromethane (R13), bromotrifluoromethane (R13B1), tetrafluoromethane (R14), dichlorofluoromethane (R21), dichloromethane; chlorodifluoromethane (R22); dichlorotetrafluoroethane (R114), chloropentafluoroethane (R115); 1,1,1,2-tetrafluoroethane (R134a); octafluorocyclobutane (RC318); dichlorodifluoromethane, 73.8% and difluoroethane 26.2% (R500), chlorodifluoromethane, 48.8% and chloropentafluoroethane, 51.2% (R502); carbon dioxide;

b) machines or components having two or more charged vessels may not contain an aggregate of more than 910 kg of the above refrigerants or more than 45 kg of any other refrigerant;

c) each pressure vessel must be equipped with a safety device meeting the requirements of a recognized national standard;

d) each pressure vessel must be equipped with a shut-off valve at each opening except openings used for safety devices and with no other connexion. These valves must be closed prior to and during transport;

e) pressure vessels must be manufactured, inspected and tested in accordance with a recognized national standard;

f) all parts subject to refrigerant pressure during shipment must be tested in accordance with a recognized national standard;

g) the liquid portion of the refrigerant, if any, must not completely fill any pressure vessel at 55°C;

h) the amount of refrigerant, if liquefied, must not exceed the filling density prescribed by applicable State regulations.

212 PACKING INSTRUCTION 212 212

Aerosols; non-flammable, which are tear gas devices are permitted in inner non-refillable metal receptacles not exceeding 1 000 mL capacity each providing all the following conditions are met:

a) the pressure in the aerosol must not exceed 1 500 kPa at 55°C and each receptacle must be capable of withstanding without bursting a pressure of at least 1.5 times the equilibrium pressure of the contents at 55°C;

b) if the pressure in the aerosol does not exceed 1 105 kPa at 55°C, an IP.7, IP.7A or IP.7B metal receptacle must be used;

c) if the pressure in the aerosol exceeds 1 105 kPa at 55°C but does not exceed 1 245 kPa at 55°C, an IP.7A or IP.7B metal receptacle must be used;

d) if the pressure in the aerosol exceeds 1 245 kPa at 55°C, an IP.7B metal receptacle must be used.

~~f)~~ e) the liquid content must not completely fill the closed receptacle at 55°C;

~~g)~~ f) each aerosol must have been heated until the pressure in the aerosol is equivalent to the equilibrium pressure of the contents at 55°C, without evidence of leakage, distortion or other defect;

~~h)~~ g) the valves must be protected by a cap or other suitable means during transport;

~~i)~~ h) aerosols must be individually placed into spiral wound tubes fitted with metal ends or a double-faced fibreboard box with suitable padding, which must be tightly packed in wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or plastic boxes (4H1, 4H2) of Packing Group II. Maximum net quantity per package is 50 kg.

214 PACKING INSTRUCTION 214 214

Ethyl chloride may be carried in securely sealed glass ampoules IP.8 containing not more than 5 g of ethyl chloride and filled with an ullage of not less than 7.5 per cent at 21°C. Ampoules must be cushioned with efficient non-combustible material in partitioned cartons to the extent of not more than 12 ampoules per carton. These secondary receptacles must be tightly packed to prevent movement in wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or plastic boxes (4H1, 4H2) of Packing Group II. Not more than 300 g of ethyl chloride is permitted per package.

~~e)~~ IP.7B metal receptacles having a minimum burst pressure of 1800 kPa may be equipped with an inner ~~metal~~ capsule charged with a non-flammable, non-toxic compressed gas to provide the propellant function. In this case, the pressures indicated in a), b), c) or d) above do not apply to the pressure within the capsule. The quantity of gas contained in the capsule must be so limited such that the minimum burst pressure of the receptacle would not be exceeded if the entire gas content of the capsule were released into an aerosol.

303 PACKING INSTRUCTION 303 303

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings with inner plastic packagings are not permitted for liquids with a boiling point of 35°C or less.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 L
	Plastic – IP.2	5 L
	Metal – IP.3, IP.3A	5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Wooden box – 4C1, 4C2
	Aluminium drum – 1B2	Plywood box – 4D
	Steel jerrican – 3A2	Reconstituted wood box – 4F
	Plywood drum – 1D	Fibreboard box – 4G
	Fibre drum – 1G	Solid plastic box – 4H2

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Composites (plastic) – all
Cylinders - as permitted in Packing Instruction 200

304 PACKING INSTRUCTION 304 304

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Metal (not aluminium) IP.3 (L)*	*Aluminium IP.3A (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
1089	0.5	No	2.5	2.5	0.5	13
1196	0.5	1	1	No	0.5	5
1250	0.5	1	1	No	0.5	5
1280	1	No	1	No	0.5	13
1298	1	0.5	1	No	0.5	5,13
1302	1	No	2.5	2.5	0.5	13
1305	1	0.5	1	No	0.5	5,13
1723	1	1	No	No	0.5	2,13
1921	0.5	No	1	No	0.5	13
~~2029~~	~~0.5~~	~~0.5~~	~~2.5~~	~~2.5~~	~~0.5~~	~~2,5,7,13~~
2356	0.5	No	2.5	2.5	0.5	3,13
2371	1	No	2.5	2.5	0.5	
~~2382~~	~~1~~	~~No~~	~~1~~	~~1~~	~~0.5~~	~~5~~
2456	0.5	No	2.5	2.5	0.5	3,13
2481	1	No	2.5	2.5	0.5	5
~~2482~~	~~1~~	~~No~~	~~2.5~~	~~2.5~~	~~0.5~~	~~5~~
2483	1	No	2.5	2.5	0.5	5
~~2484~~	~~1~~	~~1~~	~~1~~	~~1~~	~~0.5~~	~~5,13~~
2749	1	No	2.5	No	0.5	5,13
2983	No	No	2.5	No	0.5	6,8

(cont.)

Outer:

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

UN No.	*Steel drums 1A1 and cylinders**	*Aluminium drums 1B1*	*Steel jerricans 3A1*	*Composites (plastic) – all*	*Particular packing requirements*
1089	Yes	Yes	Yes	No	
1196	Yes	No	Yes	Yes	5
1250	Yes	No	Yes	Yes	5
1280	Yes	No	Yes	No	
1298	Yes	No	Yes	Yes	5
1302	Yes	Yes	Yes	No	
1305	Yes	No	Yes	Yes	5
1723	No	No	No	Yes	
1921	Yes	No	Yes	No	
~~2029~~	~~Yes~~	~~Yes~~	~~Yes~~	~~Yes~~	~~5,7~~
2356	Yes	Yes	Yes	No	3
2371	Yes	Yes	Yes	No	
~~2382~~	~~Yes~~	~~Yes~~	~~Yes~~	~~No~~	~~5~~
2456	Yes	Yes	Yes	No	3
2481	Yes	Yes	Yes	No	5
~~2482~~	~~Yes~~	~~Yes~~	~~Yes~~	~~No~~	~~5~~
2483	Yes	Yes	Yes	No	5
~~2484~~	~~Yes~~	~~Yes~~	~~Yes~~	~~Yes~~	~~5~~
2749	Yes	No	Yes	No	5
2983	Yes	No	No	No	

* Cylinders must be as permitted by Packing Instruction 200

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

6 Glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

~~7 When aluminium or aluminium alloys are used, they must be resistant to corrosion.~~

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

305 PACKING INSTRUCTION 305 305

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 L
	Plastic – IP.2	5 L
	Metal – IP.3, IP.3A	5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Y305 PACKING INSTRUCTION Y305 Y305

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 do not apply. 1.1.8 a) and 1.1.1.7 16

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 L
	Plastic – IP.2	0.5 L
	Metal – IP.3, IP.3A	0.5 L
	Glass ampoule – IP.8	0.5 L

F ~~For UN 1815, UN 2260, UN 2266, UN 2353, UN 2395, UN 2535, UN 2733, UN 2924, UN 2985,~~ glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings. for rigid plastic

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	*Fibreboard box*
	Plastic drum	Solid plastic box

A For UN 1106, UN 1125, UN 1154, UN 1158, UN 1160, UN 1162, UN 1214, UN 1235, UN 1289, UN 1296, UN 1297, UN 1815, UN 1922, UN 2266, UN 2353, UN 2359, UN 2379, UN 2383, UN 2386, UN 2395, UN 2399, UN 2401, UN 2535, UN 2733, UN 2924, UN 2945, UN 2985 and UN 3286,

UN 3274,

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1111	1	1	1	1	0.5	2,13
1154	1	1	1	No	0.5	
1167	~~1~~ 0.5	No	1	1	0.5	
1184	1	1	1	1	0.5	3
1204	1	1	1	No	0.5	
1277	1	~~2.5~~ 1	~~2.5~~ 1	No	0.5	5
1279	1	5	5	No	0.5	
1280	0.5	No	~~No~~ 1	No	0.5	13
1302	0.5	No	1	1	0.5	8,13
1717	1	1	1	No	0.5	2,5,13
1723	0.5	0.5	No	No	0.5	2,13
1921	0.5	No	No	No	0.5	13
2270	0.5	No	1	1	0.5	
2347	1	1	1	1	0.5	2,13
2356	0.5	No	1	1	0.5	3,13
2360	1	No	1	1	0.5	
2371	0.5	No	1	1	0.5	
2402	1	1	1	1	0.5	2,13
2456	0.5	No	1	1	0.5	3,13
2478	1	1	1	1	0.5	5,13
2486	1	1	1	1	0.5	5,13
2493	1	1	No	No	0.5	

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

A	1196	0.5	0.5	0.5	No	0.5	5
A	1298	1	1	1	1	0.5	2, 13
A	1298	0.5	0.5	0.5	No	0.5	5, 13

Y306

PACKING INSTRUCTION Y306

Y306

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2(1.1.8 d) and 1.1.1.7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

	UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
	1111	0.5	0.5	0.5	0.5	0.5	2,13
A	1154	0.5	0.5	0.5	No	0.5	B
A	~~1167~~	~~0.5~~	~~No~~	~~0.5~~	~~0.5~~	~~0.5~~	
	1184	0.5	0.5	0.5	0.5	0.5	3
A	1196→1204	0.5	0.5	0.5	No	0.5	
	1228→1277	0.5	0.5	0.5	No	0.5	5, 13
	1279	0.5	0.5	0.5	No	0.5	
A	1298→1717	0.5	0.5	0.5	No	0.5	2,5,13
	1723→2270	0.5	No	0.5	0.5	0.5	13
	2347	0.5	0.5	0.5	0.5	0.5	2,13
	2360	0.5	No	0.5	0.5	0.5	
	2402	0.5	0.5	0.5	0.5	0.5	2,13
	2478	0.5	0.5	0.5	0.5	0.5	5,13
	2486	0.5	0.5	0.5	0.5	0.5	5,13
	2493	0.5	0.5	No	No	0.5	13

Outer

Steel drum	Plastic jerrican
Aluminium drum	Wooden box
Steel jerrican	Plywood box
Plywood drum	Reconstituted wood box
Fibre drum	Fibreboard box
Plastic drum	Solid plastic box

Particular packing requirements:

F. 2 Plastic inner packagings must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

A	1196	0.5	0.5	0.5	No	0.5	5,13
A	1228	0.5	0.5	0.5	0.5	0.5	2,13
A	1298	0.5	0.5	0.5	No	0.5	5,13
A	1723	0.5	0.5	No	No	0.5	2,13

307 PACKING INSTRUCTION 307 307

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner

Glass or earthenware – IP.1	2.5 L
Plastic – IP.2	5 L
Metal – IP.3, IP.3A	10 L
Glass ampoule – IP.8	0.5 L

Outer

Steel drum – 1A2	Plastic jerrican – 3H2
Aluminium drum – 1B2	Wooden box – 4C1, 4C2
Steel jerrican – 3A2	Plywood box – 4D
Plywood drum – 1D	Reconstituted wood box – 4F
Fibre drum – 1G	Fibreboard box – 4G
Plastic drum – 1H2	Solid plastic box – 4H2

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Plastic drum – 1H1
Plastic jerrican – 3H1
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200

308 PACKING INSTRUCTION 308 308

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Metal (not aluminium) IP.3 (L)*	*Aluminium IP.3A (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
1111	2.5	2.5	2.5	2.5	0.5	2,13
1154	2.5	5	5	No	0.5	13
1167	~~2.5~~ 1	No	2.5	2.5	0.5	
1184	2.5	5	10	10	0.5	3
1204	1	1	1	No	0.5	
1228	2.5	2.5	2.5	2.5	0.5	2,13
1277	2.5	2.5	5	No	0.5	5
1278	2.5	2.5	5	No	0.5	
1279	2.5	5	10	No	0.5	
1717	2.5	2.5	2.5	No	0.5	2,5,13
2270	0.5	No	2.5	2.5	0.5	
2347	2.5	2.5	2.5	2.5	0.5	2,13
2360	2.5	No	2.5	2.5	0.5	
2363	1	1	1	1	0.5	2,13
2402	2.5	2.5	2.5	2.5	0.5	2,13
2478	2.5	1	2.5	2.5	0.5	5,13
~~2485~~	~~2.5~~	~~1~~	~~2.5~~	~~2.5~~	~~0.5~~	~~5,13~~
2486	2.5	1	2.5	2.5	0.5	5,13
2493	2.5	2.5	No	No	0.5	

Outer

Steel drum – 1A2	Plastic jerrican – 3H2
Aluminium drum – 1B2	Wooden box – 4C1, 4C2
Steel jerrican – 3A2	Plywood box – 4D
Plywood drum – 1D	Reconstituted wood box – 4F
Fibre drum – 1G	Fibreboard box – 4G
Plastic drum – 1H2	Solid plastic box – 4H2

(cont.)

308 PACKING INSTRUCTION 308 *(cont.)* 308

Single packagings:

UN No.	Steel drums 1A1, and cylinders*	Aluminium drums 1B1	Steel jerricans 3A1	Plastic drums 1H1	Plastic jerricans 3H1	Composites (plastic) – all	Particular packing requirements
1111	Yes	Yes	Yes	No	No	Yes	
1154	Yes	No	Yes	Yes	Yes	Yes	
1167	Yes	Yes	Yes	No	No	No	
1184	Yes	Yes	Yes	Yes	Yes	Yes	3
1204	Yes	No	Yes	No	No	Yes	
1228	Yes	Yes	Yes	No	No	Yes	
A 1277	Yes	No	Yes	Yes	Yes	Yes	5
1278	Yes	No	Yes	Yes	Yes	Yes	
1279	Yes	No	Yes	Yes	Yes	Yes	
1717	Yes	No	Yes	No	No	Yes	5
2270	Yes	Yes	Yes	No	No	No	
2347	Yes	Yes	Yes	No	No	Yes	
2360	Yes	Yes	Yes	No	No	No	
2363	Yes	Yes	Yes	No	No	Yes	
2402	Yes	Yes	Yes	No	No	Yes	
2478	Yes	Yes	Yes	Yes	Yes	Yes	5
A ~~2485~~	~~Yes~~	~~Yes~~	~~Yes~~	~~Yes~~	~~Yes~~	~~Yes~~	~~5~~
2486	Yes	Yes	Yes	Yes	Yes	Yes	5
2493	No	No	No	Yes	Yes	Yes	

* Cylinders must be as permitted by Packing Instruction 200

Particular packing requirements:

F 2 Plastic inner packagings must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings. (or rigid plastic)

309 PACKING INSTRUCTION 309 309

The general packing requirements of Part 3, Chapter 1 must be met.

If the substance has a subsidiary corrosive risk, all of these packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner

Glass or earthenware – IP.1	2.5 L
Plastic – IP.2	10 L
Metal – IP.3, IP.3A	10 L
Glass ampoule – IP.8	0.5 L

Outer

Steel drum – 1A2	Wooden box – 4C1, 4C2
Aluminium drum – 1B2	Plywood box – 4D
Steel jerrican – 3A2	Reconstituted wood box – 4F
Plywood drum – 1D	Fibreboard box – 4G
Fibre drum – 1G	Expanded plastic box – 4H1
Plastic drum – 1H2	Solid plastic box – 4H2
Plastic jerrican – 3H2	

(cont.)

309 PACKING INSTRUCTION 309 *(cont.)* 309

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200

Y309 PACKING INSTRUCTION Y309 Y309

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8 d) and 1.1.17 do not apply. 16

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 L
	Plastic – IP.2	5.0 L
	Metal – IP.3, IP.3A	5.0 L
	Glass ampoule – IP.8	0.5 L

For ~~UN 1198,~~ UN 2733 and UN 2924, glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

Outer	Steel drum	Wooden box
	Aluminium drum	Plywood box
	Steel jerrican	Reconstituted wood box
	Plywood drum	*Fibreboard box*
	Fibre drum	Expanded plastic box
	Plastic drum	Solid plastic box
	Plastic jerrican	

For UN 1106, UN 1198, UN 1289, UN 1297, UN 2260, UN 2276, UN 2361, UN 2526, UN 2529, UN 2530, UN 2610, UN 2684,

310 PACKING INSTRUCTION 310 310

The general packing requirements of Part 3, Chapter 1 must be met.

If the substance has a subsidiary corrosive risk, all of these packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 L
	Plastic – IP.2	10 L
	Metal – IP.3, IP.3A	25 L
	Glass ampoule – IP.8	*0.5 L*

Outer	Steel drum – 1A2	Wooden box – 4C1, 4C2
	Aluminium drum – 1B2	Plywood box – 4D
	Steel jerrican – 3A2	Reconstituted wood box – 4F
	Plywood drum – 1D	Fibreboard box – 4G
	Fibre drum – 1G	Expanded plastic box – 4H1
	Plastic drum – 1H2	Solid plastic box – 4H2
	Plastic jerrican – 3H2	

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200

311 PACKING INSTRUCTION 311 311

Nitroglycerin solution in alcohol may be shipped as UN 3064 only if packed in IP.3 metal cans (other than aluminium) of not more than 1 L capacity each, overpacked in a wooden box (4C1, 4C2) containing not more than 5 L. Metal cans must be completely surrounded with absorbent cushioning material. Wooden boxes must be completely lined with a suitable material impervious to water and nitroglycerin. The general packing requirements of Part 3, Chapter 1 must be met.

A

312 PACKING INSTRUCTION 312 312

Polyester resin kit and fibreglass repair kit consist of two components: a base material in Class 3, Packing Group II or III, and an activator (organic peroxide).

The general packing requirements of Part 3, Chapter 1 must be met.

The organic peroxide must be in IP.2 plastic packagings or IP.9 metal or plastic tubes and the quantity must not exceed those shown below:

IP.2	IP.9
125 mL	60 mL
0.5 kg	0.25 kg

The net quantity of organic peroxide per package must not exceed 0.125 L or 0.5 kg.

The flammable liquid must be in IP.1 glass or earthenware, IP.2 plastic, IP.3 or IP.3A metal packagings and the quantity must not exceed those shown below:

IP.1	IP.2	IP.3	IP.3A
1 kg	4.75 kg	4.75 kg	4.75 kg

The components may be placed in the same outer packaging provided they will not interact dangerously in the event of leakage. The inner packagings must be packed in steel drums (1A2), aluminium drums (1B2), plastic drums (1H2), steel jerricans (3A2), plastic jerricans (3H2), wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), plywood drums (1D), fibre drums (1G), fibreboard boxes (4G) or solid plastic boxes (4H2) of Packing Group II or III according to the criteria for Class 3, applied to the base material.

Y312 PACKING INSTRUCTION Y312 Y312

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3, 1.1.2, 1.1.8 d) and 1.1.16 do not apply.

Single packagings are not permitted.

Combination packagings:

Polyester resin kit and fibreglass repair kit consist of two components: a base material in Class 3, Packing Group II or III, and an activator (organic peroxide).

The organic peroxide must be in IP.2 plastic packagings or IP.9 metal or plastic tubes and the quantity must not exceed 30 mL or 100 g. The net quantity of organic peroxide per package must not exceed 0.125 L or 0.5 kg.

The flammable liquid must be in IP.1 glass or earthenware, IP.2 plastic, IP.3 or IP.3A metal packagings and the quantity must not exceed 0.9 kg.

The components may be placed in the same outer packaging provided they will not interact dangerously in the event of leakage. The inner packagings must be packed in steel drums, aluminium drums, plastic drums, steel jerricans, plastic jerricans, wooden boxes, plywood boxes, reconstituted wood boxes, plywood drums, fibre drums, fibreboard boxes or solid plastic boxes.

Chapter 6

CLASS 4 – FLAMMABLE SOLIDS; SUBSTANCES LIABLE TO SPONTANEOUS COMBUSTION; SUBSTANCES WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES

6.1 GENERAL REQUIREMENTS FOR SELF-REACTIVE SUBSTANCES

Unless otherwise provided in these Instructions, the packagings used for self-reactive substances of Division 4.1 must meet Packing Group II requirements. To avoid unnecessary confinement, metal packaging meeting Packing Group I requirements must not be used.

6.2 PACKING INSTRUCTIONS

400 **PACKING INSTRUCTION 400** **400**

Films, nitrocellulose base must be packed in accordance with the general packing requirements of Part 3, Chapter 1 and as follows:

a) in steel drums (1A2), aluminium drums (1B2), steel jerricans (3A2), wooden (4C1, 4C2), plywood (4D) or reconstituted wood (4F) boxes or plywood drums (1D) of Packing Group II with each reel in a tightly closed metal can or strong cardboard or fibreboard inner packaging with cover held in place by adhesive tape or paper; or

b) in fibreboard (4G) or solid plastic (4H2) boxes or fibre drums (1G) of Packing Group II with a single tightly closed metal can or strong cardboard or fibreboard inner packaging with cover held in place by adhesive tape or paper; authorized only for not over 600 m of film.

Y400 **PACKING INSTRUCTION Y400** **Y400**

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.17 do not apply.

Single packagings are not permitted.

Combination packagings:

Films, nitrocellulose base must be packed as follows:

a) in steel drums, aluminium drums, steel jerricans, wooden, plywood or reconstituted wood boxes or plywood drums with each reel in a tightly closed metal can or strong cardboard or fibreboard inner packaging with cover held in place by adhesive tape or paper, up to a maximum net quantity of 1 kg of film in each inner packaging; or

b) in fibreboard or solid plastic boxes or fibre drums with a single tightly closed metal can or strong cardboard or fibreboard inner packaging with cover held in place by adhesive tape or paper; authorized only for not over 600 m or 1 kg (whichever is the more restrictive) of film in one outer packaging.

404 PACKING INSTRUCTION 404 404

Matches, safety (book, card or strike on box) must be of a type that will not ignite spontaneously under normal conditions of air transport and can be readily ignited by friction only by striking on the manufacturer's box, book or card. Matches must be packed in accordance with the general packing requirements of Part 3, Chapter 1 and be tightly packed to prevent movement within the package and ignition by rubbing against an adjoining box, book or card; they must be securely wrapped in paper or foil, or packed in tightly closed inner packagings. Not more than 50 books of matches may be packed in one inner packaging. Inner packagings must be securely packed in steel drums (1A2), aluminium drums (1B2), steel jerricans (3A2), wooden (4C1, 4C2), plywood (4D), reconstituted wood (4F), fibreboard (4G) or solid plastic (4H2) boxes, plywood (1D) or fibre (1G) drums of Packing Group II. Alternatively, book safety matches only, up to a maximum of 50 books, may be packed in a strong fibreboard carton, which is made of straw-board, covered with kraft paper, having a securely glued inside lining consisting of aluminium foil at least 0.01 mm thick, the carton to have a full depth lid with all joints secured with gummed paper tape; no additional outer packaging is required.

Y404 PACKING INSTRUCTION Y404 Y404

3.1.1.8d) and 4.1.1.7.16

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 do not apply.

Single packagings are not permitted.

Combination packagings:

Matches, safety (book, card or strike on box) must be of a type that will not ignite spontaneously under normal conditions of air transport and can be readily ignited by friction only by striking on the manufacturer's box, book or card. Matches must be tightly packed to prevent movement within the package and ignition by rubbing against an adjoining box, book or card; they must be securely wrapped in paper or foil, or packed in tightly closed inner packagings. Not more than 50 books of matches may be packed in one inner packaging. Inner packagings must be securely packed in steel drums, aluminium drums, steel jerricans, wooden, plywood, reconstituted wood, fibreboard or plastic boxes, plywood or fibre drums. Alternatively, book safety matches only, up to a maximum of 50 books, may be packed in a strong fibreboard carton, which is made of straw-board, covered with kraft paper, having a securely glued inside lining consisting of aluminium foil at least 0.01 mm thick, the carton to have a full depth lid with all joints secured with gummed paper tape; no additional outer packaging is required.

407 PACKING INSTRUCTION 407 407

The general packing requirements of Part 3, Chapter 1 must be met.

408 PACKING INSTRUCTION 408 408

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 L	
	Plastic – IP.2	1 L	
	Metal – IP.3, IP.3A	1 L	
	Glass ampoule – IP.8	0.5 L	
Outer	Steel drum – 1A2		Plastic jerrican – 3H2
	Aluminium drum – 1B2		Wooden box – 4C1, 4C2
	Steel jerrican – 3A2		Plywood box – 4D
	Plywood drum – 1D		Reconstituted wood box – 4F
	Fibre drum – 1G		Fibreboard box – 4G
	Plastic drum – 1H2		Solid plastic box – 4H2

409 PACKING INSTRUCTION 409 409

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Metal (not aluminium) IP.3 (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1183	1	1	0.5	5,13
1242	1	1	0.5	5,13
1389	1	1	0.5	5,13
1391	1	1	0.5	5,13
1411	1	1	0.5	8,13
1421	1	1	0.5	5,13
1928	1	1	0.5	8,13
3207	1	1	0.5	8,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

410 PACKING INSTRUCTION 410 410

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

Glass or earthenware – IP.1 0.5 kg
Plastic – IP.2 0.5 kg
Metal – IP.3, IP.3A 0.5 kg
Plastic bag – IP.5 0.5 kg
Glass ampoule – IP.8 0.5 kg

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

411 PACKING INSTRUCTION 411 411

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	2.5 kg
	Metal – IP.3, IP.3A	2.5 kg
	Plastic bag – IP.5	2.5 kg
	Glass ampoule – IP.8	0.5 kg

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2 – not permitted for Division 4.2
Composites (plastic) – all

412 PACKING INSTRUCTION 412 412

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (kg)*	*Plastic IP.2 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Aluminium IP.3A (kg)*	*Glass ampoule IP.8 (kg)*	*Particular packing requirements*
1320	1	1	No	No	0.5	9
1321	1	1	No	No	0.5	9
1322	1	1	No	No	0.5	9
1336	1	2.5	No	No	0.5	9
1337	1	1	No	No	0.5	9
1344	1	2.5	No	No	0.5	9
1348	1	1	No	No	0.5	9
1349	1	1	No	No	0.5	9
1357	1	2.5	No	No	0.5	9
1360	1	1	1	1	0.5	9
1389	1	No	1	No	0.5	5,9,22
1392	1	1	2.5	No	0.5	9
1397	1	1	1	1	0.5	9
1402 → 1404	1	1	1	1	0.5	
1407	1	No	1	No	0.5	5,9,22
1409	1	1	2.5	No	0.5	
1410	0.5	1	1	1	0.5	
1413	1	1	1	1	0.5	
1414	1	1	1	1	0.5	
1415 → 1419	0.5	1	1	No	0.5	
1420	1	No	1	No	0.5	5,9,22
1422	1	No	1	No	0.5	5,9,22
1423	0.5	No	1	No	0.5	5,9,10,22
1426	1	1	1	1	0.5	
1427	1	1	1	1	0.5	
1428	1	No	1	No	0.5	5,9,22
A 1402	1	1	2.5	No	0.5	9
A 1415	1	No	1	No	0.5	5, 10, 22

(cont.)

PACKING INSTRUCTION 412 *(cont.)*

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1432	1	1	1	1	0.5	
1433	1	1	1	1	0.5	
1517	1	1	No	No	0.5	
1714	1	1	1	1	0.5	
1870	1	1	1	1	0.5	
2010	1	1	1	1	0.5	
2011	1	1	1	1	0.5	
2012	1	1	1	1	0.5	
2013	1	1	1	1	0.5	
2257	1	No	1	No	0.5	5,9,22
2463	1	1	1	1	0.5	
3208	1	No	1	No	0.5	5,9,22
3209	1	No	1	No	0.5	5,9,22

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

UN No.	Steel drums 1A1, 1A2	Aluminium drums 1B1, 1B2	Steel jerricans 3A1, 3A2	Plastic drums 1H1, 1H2	Plastic jerricans 3H1, 3H2	Composites (plastic) – all	Particular packing requirements
1320	No	No	No	Yes	Yes	Yes	
1321	No	No	No	Yes	Yes	Yes	
1322	No	No	No	Yes	Yes	Yes	
1336	No	No	No	Yes	Yes	Yes	
1337	No	No	No	Yes	Yes	Yes	
1344	No	No	No	Yes	Yes	Yes	
1348	No	No	No	Yes	Yes	Yes	
1349	No	No	No	Yes	Yes	Yes	
1357	No	No	No	Yes	Yes	Yes	
1360	Yes	Yes	Yes	Yes	Yes	Yes	
1389	Yes	No	Yes	No	No	No	5,22
1392	Yes	No	Yes	Yes	Yes	Yes	
1397	Yes	Yes	Yes	Yes	Yes	Yes	
1402 → 1404	Yes	Yes	Yes	Yes	Yes	Yes	
1407	Yes	No	Yes	No	No	No	5,22
1409	Yes	No	Yes	Yes	Yes	Yes	
1410	Yes	Yes	Yes	Yes	Yes	Yes	
1413	Yes	Yes	Yes	Yes	Yes	Yes	
1414	Yes	Yes	Yes	Yes	Yes	Yes	
1415 → 1419	Yes	No	Yes	Yes	Yes	Yes	
A 1420	Yes	No	Yes	No	No	No	5,9,22
1422	Yes	No	Yes	No	No	No	5,22
1423	Yes	No	Yes	No	No	No	5;22
1426	Yes	Yes	Yes	Yes	Yes	Yes	
1427	Yes	Yes	Yes	Yes	Yes	Yes	
A 1428	Yes	No	Yes	No	No	No	5,9,22
1432	Yes	Yes	Yes	Yes	Yes	Yes	
1433	Yes	Yes	Yes	Yes	Yes	Yes	
1517	No	No	No	Yes	Yes	Yes	
1714	Yes	Yes	Yes	Yes	Yes	Yes	
1870	Yes	Yes	Yes	Yes	Yes	Yes	
2010	Yes	Yes	Yes	Yes	Yes	Yes	
2011	Yes	Yes	Yes	Yes	Yes	Yes	
2012	Yes	Yes	Yes	Yes	Yes	Yes	
2013	Yes	Yes	Yes	Yes	Yes	Yes	
A 1402	Yes	No	Yes	Yes	Yes	Yes	
A 1415	Yes	No	Yes	No	No	No	5,22

(cont.)

412 PACKING INSTRUCTION 412 *(cont.)* 412

UN No.	*Steel drums 1A1, 1A2*	*Aluminium drums 1B1, 1B2*	*Steel jerricans 3A1, 3A2*	*Plastic drums 1H1, 1H2*	*Plastic jerricans 3H1, 3H2*	*Composites (plastic) – all*	*Particular packing requirements*
2257	Yes	No	Yes	No	No	No	5, 22
2463	Yes	Yes	Yes	Yes	Yes	Yes	
3208	Yes	No	Yes	No	No	No	5,22
3209	Yes	No	Yes	No	No	No	5,22

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal receptacles before packing in outer packagings.

10 Copper cartridges only are permitted when the substance is not in dispersion.

22 If the substance is in dispersion in organic liquid, the organic liquid must have a flash point above 50°C.

413 PACKING INSTRUCTION 413 413

The general packing requirements of Part 3, Chapter 1 must be met.

Glass inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal packagings before packing in outer packagings.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 L
	Plastic – IP.2	1 L
	Metal – IP.3, IP.3A	2.5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

414 PACKING INSTRUCTION 414 414

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 L
	Plastic – IP.2	2.5 L
	Metal – IP.3, IP.3A	5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

(cont.)

414 PACKING INSTRUCTION 414 *(cont.)* 414

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Plastic drum – 1H1
Plastic jerrican – 3H1
Composites (plastic) – all

415 PACKING INSTRUCTION 415 415

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	2.5 kg
	Metal – IP.3, IP.3A	2.5 kg
	Plastic bag – IP.5	1 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Y415 PACKING INSTRUCTION Y415 Y415

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8 d) and 1.1.1.7 do not apply. 16

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 kg
	Plastic – IP.2	0.5 kg
	Metal – IP.3, IP.3A	0.5 kg
	Plastic bag – IP.5	0.5 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid plastic box

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Plastic bag IP.5 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1310	0.5	No	No	No	No	0.5	
1320	0.5	0.5	No	No	No	0.5	9
1321	0.5	0.5	No	No	No	0.5	9
1322	0.5	0.5	No	No	No	0.5	9
1326	0.5	2.5	2.5	No	0.5	0.5	
1336	0.5	0.5	No	No	No	0.5	9
1337	0.5	0.5	No	No	No	0.5	9
1339	0.5	No	2.5	No	No	0.5	
1340	0.5	No	2.5	No	No	0.5	
1341	0.5	No	2.5	No	No	0.5	
1343	0.5	No	2.5	No	No	0.5	
1344	0.5	0.5	No	No	No	0.5	9
1348	0.5	0.5	No	No	No	0.5	9
1352	0.5	2.5	2.5	No	0.5	0.5	
1354	0.5	0.5	No	No	No	0.5	9
1355	0.5	0.5	No	No	No	0.5	9
1356	0.5	0.5	No	No	No	0.5	9
1357	0.5	0.5	No	No	No	0.5	9
1358	0.5	2.5	2.5	No	0.5	0.5	
1369	1	2.5	2.5	No	No	0.5	
1378	1	No	1	No	No	0.5	9
1382	1	2.5	2.5	No	No	0.5	
1384	0.5	1	2.5	2.5	No	0.5	
1385	1	2.5	2.5	No	No	0.5	
1390	1	1	1	1	No	0.5	2,5,9
1394	1	1	2.5	No	No	0.5	
A 1402	1	~~No~~ 1	2.5	No	No	0.5	9
1409	1	2.5	2.5	No	No	0.5	
1417	0.5	0.5	1	1	No	0.5	
1431	1	1	1	No	No	0.5	5
1437	0.5	0.5	2.5	No	No	0.5	
1517	0.5	0.5	No	No	No	0.5	
1571	0.5	0.5	No	No	No	0.5	9
1871	0.5	2.5	2.5	No	1	0.5	
1923	0.5	1	2.5	2.5	No	0.5	
1929	0.5	1	2.5	2.5	No	0.5	
2004	0.5	1	2.5	2.5	No	0.5	9
2008	0.5	1	2.5	No	No	0.5	
2318	1	1	1	1	No	0.5	5
2545	0.5	1	2.5	No	No	0.5	
2546	0.5	1	2.5	No	No	0.5	
2555	1	1	1	1	1	0.5	
2556	1	1	1	1	1	0.5	
2557	1	1	1	1	1	0.5	
2624	0.5	0.5	1	1	No	0.5	
2805	1	1	1	1	No	0.5	
2852	0.25	No	No	No	No	0.1	
2881	1	No	1	No	No	0.5	9
3182	0.5	0.5	2.5	No	No	0.5	
3205	1	1	1	No	No	0.5	5
3206	1	1	1	No	No	0.5	5
3208	1	No	1	No	No	0.5	5,22
3209	1	No	1	No	No	0.5	5,22
A 3270	1	1	1	1	1	0.5	

(cont.)

416 PACKING INSTRUCTION 416 (cont.) 416

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

22 If the substance is in dispersion in organic liquid, the organic liquid must have a flash point above 50°C.

Y416 PACKING INSTRUCTION Y416 Y416

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.1.7 do not apply. 16

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Plastic bag IP.5 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1326	0.5	0.5	0.5	No	0.5	0.5	
1339	0.5	No	0.5	No	No	0.5	
1340	0.5	No	0.5	No	No	0.5	
1341	0.5	No	0.5	No	No	0.5	
1343	0.5	No	0.5	No	No	0.5	
1352	0.5	0.5	0.5	No	0.5	0.5	
1358	0.5	0.5	0.5	No	0.5	0.5	
1390	0.5	0.5	0.5	0.5	No	0.5	2,5,9
1394	0.5	0.5	0.5	No	No	0.5	
A 1402	0.5	~~No~~ 0.5	0.5	No	No	0.5	9
1409	0.5	0.5	0.5	No	No	0.5	
1417	0.5	0.5	0.5	0.5	No	0.5	
1437	0.5	0.5	0.5	No	No	0.5	
1871	0.5	0.5	0.5	No	0.5	0.5	
2555	0.5	0.5	0.5	0.5	0.5	0.5	
2556	0.5	0.5	0.5	0.5	0.5	0.5	
2557	0.5	0.5	0.5	0.5	0.5	0.5	
2624	0.5	0.5	0.5	0.5	No	0.5	
2805	0.5	0.5	0.5	0.5	No	0.5	
3182	0.5	0.5	0.5	No	No	0.5	
3208	0.5	No	0.5	No	No	0.5	5,22
A 3270	0.5	0.5	0.5	0.5	0.5	0.5	

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Plastic drum
Plastic jerrican
Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Solid plastic box

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

22 If the substance is in dispersion in organic liquid, the organic liquid must have a flash point above 50°C.

417 PACKING INSTRUCTION 417 417

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 kg
	Plastic – IP.2	5 kg
	Metal – IP.3, IP.3A	5 kg
	Plastic bag – IP.5	2.5 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D with inner plastic liner — not permitted for Divisions 4.2 and 4.3
Fibre drum – 1G with inner plastic liner — not permitted for Divisions 4.2 and 4.3
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all

418 PACKING INSTRUCTION 418 418

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner

UN No.	*Glass earthenware IP.1 (kg)*	*Plastic IP.2 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Aluminium IP.3A (kg)*	*Plastic bag IP.5 (kg)*	*Glass ampoule IP.8 (kg)*	*Particular packing requirements*
1326	2.5	5	5	No	2.5	0.5	
1339	0.5	5	5	No	No	0.5	
1340	0.5	5	5	No	No	0.5	
1341	0.5	5	5	No	No	0.5	
1343	0.5	5	5	No	No	0.5	
1352	2.5	5	5	No	2.5	0.5	
1358	2.5	5	5	No	2.5	0.5	
1369	2.5	5	5	No	No	0.5	
1382	2.5	5	5	No	No	0.5	
1384	1	2.5	5	5	No	0.5	
1385	2.5	5	5	No	No	0.5	
1390	2.5	2.5	2.5	2.5	No	0.5	2,5,9
1394	2.5	2.5	5	No	No	0.5	
1402	2.5	2.5	5	No	No	0.5	9
1409	2.5	5	5	No	No	0.5	
~~1415~~	~~1~~	~~No~~	~~1~~	~~No~~	~~No~~	~~0.5~~	~~5,10,22~~
1417	1	1	5	5	No	0.5	9
1431	2.5	2.5	2.5	No	No	0.5	5
1437	1	1	5	No	No	0.5	
1868	2.5	2.5	5	2.5	No	0.5	
1871	1	5	5	No	No	0.5	
1923	1	2.5	5	5	No	0.5	
1929	1	2.5	5	5	No	0.5	
2004	1	2.5	5	5	No	0.5	9

(cont.)

UN No.	Glass earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Plastic bag IP.5 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
2008	1	2.5	5	No	No	0.5	
2318	2.5	2.5	2.5	2.5	No	0.5	5
2545	1	2.5	5	No	No	0.5	
2546	1	2.5	5	No	No	0.5	
2555	1	1	1	1	2.5	0.5	
2556	1	1	1	1	2.5	0.5	
2557	1	1	1	1	2.5	0.5	
2624	1	1	5	5	No	0.5	
2805	2.5	2.5	2.5	2.5	No	0.5	9
2835	2.5	5	5	5	No	0.5	9
3182	1	1	5	No	No	0.5	
3205	2.5	2.5	2.5	No	No	0.5	5
3206	2.5	2.5	2.5	No	No	0.5	5
3208	2.5	No	2.5	No	No	0.5	5,22
3209	2.5	No	2.5	No	No	0.5	5,22
A 3270	1	1	1	1	2.5	0.5	

Outer:
Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

UN No.	Steel drums 1A1, 1A2	Aluminium drums 1B1, 1B2	Steel jerricans 3A1, 3A2	Fibre drums 1G Sift-proof	Fibre drums 1G with inner plastic liner	Plastic drums 1H1, 1H2	Plastic jerrican 3H1, 3H2	Composites (plastic) – all	Particular packing requirements
1326	Yes	No	Yes	No	No	Yes	Yes	Yes	
1339	Yes	No	Yes	No	Yes	Yes	Yes	Yes	
1340	Yes	No	Yes	No	Yes	Yes	Yes	Yes	
1341	Yes	No	Yes	No	Yes	Yes	Yes	Yes	
1343	Yes	No	Yes	No	Yes	Yes	Yes	Yes	
1352	Yes	No	Yes	No	No	Yes	Yes	Yes	
1358	Yes	No	Yes	No	No	Yes	Yes	Yes	
1369	Yes	No	Yes	No	No	Yes	Yes	Yes	
1382	Yes	No	Yes	No	No	Yes	Yes	Yes	
1384	Yes	Yes	Yes	No	No	No	No	Yes	
1385	Yes	No	Yes	No	No	Yes	Yes	Yes	
1390	Yes	Yes	Yes	No	No	Yes	Yes	Yes	5
1394	Yes	No	Yes	No	No	Yes	Yes	Yes	
1402	Yes	No	Yes	No	No	Yes	Yes	Yes	
1409	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	
A ~~1415~~	~~Yes~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~No~~	~~No~~	~~5,22~~
1417	Yes	Yes	Yes	No	No	Yes	Yes	Yes	
1431	Yes	No	Yes	No	No	Yes	Yes	Yes	5
1437	Yes	No	Yes	No	No	Yes	Yes	Yes	
1868	Yes	Yes	Yes	No	No	Yes	Yes	Yes	
1871	Yes	No	Yes	No	No	Yes	Yes	Yes	
1923	Yes	Yes	Yes	No	No	Yes	Yes	Yes	
1929	Yes	Yes	Yes	No	No	Yes	Yes	Yes	
2004	Yes	Yes	Yes	No	No	Yes	Yes	Yes	
2008	Yes	No	Yes	No	No	Yes	Yes	Yes	
2318	Yes	Yes	Yes	No	No	Yes	Yes	Yes	5
2545	Yes	No	Yes	No	No	Yes	Yes	Yes	
2546	Yes	No	Yes	No	No	Yes	Yes	Yes	
2555	Yes	Yes	Yes	No	Yes	No	No	Yes	
2556	Yes	Yes	Yes	No	Yes	No	No	Yes	
2557	Yes	Yes	Yes	No	Yes	No	No	Yes	

(cont.)

418 PACKING INSTRUCTION 418 *(cont.)* 418

UN No.	*Steel drums 1A1, 1A2*	*Aluminium drums 1B1, 1B2*	*Steel jericans 3A1, 3A2*	*Fibre drums 1G Sift-proof*	*Fibre drums 1G with inner plastic liner*	*Plastic drums 1H1, 1H2*	*Plastic jerrican 3H1, 3H2*	*Composites (plastic) – all*	*Particular packing requirements*
2624	Yes	Yes	Yes	No	No	Yes	Yes	Yes	
2805	Yes	Yes	Yes	No	No	Yes	Yes	Yes	
2835	Yes	Yes	Yes	No	No	Yes	Yes	Yes	
3182	Yes	No	Yes	No	No	Yes	Yes	Yes	
3205	Yes	No	Yes	No	No	Yes	Yes	Yes	5
3206	Yes	No	Yes	No	No	Yes	Yes	Yes	5
3208	Yes	No	Yes	No	No	No	No	No	5,22
3209	Yes	No	Yes	No	No	No	No	No	5,22
A 3270	Yes	Yes	Yes	No	Yes	No	No	Yes	

Particular packing requirements:

F 2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

F 9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

L ~~10 Copper cartridges only are permitted when the substance is not in dispersion.~~

22 If the substance is in dispersion in organic liquid, the organic liquid must have a flash point above 50°C.

419 PACKING INSTRUCTION 419 419

The general packing requirements of Part 3, Chapter 1 must be met.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

All of the following packagings must meet Packing Group II performance requirements.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 kg
	Plastic – IP.2	10 kg
	Metal – IP.3, IP.3A	10 kg
	Plastic bag – IP.5	5 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum – 1A2	Wooden box – 4C1, 4C2
	Aluminium drum – 1B2	Plywood box – 4D
	Steel jerrican – 3A2	Reconstituted wood box – 4F
	Plywood drum – 1D	Fibreboard box – 4G
	Fibre drum – 1G	Expanded plastic box – 4H1
	Plastic drum – 1H2	Solid plastic box – 4H2
	Plastic jerrican – 3H2	

Y419 PACKING INSTRUCTION Y419 Y419

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.17 do not apply. 16

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	1 kg
	Metal – IP.3, IP.3A	1 kg
	Plastic bag – IP.5	1 kg
	Glass ampoule – IP.8	0.5 kg

H ~~An IP.5 inner packaging is forbidden in an expanded plastic box outer packaging.~~

Outer	Steel drum	Wooden box
	Aluminium drum	Plywood box
	Steel jerrican	Reconstituted wood box
	Plywood drum	Fibreboard box
	Fibre drum	Expanded plastic box
	Plastic drum	Solid plastic box
	Plastic jerrican	

420 PACKING INSTRUCTION 420 420

The general packing requirements of Part 3; Chapter 1 must be met.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

All of the following packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 kg
	Plastic – IP.2	10 kg
	Metal – IP.3, IP.3A	10 kg
	Plastic bag – IP.5	5 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum – 1A2	Wooden box – 4C1, 4C2
	Aluminium drum – 1B2	Plywood box – 4D
	Steel jerrican – 3A2	Reconstituted wood box – 4F
	Plywood drum – 1D	Fibreboard box – 4G
	Fibre drum – 1G	Expanded plastic box – 4H1
	Plastic drum – 1H2	Solid plastic box – 4H2
	Plastic jerrican – 3H2	

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D with inner plastic liner – not permitted for Divisions 4.2 and 4.3
Fibre drum – 1G with inner plastic liner – not permitted for Divisions 4.2 and 4.3
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all

421 PACKING INSTRUCTION 421 421

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1313	2.5	2.5	10	10	0.5	
1314	2.5	2.5	10	10	0.5	
1318	2.5	2.5	10	10	0.5	
1338	1	2.5	10	10	0.5	
1408	2.5	2.5	10	10	0.5	
2881	2.5	No	5	No	0.5	9
3182	5	5	10	No	0.5	
3205	5	5	10	No	0.5	5
3206	5	5	10	No	0.5	5
3208	5	No	10	No	0.5	5,22
3209	5	No	10	No	0.5	5,22

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Expanded plastic box – 4H1
Solid plastic box – 4H2

Single packagings:

UN No.	Steel drums 1A1, 1A2	Aluminium drums 1B1, 1B2	Steel jerricans 3A1, 3A2	Plastic drums 1H1, 1H2	Plastic jerricans 3H1, 3H2	Composites (plastic) – all	Particular packing requirements
1313	Yes	Yes	Yes	Yes	Yes	Yes	
1314	Yes	Yes	Yes	Yes	Yes	Yes	
1318	Yes	Yes	Yes	Yes	Yes	Yes	
1338	Yes	Yes	Yes	Yes	Yes	Yes	
1408	Yes	Yes	Yes	Yes	Yes	Yes	
2881	Yes	No	Yes	No	No	No	
3182	Yes	No	Yes	Yes	Yes	Yes	
3205	Yes	No	Yes	Yes	No	Yes	5
3206	Yes	No	Yes	Yes	No	Yes	5
3208	Yes	No	Yes	No	No	No	5,22
3209	Yes	No	Yes	No	No	No	5,22

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal receptacles or rigid plastic before packing in outer packagings.

22 If the substance is in dispersion in organic liquid, the organic liquid must have a flash point above 50°C.

422

PACKING INSTRUCTION 422

422

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1313	1	No	5	5	0.5	
1314	1	No	5	5	0.5	
1318	1	No	5	5	0.5	
1338	0.5	No	5	5	0.5	
1408	1	1	5	5	0.5	
2881	1	No	1	No	0.5	9
3182	1	1	5	No	0.5	
3205	2.5	2.5	2.5	No	0.5	5
3206	2.5	2.5	2.5	No	0.5	5
3208	2.5	No	2.5	No	0.5	5,22
3209	2.5	No	2.5	No	0.5	5,22

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

22 If the substance is in dispersion in organic liquid, the organic liquid must have a flash point above 50°C.

Y422

PACKING INSTRUCTION Y422

Y422

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.17 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1313	1	No	1	1	0.5	
1314	1	No	1	1	0.5	
1318	1	No	1	1	0.5	
1338	0.5	No	1	1	0.5	
1408	1	1	1	1	0.5	
3182	1	1	1	No	0.5	
3208	1	No	1	No	0.5	5,22

(cont.)

430 PACKING INSTRUCTION 430 430

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Plastic IP.2 (kg)*	*Plastic bag IP.5 (kg)*
3224	1	1
3226	1	1
3228	2.5	2.5
3230	2.5	2.5

Outer

Fibre drum – 1G
Wooden box – 4C1
Plywood box – 4D
Fibreboard box – 4G
Solid plastic box – 4H2

431 PACKING INSTRUCTION 431 431

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Metal (not aluminium) IP.3 (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
3207	2.5	2.5	0.5	8,13

Outer:

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

432 PACKING INSTRUCTION 432 432

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Metal (not aluminium) IP.3 (L)	Glass ampoule IP.8 (L)	Particular packing requirements
3207	5	5	0.5	8,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

UN No.	Cylinders*
3207	Yes

* Cylinders must be as permitted by Packing Instruction 200.

Particular packing requirements:

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

433 PACKING INSTRUCTION 433 433

Batteries or cells may not be offered for transport at a temperature at which there is any liquid elemental sodium present in the battery or cell.

Cells must be packed in accordance with the general packing requirements of Part 3, Chapter 1 and be in steel drums (1A2), aluminium drums (1B2), plywood drums (1D), fibre drums (1G), plastic drums (1H2), wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or solid plastic boxes (4H2). Packagings must meet Packing Group II requirements. Sufficient cushioning material must be provided to prevent contact between cells, and between cells and the internal surfaces of the outer packagings, and to ensure that no dangerous movement of the cells within the outer packaging occurs in transport.

Batteries may be offered for transport and transported unpacked, or in protective enclosures such as fully enclosed or wooden slatted crates that are not subject to the requirements of Part 7 of these Instructions.

501 PACKING INSTRUCTION 501 501

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1873	1	1	No	No	0.5	13
2014	0.5	0.5	No	0.5	0.5	2,13
2429	0.5	0.5	No	No	0.5	
2495	No	No	1	No	0.1	8,13
3098	0.5	0.5	0.5	No	0.5	2,13
3099	1	1	1	No	0.5	2,13
3149	1	1	No	No	0.5	2,13
3210	0.5	0.5	No	No	0.5	
3211	0.5	0.5	No	No	0.5	

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

F 2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

Y501 PACKING INSTRUCTION Y501 Y501

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3, 1.1.2 (1.1.8d) and 1.1.1.6 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
2014	0.1	0.1	No	0.1	0.1	2,13
2429	0.1	0.1	No	No	0.1	
3098	0.1	0.1	0.1	No	0.1	2,13
3099	0.1	0.1	0.1	No	0.1	2,13
3149	0.1	0.1	No	No	0.1	2,13
3210	0.1	0.1	No	No	0.1	
3211	0.1	0.1	No	No	0.1	

(cont.)

Y501

PACKING INSTRUCTION Y501 *(cont.)*

Y501

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid plastic box

Particular packing requirements:

F 2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

502

PACKING INSTRUCTION 502

502

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Plastic IP.2 (L)*
3103	1
3105	1
3107	2.5
3109	2.5

Outer	Fibre drum – 1G	Fibreboard box – 4G
	Wooden box – 4C1	Solid plastic box – 4H2
	Plywood box – 4D	

503

PACKING INSTRUCTION 503

503

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 L
	Plastic – IP.2	1 L
	Metal – IP.3, IP.3A	1 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Y503 PACKING INSTRUCTION Y503 Y503

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.1.6 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.1 L
	Plastic – IP.2	0.1 L
	Metal – IP.3, IP.3A	0.1 L
	Glass ampoule – IP.8	0.1 L

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid plastic box

505 PACKING INSTRUCTION 505 505

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 L
	Plastic – IP.2	2.5 L
	Metal – IP.3, IP.3A	2.5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

506 PACKING INSTRUCTION 506 506

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Aluminium IP.3A (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
2014	1	1	1	0.5	2,13
2429	1	1	No	0.5	
3098	1	1	No	0.5	2,13
3099	1	1	No	0.5	2,13
3149	1	1	No	0.5	2,13
3210	1	1	No	0.5	
3211	1	1	No	0.5	

(cont.)

506 PACKING INSTRUCTION 506 *(cont.)* 506

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Particular packing requirements:

F 2 Plastic inner packagings must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

508 PACKING INSTRUCTION 508 508

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	1 kg
	Metal – IP.3, IP.3A	1 kg
	Paper – IP.4	1 kg
	Plastic bag – IP.5	1 kg
	Fibre – IP.6	1 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Y508 PACKING INSTRUCTION Y508 Y508

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (, 1.1.8 d) and 1.1.7 16) do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 kg
	Plastic – IP.2	0.5 kg
	Metal – IP.3, IP.3A	0.5 kg
	Paper – IP.4	0.5 kg
	Plastic bag – IP.5	0.5 kg
	Fibre – IP.6	0.5 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid plastic box

509 PACKING INSTRUCTION 509 509

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Plastic bag IP.5 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1442	0.5	0.5	0.5	0.5	0.5	4
1445	0.5	0.5	0.5	0.5	0.5	4
1449	0.5	0.5	0.5	0.5	0.5	4
1452	0.5	0.5	0.5	0.5	0.5	4
1453	0.5	0.5	0.5	0.5	0.5	4
1458	0.5	0.5	0.5	0.5	0.5	4
1459	0.5	0.5	0.5	0.5	0.5	4
1461	0.5	0.5	0.5	0.5	0.5	4
1462	0.5	0.5	0.5	No	0.5	5
1471	0.5	0.5	0.5	0.5	0.5	4
1472	0.5	0.5	0.5	0.5	0.5	4
1479	1	1	1	No	0.5	
1483	0.5	0.5	0.5	No	0.5	5
1485	0.5	0.5	0.5	0.5	0.5	4
1495	0.5	0.5	0.5	0.5	0.5	4
1496	0.5	0.5	0.5	0.5	0.5	4
1506	0.5	0.5	0.5	0.5	0.5	4
1513	0.5	0.5	0.5	0.5	0.5	4
1748	0.5	0.5	0.5	0.5	0.5	4,5
2741	0.5	0.5	0.5	0.5	0.5	4,5
3212	0.5	0.5	0.5	0.5	0.5	4,5

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

F

4 Plastic bags must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

Y509 PACKING INSTRUCTION Y509 Y509

H

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3, 1.1.2, 1.1.8 d) and 1.1.1.16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Plastic bag IP.5 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1442	0.5	0.5	0.5	0.5	0.5	4
1445	0.5	0.5	0.5	0.5	0.5	4
1449	0.5	0.5	0.5	0.5	0.5	4

(cont.)

Y509

PACKING INSTRUCTION Y509 *(cont.)*

Y509

UN No.	*Glass or earthenware IP.1 (kg)*	*Plastic IP.2 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Plastic bag IP.5 (kg)*	*Glass ampoule IP.8 (kg)*	*Particular packing requirements*
1452	0.5	0.5	0.5	0.5	0.5	4
1453	0.5	0.5	0.5	0.5	0.5	4
1458	0.5	0.5	0.5	0.5	0.5	4
1459	0.5	0.5	0.5	0.5	0.5	4
1461	0.5	0.5	0.5	0.5	0.5	4
1462	0.5	0.5	0.5	No	0.5	5
1471	0.5	0.5	0.5	0.5	0.5	4
1472	0.5	0.5	0.5	0.5	0.5	4
1483	0.5	0.5	0.5	No	0.5	5
1485	0.5	0.5	0.5	0.5	0.5	4
1495	0.5	0.5	0.5	0.5	0.5	4
1496	0.5	0.5	0.5	0.5	0.5	4
1506	0.5	0.5	0.5	0.5	0.5	4
1513	0.5	0.5	0.5	0.5	0.5	4
1748	0.5	0.5	0.5	0.5	0.5	4,5
2741	0.5	0.5	0.5	0.5	0.5	4,5
3212	0.5	0.5	0.5	0.5	0.5	4,5

Outer

- Steel drum
- Aluminium drum
- Steel jerrican
- Plywood drum
- Fibre drum
- Plastic drum
- Plastic jerrican
- Wooden box
- Plywood box
- Reconstituted wood box
- Fibreboard box
- Solid plastic box

Particular packing requirements:

F 4 Plastic bags must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

510

PACKING INSTRUCTION 510

510

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Plastic IP.2 (kg)*	*Plastic bag IP.5 (kg)*
3104	0.5	0.5
3106	0.5	0.5
3108	1	1
3110	1	1

Outer

- Fibre drum – 1G
- Wooden box – 4C1
- Plywood box – 4D
- Fibreboard box – 4G
- Solid plastic box – 4H2

512 PACKING INSTRUCTION 512 *(cont.)* 512

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

UN No.	*Steel drums 1A1, 1A2*	*Steel jerricans 3A1, 3A2*	*Plywood drums 1D, with inner plastic liner or Fibre drums 1G, with inner plastic liner*	*Plastic drums 1H1, 1H2*	*Plastic jerricans 3H1, 3H2*	*Composites (plastic) – all*	*Particular packing requirements*
1442	Yes	Yes	Yes	Yes	Yes	Yes	
1445	Yes	Yes	Yes	Yes	Yes	Yes	
1449	Yes	Yes	No	Yes	Yes	Yes	
1452	Yes	Yes	Yes	Yes	Yes	Yes	
1453	Yes	Yes	Yes	Yes	Yes	Yes	
1458	Yes	Yes	Yes	Yes	Yes	Yes	
1459	Yes	Yes	Yes	Yes	Yes	Yes	
1461	Yes	Yes	Yes	Yes	Yes	Yes	
1462	Yes	Yes	Yes	Yes	Yes	Yes	5
1471	Yes	Yes	Yes	Yes	Yes	Yes	
1472	Yes	Yes	Yes	Yes	Yes	Yes	
1479	Yes	Yes	No	Yes	Yes	Yes	
1483	Yes	Yes	Yes	Yes	Yes	Yes	5
1485	Yes	Yes	Yes	Yes	Yes	Yes	
1491	Yes	Yes	No	No	No	Yes	
1495	Yes	Yes	Yes	Yes	Yes	Yes	
1496	Yes	Yes	Yes	Yes	Yes	Yes	
1504	Yes	Yes	No	No	No	Yes	
1506	Yes	Yes	Yes	Yes	Yes	Yes	
1513	Yes	Yes	Yes	Yes	Yes	Yes	
1748	Yes	Yes	Yes	Yes	Yes	Yes	5
2466	Yes	Yes	No	Yes	Yes	Yes	
2547	Yes	Yes	No	Yes	Yes	Yes	
2741	Yes	Yes	Yes	Yes	Yes	Yes	5
3212	Yes	Yes	Yes	Yes	Yes	Yes	5

Particular packing requirements:

F 4 Plastic bags must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

513 PACKING INSTRUCTION 513 513

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Plastic IP.2 (kg)*	*Plastic bag IP.5 (kg)*
3104	1	1
3106	1	1
3108	2.5	2.5
3110	2.5	2.5

Outer

Fibre drum – 1G
Wooden box – 4C1
Plywood box – 4D
Fibreboard box – 4G
Solid plastic box – 4H2

514 PACKING INSTRUCTION 514 514

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 L
	Plastic – IP.2	2.5 L
	Aluminium – IP.3A	2.5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Y514 PACKING INSTRUCTION Y514 Y514

H

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (3 1.1.8 d) and 1.1.17 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 L
	Plastic – IP.2	0.5 L
	Aluminium – IP.3A	0.5 L
	Glass ampoule – IP.8	0.5 L

F

For UN 3098, glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal) or rigid plastic receptacles before packing in outer packagings.

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Plastic box

515 PACKING INSTRUCTION 515 515

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 L
	Plastic – IP.2	5 L
	Aluminium – IP.3A	5 L
	Glass ampoule – IP.8	0.5 L

(cont.)

515 PACKING INSTRUCTION 515 *(cont.)* 515

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Plastic box – 4H1, 4H2

Single packagings:

Aluminium drum – 1B1
Composites (plastic) – all

516 PACKING INSTRUCTION 516 516

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 kg
	Plastic – IP.2	2.5 kg
	Metal – IP.3, IP.3A	2.5 kg
	Paper – IP.4	2.5 kg
	Plastic bag – IP.5	2.5 kg
	Fibre – IP.6	2.5 kg
	Glass ampoule – IP.8	0.5 kg

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Plastic box – 4H1, 4H2

Y516 PACKING INSTRUCTION Y516 Y516

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8 d) and 1.1.1 16) do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	1 kg
	Metal – IP.3, IP.3A	1 kg
	Paper – IP.4	1 kg
	Plastic bag – IP.5	1 kg
	Fibre – IP.6	1 kg
	Glass ampoule – IP.8	*0.5 kg*

H ~~An IP.5 inner packaging is forbidden in an expanded plastic box outer packaging.~~

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Plastic drum
Plastic jerrican
Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Plastic box

517 PACKING INSTRUCTION 517 517

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Plastic bag IP.5 (kg)	Fibre IP.6 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1458	1	1	1	1	No	0.5	4
1459	1	1	1	1	No	0.5	4
1483	1	1	1	No	No	0.5	5
1511	0.5	0.5	0.5	0.5	0.5	0.5	5
2208	2.5	2.5	2.5	2.5	2.5	0.5	

Outer

Steel drum – 1A2	Plastic jerrican – 3H2
Aluminium drum – 1B2	Wooden box – 4C1, 4C2
Steel jerrican – 3A2	Plywood box – 4D
Plywood drum – 1D	Reconstituted wood box – 4F
Fibre drum – 1G	Fibreboard box – 4G
Plastic drum – 1H2	Plastic box – 4H1, 4H2

Particular packing requirements:

F 4 Plastic bags must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

Y517 PACKING INSTRUCTION Y517 Y517

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (3.1.2.8 d) and 1.1.1.7.1.6) do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Plastic bag IP.5 (kg)	Fibre IP.6 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
H 1458	1	1	1	1	~~1~~ No	0.5	4
1459	1	1	1	1	No	0.5	4
1483	1	1	1	No	No	0.5	5
1511	0.5	0.5	0.5	0.5	0.5	0.5	5
2208	1	1	1	1	1	0.5	

H ~~An IP.5 inner packaging is forbidden in an expanded plastic box outer packaging.~~

Outer

Steel drum	Plastic jerrican
Aluminium drum	Wooden box
Steel jerrican	Plywood box
Plywood drum	Reconstituted wood box
Fibre drum	Fibreboard box
Plastic drum	Plastic box

Particular packing requirements:

F 4 Plastic bags must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

518 PACKING INSTRUCTION 518 518

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Combination packagings:

Inner	Glass or earthenware – IP.1	5 kg
	Plastic – IP.2	5 kg
	Metal – IP.3, IP.3A	5 kg
	Paper – IP.4	5 kg
	Plastic bag – IP.5	5 kg
	Fibre – IP.6	5 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D with inner plastic liner
Fibre drum – 1G with inner plastic liner
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all

519 PACKING INSTRUCTION 519 519

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (kg)*	*Plastic IP.2 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Plastic bag IP.5 (kg)*	*Fibre IP.6 (kg)*	*Glass ampoule IP.8 (kg)*	*Particular packing requirements*
1458	5	5	5	5	No	0.5	4
1459	5	5	5	5	No	0.5	4
1483	5	5	5	No	No	0.5	5
1511	1	1	1	1	1	0.5	5
2208	5	5	5	5	5	0.5	

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

(cont.)

519 PACKING INSTRUCTION 519 *(cont.)* 519

Single packagings: (Particular packing requirement 5 applies for UN 1483 and UN 1511)

Steel drum – 1A1, 1A2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D with inner plastic liner
Fibre drum – 1G with inner plastic liner
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all

Particular packing requirements:

F 4 Plastic bags must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

A

520 PACKING INSTRUCTION 520 520

Polyester resin kits and fibreglass repair kits contain an organic peroxide and may contain a flammable liquid (usually a styrene monomer).

The organic peroxide must be in IP.2 plastic packagings or IP.9 metal or plastic tubes and the quantity must not exceed those shown below:

IP.2	*IP.9*
0.5 kg	0.25 kg

The net quantity of organic peroxide per package must not exceed 0.5 kg.

The flammable liquid must be in IP.1 glass or earthenware, IP.2 plastic, IP.3 or IP.3A metal packagings and the quantity must not exceed those shown below:

IP.1	*IP.2*	*IP.3*	*IP.3A*
1 kg	4.75 kg	4.75 kg	4.75 kg

The inner packagings must be packed in steel drums (1A2), aluminium drums (1B2), plastic drums (1H2), steel jerricans (3A2), plastic jerricans (3H2), wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), plywood drums (1D), fibre drums (1G), fibreboard boxes (4G) or plastic boxes (4H2) of Packing Group II. The general packing requirements of Part 3, Chapter 1 must be met.

solid

Y520 PACKING INSTRUCTION Y520 Y520

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (3.1.1.8d) and 1.1.17 do not apply.

Single packagings are not permitted.

Combination packagings:

Polyester resin kits and fibreglass repair kits contain an organic peroxide and may contain a flammable liquid (usually a styrene monomer).

The organic peroxide must be in IP.2 plastic packagings or IP.9 metal or plastic tubes and the quantity must not exceed 30 mL or 100 g. The net quantity of organic peroxide per package must not exceed 0.25 L or 0.5 kg.

The flammable liquid must be in IP.1 glass or earthenware, IP.2 plastic, IP.3 or IP.3A metal packagings and the quantity must not exceed 0.9 kg.

The inner packagings must be packed in steel drums, aluminium drums, plastic drums, steel jerricans, plastic jerricans, wooden boxes, plywood boxes, reconstituted wood boxes, plywood drums, fibre drums, fibreboard boxes or plastic boxes.

solid

Chapter 8

CLASS 6 – ~~POISONOUS~~ TOXIC AND INFECTIOUS SUBSTANCES

600 PACKING INSTRUCTION 600 600

Ammunition, tear-producing or toxic may be carried provided it is without ignition elements, bursting charges, detonating fuses or other explosive components and when packed according to the general packing requirements of Part 3, Chapter 1 and in wooden (4C1, 4C2) boxes, steel drums (1A2) or aluminium drums (1B2).

601 PACKING INSTRUCTION 601 601

Tear gas grenades or candles may be carried when packed according to the general packing requirements of Part 3, Chapter 1 and in metal strapped wooden (4C1, 4C2) boxes, steel drums (1A2) or aluminium drums (1B2). Unless functioning elements are so packed that they cannot accidentally function, elements must not be assembled in grenades or devices, but must be packed in a separate compartment or in a separate wooden (4C1, 4C2) box and so cushioned that they cannot come into contact with each other or with the walls of the packaging during transport. Not more than 24 grenades and 24 functioning devices per package are authorized.

602 PACKING INSTRUCTION 602 602

General

The general packing requirements of Part 3, Chapter 1 must be met.

Consignments of infectious substances must be prepared in such a manner that they arrive at their destination in good condition and present no hazard to persons or animals during transport. The packaging must include:

a) inner packagings comprising:

1) watertight primary receptacle(s);

2) a watertight secondary packaging;

3) an absorbent material, of sufficient quantity to absorb the entire contents, which must be placed between the primary receptacle(s) and the secondary packaging. If multiple primary receptacles are placed in a single secondary packaging they must be wrapped individually to ensure that contact between them is prevented.

b) an outer packaging of adequate strength for its capacity, mass and intended use. Packages ~~consigned as freight~~ must be at least 100 mm in the smallest over-all external dimension.

The packaging must, as demonstrated by tests, be capable of successfully passing the design type tests provided in Part 7, Chapter 6.

An itemized list of contents must be enclosed between the secondary packaging and the outer packaging.

Other than for exceptional consignments, e.g. whole organs, which require special packaging, infectious substances must be ~~packaged~~ packed according to the following ~~guidelines~~ requirements:

Lyophilized substances

Primary receptacles must be flame-sealed glass ampoules or rubber-stoppered glass vials fitted with metal seals.

(cont.)

602 PACKING INSTRUCTION 602 *(cont.)* 602

Liquid or solid substances

must be provided

a) *Substances transported at ambient temperatures or higher.* Primary receptacles may only be of glass, metal or plastic. Positive means of ensuring a leakproof seal such as heat seal; skirted stopper or metal crimp seal ~~must be provided~~. If screw caps are used these must be reinforced with adhesive tape.

b) *Substances transported refrigerated or frozen.* Ice or dry ice must be placed around the secondary packaging(s). Interior supports must be provided to secure the secondary packaging(s) in position after the ice or dry ice has dissipated. If ice is used the outer packaging must be leakproof. If dry ice is used the outer packaging must permit the release of carbon dioxide gas. The primary receptacle and the secondary packaging must maintain their integrity at the temperature of the refrigerant used as well as at the temperatures and pressures of air transport to which the receptacle and the secondary packaging could be subjected if refrigeration were to be lost.

c) *Substances transported in liquid nitrogen.* Plastic primary receptacles capable of withstanding very low temperatures must be used. The secondary packaging must also be capable of withstanding very low temperatures and in most cases will need to be fitted over the primary receptacles individually. The requirements of these Instructions for the transport of liquid nitrogen must also be met. The primary receptacle and the secondary packaging must maintain their integrity at the temperature of the liquid nitrogen as well as at the temperatures and pressures of air transport to which the receptacle and the secondary packaging could be subjected if refrigeration were to be lost.

The primary receptacle or the secondary packaging used for infectious substances must be capable of withstanding, without leakage, an internal pressure which produces a pressure differential of not less than 95 kPa and temperatures in the range of −40°C to +55°C.

603 PACKING INSTRUCTION 603 603

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 L
	Plastic – IP.2	0.5 L
	Metal – IP.3, IP.3A	1 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

604 PACKING INSTRUCTION 604 604

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 L
	Plastic – IP.2	1 L
	Metal – IP.3, IP.3A	2.5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1541	1	1	2.5	No	0.5	13
1593	2.5	2.5	5	5	0.5	3
1647	No	No	1	No	0.5	6,8
1649	0.5	No	1	No	0.5	8,13
~~1670~~	~~1~~	~~No~~	~~2.5~~	~~No~~	~~0.5~~	~~5,13~~
1694	No	No	0.5	No	0.5	6,8
1710	2.5	2.5	5	5	0.5	3
1897	2.5	2.5	5	5	0.5	3
1935	1	1	2.5	No	0.5	
2024	1	1	2.5	No	0.5	
~~2337~~	~~2.5~~	~~2.5~~	~~5~~	~~5~~	~~0.5~~	~~2,13~~
2740	0.5	0.5	1	No	0.5	2.5,13
2788	0.5	0.5	0.5	No	0.5	13
2831	2.5	2.5	5	5	0.5	3
2485	1	1	1	1	0.5	5,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

UN No.	Steel drums 1A1 and cylinders*	Aluminium drums 1B1	Steel jerricans 3A1	Plastic drums 1H1	Plastic jerricans 3H1	Composites (plastic) – all	Particular packing requirements
1541	Yes	No	Yes	No	No	Yes	
1593	Yes	Yes	Yes	Yes	Yes	Yes	3
1649	Yes	No	Yes	No	No	No	
~~1670~~	~~Yes~~	~~No~~	~~Yes~~	~~No~~	~~No~~	~~No~~	~~5~~
1710	Yes	Yes	Yes	Yes	Yes	Yes	3
1897	Yes	Yes	Yes	Yes	Yes	Yes	3
1935	Yes	No	Yes	No	No	Yes	
2024	Yes	No	Yes	No	No	Yes	
~~2337~~	~~Yes~~	~~Yes~~	~~Yes~~	~~No~~	~~No~~	~~Yes~~	
2740	Yes	No	Yes	No	No	Yes	5
2788	Yes	No	Yes	No	No	Yes	
2831	Yes	Yes	Yes	Yes	Yes	Yes	3
2485	Yes	Yes	Yes	Yes	Yes	Yes	5

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

6 Glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

* Cylinders must be as permitted in Packing Instruction 200

Y605 PACKING INSTRUCTION Y605 Y605

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2(3.1.1.8.d) and 4.1.1.7.1.6 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Metal (not aluminium) IP.3 (L)*	*Aluminium IP.3A (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
1593	0.5	0.5	0.5	0.5	0.5	3
1710	0.5	0.5	0.5	0.5	0.5	3
1897	0.5	0.5	0.5	0.5	0.5	3
2831	0.5	0.5	0.5	0.5	0.5	3

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Plastic drum
Plastic jerrican
Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Solid plastic box

Particular packing requirements:

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

606 PACKING INSTRUCTION 606 606

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

Glass or earthenware – IP.1	0.5 kg
Plastic – IP.2	1 kg
Metal – IP.3, IP.3A	1 kg
Plastic bag – IP.5	0.5 kg
Fibre – IP.6	0.5 kg
Glass ampoule – IP.8	0.5 kg
Paper, plastic/aluminium – IP.10	0.5 kg

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

607 PACKING INSTRUCTION 607 607

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	2.5 kg
	Metal – IP.3, IP.3A	2.5 kg
	Plastic bag – IP.5	1 kg
	Fibre – IP.6	1 kg
	Glass ampoule – IP.8	0.5 kg
	Paper, plastic/aluminium – IP.10	1 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D, with inner plastic liner
Fibre drum – 1G, with inner plastic liner
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all

608 PACKING INSTRUCTION 608 608

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (kg)*	*Plastic IP.2 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Glass ampoule IP.8 (kg)*	*Particular packing requirements*
1699	0.5	No	0.5	0.5	9
1889	0.5	0.5	No	0.5	2,9
2471	0.5	0.5	No	0.5	9
3146	0.5	0.5	0.5	0.5	9

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Particular packing requirements:

F 2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

F 9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

609 PACKING INSTRUCTION 609 609

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 L
	Plastic – IP.2	1 L
	Metal – IP.3, IP.3A	2.5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Y609 PACKING INSTRUCTION Y609 Y609

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.1.7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.1 L
	Plastic – IP.2	0.1 L
	Metal – IP.3, IP.3A	0.1 L
	Glass ampoule – IP.8	0.1 L

F For ~~UN 2742, UN 2743, UN 2744, UN 2745, UN 2746, UN 2748 and UN 2927,~~ glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid plastic box

A For UN 2022, UN 2076, UN 2267, UN 2742, UN 2743, UN 2744, UN 2745, UN 2746, UN 2748, UN 2927, UN 3277 and UN 3289,

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1638	1	1	2.5	No	0.5	
1702	1	1	2.5	2.5	0.5	3
1737	0.5	0.5	0.5	No	0.5	5
1738	0.5	0.5	0.5	No	0.5	5
1750	1	1	1	No	0.5	5,13
1846	1	1	2.5	2.5	0.5	3
1888	1	1	2.5	2.5	0.5	3
1916	0.5	0.5	1	No	0.5	
1935	0.5	0.5	1	No	0.5	
2024	0.5	0.5	1	No	0.5	
~~2337~~	~~1~~	~~1~~	~~2.5~~	~~2.5~~	~~0.5~~	~~2,13~~
2487	0.5	0.5	1	No	0.5	
2488	0.5	0.5	1	No	0.5	
2574	0.5	No	1	1	0.5	13
2788	0.5	0.5	0.5	No	0.5	13
3071	1	1	2.5	2.5	0.5	2,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

PACKING INSTRUCTION Y610

Y610

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (9 1.1.8d) and 1.1.1.7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1638	0.1	0.1	0.1	No	0.1	
1702	0.1	0.1	0.1	0.1	0.1	3
1737	0.1	0.1	0.1	No	0.1	5,13
1738	0.1	0.1	0.1	No	0.1	5,13
1750	0.1	0.1	0.1	No	0.1	5,13
1846	0.1	0.1	0.1	0.1	0.1	3
1888	0.1	0.1	0.1	0.1	0.1	3
1916	0.1	0.1	0.1	No	0.1	
~~2337~~	~~0.1~~	~~0.1~~	~~0.1~~	~~0.1~~	~~0.1~~	~~2,13~~
2487	0.1	0.1	0.1	No	0.1	
2488	0.1	0.1	0.1	No	0.1	
2574	0.1	No	0.1	0.1	0.1	13
2788	0.1	0.1	0.1	No	0.1	13
3071	0.1	0.1	0.1	0.1	0.1	2,13

Outer

- Steel drum
- Aluminium drum
- Steel jerrican
- Plywood drum
- Fibre drum
- Plastic drum
- Plastic jerrican
- Wooden box
- Plywood box
- Reconstituted wood box
- Fibreboard box
- Solid plastic box

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

611 PACKING INSTRUCTION 611 611

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 L
	Plastic – IP.2	2.5 L
	Metal – IP.3, IP.3A	5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Plastic drum – 1H1
Plastic jerrican – 3H1
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200

Y611 PACKING INSTRUCTION Y611 Y611

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (3.1.1.8 d) and 3.1.1.7 16) do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 L
	Plastic – IP.2	0.5 L
	Metal – IP.3, IP.3A	0.5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid plastic box

612 PACKING INSTRUCTION 612 *(cont.)* 612

UN No.	*Steel drums 1A1 and cylinders**	*Aluminium drums 1B1*	*Steel jericans 3A1*	*Plastic drums 1H1*	*Plastic jericans 3H1*	*Composites (plastic) – all*	*Particular packing requirements*
2024	Yes	No	Yes	Yes	Yes	Yes	
2474	Yes	No	Yes	Yes	Yes	Yes	5
2487	Yes	No	Yes	Yes	Yes	Yes	
2488	Yes	Yes	Yes	Yes	Yes	Yes	
2574	Yes	Yes	Yes	No	No	No	
2788	Yes	No	Yes	Yes	Yes	Yes	
2831	Yes	Yes	Yes	Yes	Yes	Yes	3
3023	Yes	Yes	Yes	No	No	Yes	
3071	Yes	Yes	Yes	No	No	Yes	

Particular packing requirements:

or rigid plastic

F 2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.

3 Pure aluminium or aluminium alloys are permitted only for halogenated hydrocarbons that will not react with aluminium.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

or rigid plastic

* Cylinders must be as permitted in Packing Instruction 200

Y612 PACKING INSTRUCTION Y612 Y612

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 do not apply. (1.1.8a) and 1.1.17 16

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Metal (not aluminium) IP.3 (L)*	*Aluminium IP.3A (L)*	*Glass ampoule IP.8 (L)*
1935	0.5	0.5	0.5	No	0.5
2024	0.5	0.5	0.5	No	0.5

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Plastic drum
Plastic jerrican
Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Solid plastic box

3-8-12

613 PACKING INSTRUCTION 613 613

The general packing requirements of Part 3, Chapter 1 must be met.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	2.5 kg
	Metal – IP.3, IP.3A	2.5 kg
	Paper – IP.4	1 kg
	Plastic bag – IP.5	1 kg
	Fibre – IP.6	1 kg
	Glass ampoule – IP.8	0.5 kg
	Paper, plastic/aluminium – IP.10	1 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Y613 PACKING INSTRUCTION Y613 Y613

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 kg
	Plastic – IP.2	0.5 kg
	Metal – IP.3, IP.3A	0.5 kg
	Paper – IP.4	0.5 kg
	Plastic bag – IP.5	0.5 kg
	Fibre – IP.6	0.5 kg
	Glass ampoule – IP.8	0.5 kg
	Paper, plastic/aluminium – IP.10	0.5 kg

H ~~An IP.5 inner packaging is forbidden in an expanded plastic box outer packaging.~~

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Plastic box

614 PACKING INSTRUCTION 614 614

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1751	1	2.5	2.5	0.5	5
3146	1	1	2.5	0.5	9

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

F 9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal receptacles before packing in outer packagings.

or rigid plastic

Y614 PACKING INSTRUCTION Y614 Y614

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.17/16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1751	0.5	0.5	0.5	0.5	5
3146	0.5	0.5	0.5	0.5	9

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Solid plastic box

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

F 9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal receptacles before packing in outer packagings.

or rigid plastic

615 PACKING INSTRUCTION 615 615

The general packing requirements of Part 3, Chapter 1 must be met.

~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 kg
	Plastic – IP.2	5 kg
	Metal – IP.3, IP.3A	5 kg
	Paper – IP.4	2.5 kg
	Plastic bag – IP.5	2.5 kg
	Fibre – IP.6	2.5 kg
	Glass ampoule – IP.8	0.5 kg
	Paper, plastic/aluminium – IP.10	2.5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D with inner plastic liner
Fibre drum – 1G with inner plastic liner
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all

616 PACKING INSTRUCTION 616 616

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (kg)*	*Plastic IP.2 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Aluminium IP.3A (kg)*	*Glass ampoule IP.8 (kg)*	*Particular packing requirements*
1697	2.5	No	5	No	0.5	
1751	2.5	5	5	No	0.5	5
2730	5	10	10	10	0.5	
3048	1	1	1	1	0.5	9
3146	2.5	2.5	2.5	No	0.5	9

Outer	Steel drum – 1A2	Wooden box – 4C1, 4C2
	Aluminium drum – 1B2	Plywood box – 4D
	Steel jerrican – 3A2	Reconstituted wood box – 4F
	Plywood drum – 1D	Fibreboard box – 4G
	Fibre drum – 1G	Solid plastic box – 4H2

(cont.)

616 PACKING INSTRUCTION 616 *(cont.)* 616

Single packagings:

UN No.	*Steel drums 1A1, 1A2*	*Aluminium drums 1B1, 1B2*	*Steel jerricans 3A1, 3A2*	*Plastic drums 1H1, 1H2*	*Plastic jerricans 3H1, 3H2*	*Composites (plastic) – all*	*Particular packing requirements*
1697	Yes	No	Yes	No	No	No	
1751	Yes	No	Yes	Yes	Yes	Yes	5
2730	Yes	Yes	Yes	Yes	Yes	Yes	
3048	Yes	Yes	Yes	Yes	Yes	Yes	
3146	Yes	No	Yes	No	No	Yes	

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal receptacles before packing in outer packagings.

or rigid plastic

Y616 PACKING INSTRUCTION Y616 Y616

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 do not apply. 1.1.8 d) and 1.1.7 16

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (kg)*	*Plastic IP.2 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Aluminium IP.3A (kg)*	*Glass ampoule IP.8 (kg)*
2730	1	1	1	1	0.5

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Solid plastic box

617 PACKING INSTRUCTION 617 617

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

Glass or earthenware – IP.1 1 L
Plastic – IP.2 1 L
Metal (not aluminium) – IP.3 2.5 L
Glass ampoule – IP.8 0.5 L

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Y617 PACKING INSTRUCTION Y617 Y617

(91.1.8 d) and 1.1.17 16

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.1 L
	Plastic – IP.2	0.1 L
	Metal (not aluminium) – IP.3	0.1 L
	Glass ampoule – IP.8	0.1 L

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid plastic box

618 PACKING INSTRUCTION 618 618

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 L
	Plastic – IP.2	5 L
	Metal – IP.3, IP.3A	10 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Plastic drum – 1H1
Plastic jerrican – 3H1
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200

619 PACKING INSTRUCTION 619 619

The general packing requirements of Part 3, Chapter 1 must be met.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Combination packagings:

Inner	Glass or earthenware – IP.1	5 kg
	Plastic – IP.2	10 kg
	Metal – IP.3, IP.3A	10 kg
	Paper – IP.4	5 kg
	Plastic bag – IP.5	5 kg
	Fibre – IP.6	5 kg
	Glass ampoule – IP.8	0.5 kg
	Paper, plastic/aluminium – IP.10	5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D with inner plastic liner
Fibre drum – 1G with inner plastic liner
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Woven plastic bag – 5H2, 5H3
Plastic film bag – 5H4
Paper bags – 5M2
Composites (plastic) – all

Y619 PACKING INSTRUCTION Y619 Y619

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8 d) and 1.1.1 7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	1 kg
	Metal – IP.3, IP.3A	1 kg
	Paper – IP.4	1 kg
	Plastic bag – IP.5	1 kg
	Fibre – IP.6	1 kg
	Glass ampoule – IP.8	0.5 kg
	Paper, plastic/aluminium – IP.10	1 kg

H ~~An IP.5 inner packaging is forbidden in an expanded plastic box outer packaging.~~

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Plastic box

620 PACKING INSTRUCTION 620 620

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 L
	Plastic – IP.2	5 L
	Metal (not aluminium) – IP.3	10 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Single packagings:

Steel drum – 1A1
Steel jerrican – 3A1
Plastic drum – 1H1
Plastic jerrican – 3H1
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200

621 PACKING INSTRUCTION 621 621

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Plastic – IP.2	1 Kg
	Plastic bag – IP.5	1 kg
Outer	Fibre drum – 1G ←	Plastic drum – 1H2 Wooden box – 4C1 Plywood box – 4D Fibreboard box – 4G

Single packagings:

Fibre drum, sift-proof – 1G
Fibre drum – 1G with inner plastic liner
Plastic drum – 1H2

Y621 PACKING INSTRUCTION Y621 Y621

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2, 1.1.8 (d) and 1.1.16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Plastic – IP.2	500 g
	Plastic bag – IP.5	500 g
Outer	Fibre drum	Plywood box
	Plastic drum	Fibreboard box
	Wooden box	

A

622

PACKING INSTRUCTION 622

622

The general packing requirements of Part 3, Chapter 1 must be met.

Consignments ~~of clinical waste and medical waste~~ must be packed in steel drums (1A2), aluminium drums (1B2), plywood drums (1D), fibre drums (1G), plastic drums (1H2), steel jerricans (3A2), plastic jerricans (3H2), wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F) or fibreboard boxes (4G). Packagings must meet Packing Group II requirements.

The packaging tests may be those appropriate for solids when:

a) there is less than 20 mL of liquid in any one receptacle;

b) the packagings are capable of retaining liquids; and

c) the total amount of liquid in the package is less than 10% of the total volume of the package.

In all other circumstances, the packaging tests must be those appropriate for liquids.

Packagings intended to contain sharp objects, such as broken glass and needles must be resistant to puncture and retain liquids under the performance test conditions for the packaging.

— Consignments must be prepared in such a manner that they arrive at their destination in good condition and present no hazard to persons or animals during transport.

{ Packing Instruction 623 re-located to page 5-3-8-3 in DP/7 }

Delete page 3-8-18B in DP/6

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
~~1719~~	~~0.5~~	~~0.5~~	~~0.5~~	~~No~~	~~0.25~~	
~~1754~~	~~0.5~~	~~0.5~~	~~0.5~~	~~0.5~~	~~0.25~~	~~2,7,13~~
1758	0.5	0.5	0.5	No	0.25	2,5,13
1760	0.5	0.5	0.5	No	0.25	2,13
1777	0.5	0.5	0.5	0.5	0.25	2,5,7,13,21
1790	No	0.5	0.5	No	No	2,5
~~1834~~	~~0.5~~	~~0.5~~	~~0.5~~	~~0.5~~	~~0.25~~	~~2,5,13~~
2031	1	1	No	No	0.5	2,13
2240	0.5	0.5	0.5	No	0.25	2,5,13
2604	0.5	0.5	0.5	0.5	0.25	13
2699	0.5	0.5	0.5	No	0.25	2,5,13,21
2734	0.5	0.5	0.5	No	0.25	2,13
2735	0.5	0.5	0.5	No	0.25	2,13
2879	0.5	0.5	0.5	No	0.25	2,5,13
2920	0.5	0.5	0.5	No	0.25	2,13
2922	0.5	0.5	0.5	No	0.25	2,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

7 When aluminium or aluminium alloys are used they must be resistant to corrosion.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

3145	0·5	0·5	0·5	No	0·25	2.13
3264	0·5	0·5	0·5	No	0·25	2.13
3265	0·5	0·5	0·5	No	0·25	2,13
3266	0·5	0·5	0·5	No	0·25	2,13
3267	0·5	0·5	0·5	No	0·25	2,13
3301	0·5	0·5	0·5	No	0·25	2,13

Y807 PACKING INSTRUCTION Y807 Y807

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (و 1.1.8 d) and 1.1.1.7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
2031	0.1	0.1	No	No	0.1	2,13

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Plastic drum
Plastic jerrican
Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Solid plastic box

Particular packing requirements:

F 2 Plastic inner packagings must be packed in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal (or rigid plastic) receptacles before packing in outer packagings.

808 PACKING INSTRUCTION 808 808

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

Glass or earthenware – IP.1 1 L
Plastic – IP.2 1 L
Metal – IP.3, IP.3A 1 L
Glass ampoule – IP.8 0.5 L

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Y808

PACKING INSTRUCTION Y808

Y808

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.1 L
	Plastic – IP.2	0.1 L
	Metal – IP.3, IP.3A	0.1 L
	Glass ampoule – IP.8	0.1 L

Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid plastic box

809

PACKING INSTRUCTION 809

809

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Metal (not aluminium) IP.3 (L)*	*Aluminium IP.3A (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
1715	1	1	1	1	0.5	2,5,7,13
1719	1	1	1	No	0.5	
~~1722~~	~~1~~	~~1~~	~~No~~	~~No~~	~~0.5~~	~~13~~
1739	1	1	No	No	0.5	13
1740	No	1	1	No	No	
1744	1	1	No	No	0.5	2,13
~~1754~~	~~1~~	~~1~~	~~1~~	~~1~~	~~0.5~~	~~2,7,13~~
1758	1	1	1	No	0.5	2,5,13
1760	1	1	1	No	0.5	2,13
1764	1	1	1	No	0.5	2,5,13
1765	1	1	1	No	0.5	2,5,13
1768	No	1	1	No	No	2,5
1774	1	1	No	No	0.5	
1775	1	1	1	No	0.5	2,5,21
1776	1	1	1	No	0.5	2,5,21
1777	1	1	1	1	0.5	2,5,7,13,21
1778	1	1	1	No	0.5	2,5,21
1782	1	1	1	No	0.5	2,5,21
1786	No	1	1	No	No	2,5
1787	1	1	No	No	0.5	2,13
1788	1	1	No	No	0.5	2,13
1789	1	1	No	No	0.5	2,13
1790	No	1	1	No	No	2,5
1791	1	1	1	No	0.5	5
1796	1	No	1	No	0.5	5,13
1798	1	No	No	No	0.5	13

(cont.)

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1803	1	1	No	No	0.5	
1811	No	1	1	No	No	
1814	1	1	1	No	0.5	
1818	1	1	No	No	0.5	2,13
1824	1	1	1	No	0.5	
1826	1	No	1	No	0.5	5,13
1828	1	1	1	1	0.5	5,7,13
1830	1	1	1	No	0.5	5,13
~~1831~~	~~1~~	~~1~~	~~1~~	~~No~~	~~0.5~~	~~2,5,13~~
~~1834~~	~~1~~	~~1~~	~~1~~	~~1~~	~~0.5~~	~~2,5,13~~
~~1836~~	~~1~~	~~1~~	~~1~~	~~No~~	~~0.5~~	~~2,7,13~~
1908	1	1	1	No	0.5	2,13
1940	1	1	1	No	0.5	5
2031	1	No	No	No	0.5	13
2240	1	1	1	No	0.5	2,5,13
2258	1	1	1	No	0.5	2,13
2308	1	1	1	No	0.5	2,5,13
~~2438~~	~~1~~	~~1~~	~~1~~	~~No~~	~~0.5~~	~~2,5,13~~
2439	No	1	1	No	No	
2444	1	1	1	No	0.5	2,5,13
2502	1	1	1	No	0.5	2,5,13
2564	1	1	1	No	0.5	2,5,13
2604	1	1	1	1	0.5	
2677	1	1	1	No	0.5	
2679	1	1	1	No	0.5	
2681	1	1	1	No	0.5	
2692	1	1	1	No	0.5	2,5,13
2699	1	1	1	No	0.5	5,13,21
2734	1	1	1	No	0.5	2,13
2735	1	1	1	No	0.5	2,13
2789	1	1	1	1	0.5	2,5,7,13
2790	1	1	1	1	0.5	2,5,7,13
2796	1	1	1	No	0.5	5,13
2797	1	1	1	No	0.5	
2817	No	1	1	No	No	
2837	1	1	1	No	0.5	
2879	1	1	1	No	0.5	2,5,13
2920	1	1	1	No	0.5	2,13
2922	1	1	1	No	0.5	2,13
3093	1	1	1	No	0.5	2,5,13
3094	1	1	1	No	0.5	2,5,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

7 When aluminium or aluminium alloys are used they must be resistant to corrosion.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

3145	1	1	1	No	0.5	2,13
3264	1	1	1	No	0.5	2,13
3265	1	1	1	No	0.5	2,13
3266	1	1	1	No	0.5	2,13
3267	1	1	1	No	0.5	2,13
3301	1	1	1	No	0.5	2,13

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3:1.1.2 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1715	0.1	0.1	0.1	0.1	0.1	2,5,7,13
1719	0.1	0.1	0.1	No	0.1	13
1740	No	0.1	0.1	No	No	
1764	0.1	0.1	0.1	No	0.1	2,5,13
1765	0.1	0.1	0.1	No	0.1	2,5,13
1768	No	0.1	0.1	No	No	2,5
1774	0.1	0.1	No	No	0.1	13
1775	0.1	0.1	0.1	No	0.1	2,5,13,21
1776	0.1	0.1	0.1	No	0.1	2,5,13,21
1778	0.1	0.1	0.1	No	0.1	2,5,13,21
1782	0.1	0.1	0.1	No	0.1	2,5,13,21
1787	0.1	0.1	No	No	0.1	2,13
1788	0.1	0.1	No	No	0.1	2,13
1789	0.1	0.1	No	No	0.1	2,13
1790	No	0.1	0.1	No	No	2,5
1791	0.1	0.1	0.1	No	0.1	5,13
1803	0.1	0.1	No	No	0.1	13
1811	No	0.1	0.1	No	No	
1814	0.1	0.1	0.1	No	0.1	13
1818	0.1	0.1	No	No	0.1	2,13
1824	0.1	0.1	0.1	No	0.1	13
1830	0.1	0.1	0.1	No	0.1	5,13
1908	0.1	0.1	0.1	No	0.1	2,13
1940	0.1	0.1	0.1	No	0.1	5,13
2258	0.1	0.1	0.1	No	0.1	2,13
2308	0.1	0.1	0.1	No	0.1	2,5,13
~~2438~~	~~0.1~~	~~0.1~~	~~0.1~~	~~No~~	~~0.1~~	~~2,5,13~~
2439	No	0.1	0.1	No	No	
2502	0.1	0.1	0.1	No	0.1	2,5,13
2564	0.1	0.1	0.1	No	0.1	2,5,13
2677	0.1	0.1	0.1	No	0.1	13
2679	0.1	0.1	0.1	No	0.1	13
2681	0.1	0.1	0.1	No	0.1	13
2789	0.1	0.1	0.1	0.1	0.1	2,5,7,13
2790	0.1	0.1	0.1	0.1	0.1	2,5,7,13
2796	0.1	0.1	0.1	No	0.1	5,13
2797	0.1	0.1	0.1	No	0.1	13
2817	No	0.1	0.1	No	No	
2837	0.1	0.1	0.1	No	0.1	13
3093	0.1	0.1	0.1	No	0.1	2,5,13

Outer

Steel drum	Plastic jerrican
Aluminium drum	Wooden box
Steel jerrican	Plywood box
Plywood drum	Reconstituted wood box
Fibre drum	Fibreboard box
Plastic drum	Solid plastic box

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

When aluminium or aluminium alloys are used they must be resistant to corrosion.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1826	2.5	No	2.5	No	0.5	5,13
1830	2.5	2.5	2.5	No	0.5	5,13
1832	2.5	2.5	2.5	No	0.5	5,13
1837	2.5	2.5	2.5	No	0.5	5,13
1838	2.5	2.5	No	No	0.5	2,13
1906	2.5	2.5	2.5	No	0.5	5,13
1908	2.5	2.5	2.5	No	0.5	2,13
1940	2.5	2.5	2.5	No	0.5	
2031	2.5	2.5	No	No	0.5	2,13
2258	2.5	2.5	2.5	No	0.5	2,13
2308	2.5	2.5	2.5	No	0.5	2,5,13
2435	2.5	2.5	2.5	No	0.5	5
~~2438~~	~~2.5~~	~~2.5~~	~~2.5~~	~~No~~	~~0.5~~	~~2,5,13~~
2439	No	2.5	2.5	No	No	
2443	2.5	2.5	2.5	No	0.5	2,5,13
2502	2.5	2.5	2.5	No	0.5	
2564	2.5	2.5	2.5	No	0.5	2,5,13
2672	5	5	10	No	0.5	
2677	2.5	2.5	2.5	No	0.5	
2679	2.5	2.5	2.5	No	0.5	
2681	2.5	2.5	2.5	No	0.5	
2789	2.5	2.5	2.5	2.5	0.5	2,5,7,13
2790	2.5	2.5	2.5	2.5	0.5	5,7,13
2796	2.5	2.5	2.5	No	0.5	5,13
2797	2.5	2.5	2.5	No	0.5	
2817	No	2.5	2.5	No	No	
2837	2.5	2.5	2.5	No	0.5	
3093	2.5	2.5	2.5	No	0.5	2,5,13
3094	2.5	2.5	2.5	No	0.5	2,5,13
2029	0.5	0.5	2.5	2.5	0.5	2,5,7,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

UN No.	Steel drums 1A1 and cylinders*	Aluminium drums 1B1	Steel jerricans 3A1	Plastic drums 1H1	Plastic jerricans 3H1	Composites (plastic) – all	Particular packing requirements
1715	Yes	Yes	Yes	Yes	Yes	Yes	5,7
1719	Yes	No	Yes	Yes	Yes	Yes	
1724	Yes	No	Yes	No	No	Yes	5
1728	Yes	No	Yes	No	No	Yes	5
1732	Yes	Yes	Yes	No	No	Yes	5,7
1740	Yes	No	Yes	Yes	Yes	Yes	
1747	Yes	No	Yes	No	No	Yes	5
1753	Yes	No	Yes	No	No	Yes	5
1762	Yes	No	Yes	No	No	Yes	5
1763	Yes	No	Yes	No	No	Yes	5
1764	Yes	No	Yes	Yes	Yes	Yes	5
1765	Yes	No	Yes	Yes	Yes	Yes	5
1766	Yes	No	Yes	No	No	Yes	5
1767	Yes	No	Yes	No	No	Yes	5
1768	Yes	No	Yes	No	No	Yes	5
1769	Yes	No	Yes	No	No	Yes	5

* Cylinders must be as permitted in Packing Instruction 200

(cont.)

UN No.	Steel drums 1A1 and cylinders*	Aluminium drums 1B1	Steel jerricans 3A1	Plastic drums 1H1	Plastic jerricans 3H1	Composites (plastic) – al'	Particular packing requirements
1771	Yes	No	Yes	No	No	Yes	5
1775	Yes	No	Yes	Yes	Yes	Yes	5
1776	Yes	No	Yes	Yes	Yes	Yes	5
1778	Yes	No	Yes	Yes	Yes	Yes	5
1781	Yes	No	Yes	Yes	Yes	Yes	5
1782	Yes	No	Yes	Yes	Yes	Yes	5
1784	Yes	No	Yes	No	No	Yes	5
1787	No	No	No	No	No	Yes	
1788	No	No	No	No	No	Yes	
1789	No	No	No	Yes	Yes	Yes	
1790	Yes	No	Yes	Yes	Yes	Yes	5
1791	Yes	No	Yes	Yes	Yes	Yes	5
1796	Yes	No	Yes	No	No	No	5
1799	Yes	No	Yes	No	No	Yes	5
1800	Yes	No	Yes	No	No	Yes	5
1801	Yes	No	Yes	No	No	Yes	5
1803	No	No	No	No	No	Yes	
1804	Yes	No	Yes	No	No	Yes	5
1808	Yes	No	Yes	Yes	Yes	Yes	5
1809	Yes	No	Yes	Yes	Yes	Yes	5
1810	Yes	No	Yes	Yes	Yes	Yes	5
1811	Yes	No	Yes	Yes	Yes	Yes	
1814	Yes	No	Yes	Yes	Yes	Yes	
1816	Yes	No	Yes	No	No	Yes	5
1818	No	No	No	Yes	Yes	Yes	
1824	Yes	No	Yes	Yes	Yes	Yes	
1826	Yes	No	Yes	No	No	No	5
1830	Yes	No	Yes	Yes	Yes	Yes	5
1832	Yes	No	Yes	Yes	Yes	Yes	5
1837	Yes	No	Yes	Yes	Yes	Yes	5
1838	Yes	No	Yes	Yes	Yes	Yes	5
1906	Yes	No	Yes	Yes	Yes	Yes	5
1908	No	No	No	Yes	Yes	Yes	
1940	Yes	No	Yes	Yes	Yes	Yes	
2029→2258	Yes	No	Yes	Yes	Yes	Yes	
2308	Yes	No	Yes	Yes	Yes	Yes	5
2435	Yes	No	Yes	No	No	Yes	5
~~2438~~	~~Yes~~	~~No~~	~~Yes~~	~~Yes~~	~~Yes~~	~~Yes~~	~~5~~
2439	Yes	No	Yes	Yes	Yes	Yes	
2443	Yes	No	Yes	No	No	Yes	5
2502	Yes	No	Yes	Yes	Yes	Yes	
2564	Yes	No	Yes	Yes	Yes	Yes	5
2672	Yes	No	Yes	Yes	Yes	Yes	
2677	Yes	No	Yes	Yes	Yes	Yes	
2679	Yes	No	Yes	Yes	Yes	Yes	
2681	Yes	No	Yes	Yes	Yes	Yes	
2789	Yes	Yes	Yes	Yes	Yes	Yes	5,7
2790	Yes	Yes	Yes	Yes	Yes	Yes	5,7
2796	Yes	No	Yes	Yes	Yes	Yes	5
2797	Yes	No	Yes	Yes	Yes	Yes	
2817	Yes	No	Yes	Yes	Yes	Yes	
2837	Yes	No	Yes	Yes	Yes	Yes	
3093	Yes	No	Yes	Yes	Yes	Yes	5
3094	Yes	No	Yes	Yes	Yes	Yes	5
2029	Yes	Yes	Yes	No	No	Yes	5,7

* Cylinders must be as permitted in Packing Instruction 200

(cont.)

813 PACKING INSTRUCTION 813 *(cont.)* 813

Particular packing requirements:

F 2 Plastic inner packagings must be packed in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

7 When aluminium or aluminium alloys are used they must be resistant to corrosion.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

814 PACKING INSTRUCTION 814 814

The general packing requirements of Part 3, Chapter 1 must be met.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	2.5 kg
	Metal – IP.3, IP.3A	2.5 kg
	Plastic bag – IP.5	1 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Y814 PACKING INSTRUCTION Y814 Y814

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.1.7 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 kg
	Plastic – IP.2	0.5 kg
	Metal – IP.3, IP.3A	0.5 kg
	Plastic bag – IP.5	0.5 kg
	Glass ampoule – IP.8	0.5 kg

H ~~An IP.5 inner packaging is forbidden in an expanded plastic box outer packaging.~~

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Plastic box

815

PACKING INSTRUCTION 815

815

The general packing requirements of Part 3, Chapter 1 must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1727	1	2.5	2.5	No	0.5	21
1740	1	2.5	2.5	No	0.5	21
1807	1	2.5	2.5	No	0.5	5
1811	1	2.5	2.5	No	0.5	21
1839	1	2.5	2.5	No	0.5	5
1938	1	2.5	2.5	No	0.5	5
2439	1	2.5	2.5	No	0.5	21
2509	1	2.5	2.5	No	0.5	5
2869	1	2.5	2.5	No	0.5	5
2949	1	2.5	2.5	2.5	0.5	5

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Plastic box – 4H1, 4H2

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

Y815

PACKING INSTRUCTION Y815

Y815

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8d) and 1.1.17 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Aluminium IP.3A (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1727	0.5	0.5	0.5	No	0.5	21
1740	0.5	0.5	0.5	No	0.5	21
1807	0.5	0.5	0.5	No	0.5	5
1811	0.5	0.5	0.5	No	0.5	21
1839	0.5	0.5	0.5	No	0.5	5
1938	0.5	0.5	0.5	No	0.5	5
2439	0.5	0.5	0.5	No	0.5	21
2509	0.5	0.5	0.5	No	0.5	5
2869	0.5	0.5	0.5	No	0.5	5
2949	0.5	0.5	0.5	0.5	0.5	5

(cont.)

Y815 PACKING INSTRUCTION Y815 *(cont.)* Y815

Outer

- Steel drum
- Aluminium drum
- Steel jerrican
- Plywood drum
- Fibre drum
- Plastic drum
- Plastic jerrican
- Wooden box
- Plywood box
- Reconstituted wood box
- Fibreboard box
- Plastic box

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

816 PACKING INSTRUCTION 816 816

The general packing requirements of Part 3, Chapter 1 must be met.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Combination packagings:

Inner

Glass or earthenware – IP.1	2.5 kg
Plastic – IP.2	5 kg
Metal – IP.3, IP.3A	5 kg
Plastic bag – IP.5	2.5 kg
Glass ampoule – IP.8	0.5 kg

Outer

- Steel drum – 1A2
- Aluminium drum – 1B2
- Steel jerrican – 3A2
- Plywood drum – 1D
- Fibre drum – 1G
- Plastic drum – 1H2
- Plastic jerrican – 3H2
- Wooden box – 4C1, 4C2
- Plywood box – 4D
- Reconstituted wood box – 4F
- Fibreboard box – 4G
- Plastic box – 4H1, 4H2

Single packagings:

- Steel drum – 1A1, 1A2
- Aluminium drum – 1B1, 1B2
- Steel jerrican – 3A1, 3A2
- Plywood drum – 1D with inner plastic liner
- Fibre drum – 1G with inner plastic liner
- Plastic drum – 1H1, 1H2
- Plastic jerrican – 3H1, 3H2
- Composites (plastic) – all

818 PACKING INSTRUCTION 818 818

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	2.5 L
	Plastic – IP.2	2.5 L
	Metal – IP.3, IP.3A	5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Wooden box – 4C1, 4C2
	Aluminium drum – 1B2	Plywood box – 4D
	Steel jerrican – 3A2	Reconstituted wood box – 4F
	Plywood drum – 1D	Fibreboard box – 4G
	Fibre drum – 1G	Expanded plastic box – 4H1
	Plastic drum – 1H2	Solid plastic box – 4H2
	Plastic jerrican – 3H2	

Y818 PACKING INSTRUCTION Y818 Y818

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.8 d) and 1.1.1 7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	0.5 L
	Plastic – IP.2	0.5 L
	Metal – IP.3, IP.3A	0.5 L
	Glass ampoule – IP.8	0.5 L

Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

Outer	Steel drum	Wooden box
	Aluminium drum	Plywood box
	Steel jerrican	Reconstituted wood box
	Plywood drum	Fibreboard box
	Fibre drum	Expanded plastic box
	Plastic drum	Solid plastic box
	Plastic jerrican	

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1719	2.5	2.5	2.5	0.5	
1740	2.5	2.5	2.5	0.5	21
1774	2.5	2.5	No	0.5	
1787	2.5	2.5	No	0.5	~~2~~,13
1788	2.5	2.5	No	0.5	~~2~~,13
1789	2.5	2.5	No	0.5	~~2~~,13
1791	2.5	2.5	2.5	0.5	5
1805	2.5	2.5	2.5	0.5	5
1814	2.5	2.5	2.5	0.5	
1824	2.5	2.5	2.5	0.5	
2564	2.5	2.5	2.5	0.5	~~2~~,5,13
2672	2.5	2.5	5	0.5	
2677	2.5	2.5	2.5	0.5	
2679	2.5	2.5	2.5	0.5	
2681	2.5	2.5	2.5	0.5	
2817	2.5	2.5	2.5	0.5	21
2837	2.5	2.5	2.5	0.5	
1908	2.5	2.5	2.5	0.5	13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Expanded plastic box – 4H1
Solid plastic box – 4H2

Particular packing requirements:

~~2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.~~

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

3-10-18

Y819 PACKING INSTRUCTION Y819 **Y819**

H The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 do not apply. 1.1.8d) and 1.1.7 16

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1719	0.5	0.5	0.5	0.5	13
1740	0.5	0.5	0.5	0.5	13,21
H 1787	0.5	0.5	No	0.5	2,13
H 1788	0.5	0.5	No	0.5	2,13
H 1789	0.5	0.5	No	0.5	2,13
1791	0.5	0.5	0.5	0.5	5,13
1805	0.5	0.5	0.5	0.5	5,13
1814	0.5	0.5	0.5	0.5	13
1824	0.5	0.5	0.5	0.5	13
H 1908→ 2564	0.5	0.5	0.5	0.5	2,5,13
2672	0.5	0.5	0.5	0.5	13
2677	0.5	0.5	0.5	0.5	13
2679	0.5	0.5	0.5	0.5	13
2681	0.5	0.5	0.5	0.5	13
2817	0.5	0.5	0.5	0.5	13,21
2837	0.5	0.5	0.5	0.5	13
A 1908	0.5	0.5	0.5	0.5	13

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Plastic drum
Plastic jerrican

Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Expanded plastic box
Solid plastic box

Particular packing requirements:

H ~~2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.~~

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

820 PACKING INSTRUCTION 820 820

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 L
	Plastic – IP.2	5 L
	Metal – IP.3, IP.3A	10 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Wooden box – 4C1, 4C2
	Aluminium drum – 1B2	Plywood box – 4D
	Steel jerrican – 3A2	Reconstituted wood box – 4F
	Plywood drum – 1D	Fibreboard box – 4G
	Fibre drum – 1G	Expanded plastic box – 4H1
	Plastic drum – 1H2	Solid plastic box – 4H2
	Plastic jerrican – 3H2	

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Plastic drum – 1H1
Plastic jerrican – 3H1
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200

821 PACKING INSTRUCTION 821 821

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Combination packagings:

Inner

	UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Metal (not aluminium) IP.3 (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
	1719	5	5	5	0.5	
	1740	5	5	5	0.5	21
H	1787	5	5	No	0.5	~~2~~ 13
H	1788	5	5	No	0.5	~~2~~ 13
H	1789	5	5	No	0.5	~~2~~ 13
H	1791	5	5	5	0.5	5
	1805	5	5	5	0.5	5
	1814	5	5	5	0.5	
	1824	5	5	5	0.5	
H	1908→ 2564	5	5	5	0.5	~~2~~ 5,13
	2677	5	5	5	0.5	
	2679	5	5	5	0.5	
	2681	5	5	5	0.5	
	2817	5	5	5	0.5	21
	2837	5	5	5	0.5	
A	1908	5	5	5	0.5	13

(cont.)

821 PACKING INSTRUCTION 821 *(cont.)* 821

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Expanded plastic box – 4H1
Solid plastic box – 4H2

Single packagings:

UN No.	Steel drums 1A1	Steel jerricans 3A1	Plastic drums 1H1	Plastic jerricans 3H1	Composites (plastic)— all	Cylinders (PI 200)	Particular packing requirements
1719	Yes	Yes	Yes	Yes	Yes	Yes	5
1740	Yes	Yes	Yes	Yes	Yes	Yes	
1787	No	No	No	No	Yes	No	
1788	No	No	No	No	Yes	No	
1789	No	No	Yes	Yes	Yes	No	
1791	Yes	Yes	Yes	Yes	Yes	Yes	5
1805	Yes	Yes	Yes	Yes	Yes	Yes	5
1814	Yes	Yes	Yes	Yes	Yes	Yes	
1824	Yes	Yes	Yes	Yes	Yes	Yes	
1908 → 2564	Yes	Yes	Yes	Yes	Yes	Yes	5
2677	Yes	Yes	Yes	Yes	Yes	Yes	5
2679	Yes	Yes	Yes	Yes	Yes	Yes	
2681	Yes	Yes	Yes	Yes	Yes	Yes	5
2817	Yes	Yes	Yes	Yes	Yes	Yes	5
2837	Yes	Yes	Yes	Yes	Yes	Yes	
A 1908	~~No~~ Yes	~~No~~ Yes	Yes	Yes	Yes	~~No~~ Yes	

Particular packing requirements:

H ~~2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.~~

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

F 13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal or rigid plastic receptacles before packing in outer packagings.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

822 PACKING INSTRUCTION 822 822

The general packing requirements of Part 3, Chapter 1 must be met.

H ~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

All of the following packagings must meet Packing Group II performance requirements.

Single packagings are not permitted.

Combination packagings:

Inner

Glass or earthenware – IP.1	2.5 kg
Plastic – IP.2	2.5 kg
Metal – IP.3, IP.3A	5 kg
Plastic bag – IP.5	2.5 kg
Glass ampoule – IP.8	0.5 kg

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Plastic box – 4H1, 4H2

Y822 PACKING INSTRUCTION Y822 Y822

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (1.1.1.8 d) and 1.1.1.7 (b)) do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	1 kg
	Plastic – IP.2	1 kg
	Metal – IP.3, IP.3A	1 kg
	Plastic bag – IP.5	1 kg
	Glass ampoule – IP.8	0.5 kg

~~An IP.5 inner packaging is forbidden in an expanded plastic box outer packaging.~~

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Plastic box

823 PACKING INSTRUCTION 823 823

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Combination packagings:

Inner	Glass or earthenware – IP.1	5 kg
	Plastic – IP.2	5 kg
	Metal – IP.3, IP.3A	10 kg
	Plastic bag – IP.5	5 kg
	Glass ampoule – IP.8	0.5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D with inner plastic liner
Fibre drum – 1G with inner plastic liner
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Composites (plastic) – all

825 PACKING INSTRUCTION 825 825

The general packing requirements of Part 3, Chapter 1 must be met.

All of the following packagings must meet Packing Group II performance requirements.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1740	2.5	5	5	0.5	21
2869	2.5	5	5	0.5	5

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Plastic box – 4H1, 4H2

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

Y825 PACKING INSTRUCTION Y825 Y825

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 1.1.8d and 1.1.17 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1740	1	1	1	0.5	21
2869	1	1	1	0.5	5

Outer

Steel drum
Aluminium drum
Steel jerrican
Plywood drum
Fibre drum
Plastic drum
Plastic jerrican
Wooden box
Plywood box
Reconstituted wood box
Fibreboard box
Plastic box

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

902 PACKING INSTRUCTION 902 902

Magnetized material will be accepted only when:

a) devices such as magnetrons and light meters have been packed so that the polarities of the individual units oppose one another;

b) permanent magnets, where possible, have keeper bars installed;

c) the magnetic field strength at a distance of 4.6 m from any point on the surface of the assembled consignment:

1) does not exceed 0.418 A/m; or

2) produces a magnetic compass deflection of 2 degrees or less.

Determination of shielding requirements

The magnetic field strength of magnetized materials may be measured using an oersted meter having a sensitivity sufficient to measure magnetic fields greater than 0.0398 A/m within a tolerance of plus or minus 5 per cent, or with a magnetic compass sensitive enough to read a 2 degree variation, preferably in 1 degree increments or finer.

a) When an oersted meter is used, it is placed on one of two points positioned 4.6 m apart and located in an area that is free from magnetic interference other than the earth's magnetic field. The oersted meter is then aligned with the second point and "balanced" to a zero reading. The magnetic article is then placed on the other point and the magnetic field strength is measured by reading the meter while rotating the package 360 degrees in its horizontal plane. If the maximum field strength observed is 0.418 A/m or less, the article is acceptable for air transport. When the maximum field strength exceeds 0.418 A/m, shielding should be applied until a reading of 0.418 A/m or less has been attained.

b) When a magnetic compass is used as a sensing device, it should be placed on one of two points positioned 4.6 m apart which are aligned in an East/West direction and in an area that is free from any magnetic interference other than the earth's magnetic field. The packaged item to be tested is placed on the other point and rotated 360 degrees in its horizontal plane for indication of compass deflection. When the maximum compass deflection observed is 2 degrees or less, the article is acceptable for air transport. When the maximum compass deflection of an item exceeds 2 degrees, shielding must be applied until the maximum deflection is not more than two degrees.

c) To determine if a magnetized article meets the definition of a magnetized material, either of the above two methods may be used. If the maximum field strength observed at a distance of 2.1 m is less than 0.159 A/m or there is no significant compass deflection (less than 0.5 degree), the article is not restricted as a magnetized material.

Note.— For loading restrictions, see Part 5;2.10.

903 PACKING INSTRUCTION 903 903

Cells and batteries may only be transported under this packing instruction provided they meet the tests described below. Cells must not contain more than 3 g of lithium for passenger aircraft or 12 g of lithium for cargo aircraft. Cells and batteries must be equipped with an effective means of preventing external short circuits. Each cell and battery must incorporate a safety venting device or be designed in such a manner that will preclude a violent rupture under conditions normally incident to transport. The design of cells and batteries not equipped with a safety venting device must be approved by the appropriate national authority. Batteries containing cells or series of cells connected in parallel must be equipped with diodes to prevent reverse current flow.

Cells which have been discharged to the extent that the open circuit voltage is less than the lower of:

a) 2 volts; or

b) 2/3 of the voltage of the undischarged cell

or batteries containing one or more such cells, may not be transported under this packing instruction.

The general packing requirements of Part 3, Chapter 1 must be met. Cells or batteries must be packed in strong inner fibreboard packaging with not more than 125 g of lithium in each packaging for passenger aircraft or 500 g of lithium in each packaging for cargo aircraft. They must be packed in inner packagings in such a manner as to effectively prevent short circuits and be securely cushioned so as to prevent movement which could lead to short circuits. Except as otherwise provided for below, the inner fibreboard packagings must be packed in 1A2 steel drums with gas tight gasket. The inner fibreboard packagings must be separated from each other and from the inner surfaces of the steel drum by at least a 25 mm thickness of non-combustible cushioning material.

(cont.)

903 PACKING INSTRUCTION 903 *(cont.)* 903

Lithium cells and batteries may only be transported under this Packing Instruction provided that the following tests, or equivalent tests, as established by the appropriate national authority, are successfully conducted.

Test 1

The cell or battery must be subjected to a thermal stability test at 75°C for 48 hours and must show no evidence of distortion, leakage, or internal heating.

This test must be performed on at least 10 cells and 1 battery of each type taken from each week's production, or as established by the appropriate national authority.

Test 2

Under application of a direct short, the cell or battery must be rendered inert, preferably without venting (through the use of internal fusing devices). If venting does occur, an open flame must be applied to the venting fumes to prove that an explosive condition does not exist.

This test must be performed on at least 3 cells and 1 battery of each type taken from each week's production, or as established by the appropriate national authority.

Cells, and batteries constructed of cells, which have a solid cathode or which are hermetically sealed and contain thionyl chloride and lithium tetrachloroaluminate or acetonitrile and sulphur dioxide or thionyl chloride/bromine complex or sulphuryl chloride and chlorine, are excepted from tests 1 and 2 above and the requirement to use a 1A2 steel drum as an outer packaging provided that:

1) the inner fibreboard packagings are packed in a 1G fibre drum or a box 4C1, 4C2, 4D, 4F, 4G or 4H2; and

2) prior to the first shipment of cells or batteries, they must be tested in accordance with a) to e) below. Tests other than those specified in a) to e) may be established by the appropriate national authority providing these tests are equivalent. Following the tests there must be no evidence of out-gassing, leakage, loss of weight or distortion of the cells or batteries:

   a) 10 cells or 4 batteries of each type to be offered for transport must be tested;

   b) the cells or batteries must be stored for 6 hours at an absolute pressure of 11.6 kPa and a temperature of 24°C ± 4°C;

   c) the cells or batteries must then be subjected to the thermal stability test at 75°C for 48 hours as required in Test 1;

   d) the cells or batteries must be rigidly clamped to the platform of a vibration machine. A simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) must be applied. The frequency must be varied at the rate of 1 Hz/min between the limits of 10 Hz to 55 Hz. The entire range of frequencies and return must be traversed in 95 ± 5 minutes for each of three mutually perpendicular mounting positions of the battery and two perpendicular positions of the cells. One of the directions of vibration must be perpendicular to the terminal face of the battery or cell. Open circuit voltage must be observed for 30 seconds during the last quarter of each vibration period. Periodic retesting is not required;

   e) the battery must be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of the battery. Each battery must be subjected to a total of three shocks of equal magnitude. The shocks must be applied in each of three mutually perpendicular directions. Each shock must be applied in a direction normal to a face of the battery. For each shock, the battery must be accelerated in such a manner that during the first 3 milliseconds the minimum average acceleration is 75 g (where g is the local acceleration due to gravity). The peak acceleration must be between 125 g and 175 g.

904 PACKING INSTRUCTION 904 904

Solid carbon dioxide (dry-ice) when offered for transport by air must be packed in accordance with the general packing requirements of Part 3, Chapter 1 and be in packaging designed and constructed to permit the release of carbon dioxide gas to prevent a build-up of pressure that could rupture the packaging. Arrangements between shipper and operator(s) must be made for each shipment, to ensure that ventilation safety procedures are followed. The dangerous goods transport document requirements of Part 4, Chapter 1 are not applicable provided alternative documentation containing the information required by 4;4.1 ~~is supplied~~ excluding the packing instruction number and packing group, is supplied.

Note.— For loading restrictions see Part 5;2.11.

For special marking requirement see Part 4;2.4.7.

A

PACKING INSTRUCTION 903

In this Packing Instruction, "Tests and Criteria Manual" means the United Nations Recommendations on the Transport of Dangerous Goods: *Tests and Criteria (UN Document ST/SG/AC.10/11).*

The general packing requirements of Part 3, Chapter I must be met.

Lithium cells and batteries may only be transported under this Packing Instruction if they meet the following requirements:

(a) cells must not contain more than 3 g of lithium or lithium alloy for passenger aircraft or 12 g of lithium or lithium alloy for cargo aircraft;

(b) batteries must not contain more than 125 g of lithium or lithium alloy for passenger aircraft or 500 g of lithium or lithium alloy for cargo aircraft;

(c) each cell and battery must incorporate a safety venting device or be designed in such a manner as to preclude a violent rupture under conditions normally incident to transport;

(d) each call and battery must be equipped with an affective means of preventing external short circuits;

(e) each battery containing cells or series of cells connected in parallel must be equipped with diodes to prevent reverse current flow;

(f) cells and batteries must be packed in strong inner packagings, each packaging must not contain more than 125 g of lithium or lithium alloy for passenger aircraft or 500 g of lithium or lithium alloy for cargo aircraft;

(g) cells and batteries must be packed in the inner packagings in such a manner as to effectively prevent short circuits and to prevent movement which could lead to short circuits;

(h) inner packagings must be packed in metal drums of Packing Group II, each drum must be fitted with a gas-tight gasket;

(i) inner packagings must be separated from each other and from the inner surfaces of the metal drums by at least a 25 mm thickness of non-combustible cushioning material;

(j) ten cells and one battery of each type taken from each week's production must be subject to extreme temperature exposure and the short circuit test procedures in the Tests and Criteria Manual. Equivalent tests are permitted when approved by the appropriate authority of the State of origin. There must be no evidence of distortion, leakage or internal heating in conducting the extreme temperature exposure test procedure. In conducting the short circuit test procedure, if venting occurs, an open flame applied to venting fumes must not produce an explosive condition;

(k) cells and batteries are excepted from subparagraphs (h), (i) and (j) above if they are hermetically sealed providing that, prior to the first consignment, 10 cells or 4 batteries of each type are subjected in sequence to the altitude simulation, extreme temperature exposure, vibration and shock test procedures described in the Tests and Criteria Manual. Equivalent tents are permitted when approved by the appropriate authority of the State of origin. There must be no visible evidence of out-gassing, leakage, lose of mass or distortion;

(l) cells and batteries excepted from paragraph (h) must be packed in steel drums (1A2), aluminum drums (1B2), steel jerricans (3A2), wooden boxes (4C1, 4C2), fibreboard boxes (4G), plywood boxes (4G), reconstituted wood boxes (4F), solid plastic boxes (4H2), plywood drums (1D) or fibre drums (1G) of Packing Group II;

(m) cells and batteries are excepted from subparagraph (j) if they are assigned to Class 9 on the basis of tests carried out in accordance with the Tests and Criteria Manual.

Batteries and cells for which the first consignment is made after 1 January 1995 may only be assigned to Class 9 on the basis of tests carried out in accordance the Tests and Criteria Manual.

Cells assigned to Class 9 which have been discharged to the extent that the open circuit voltage is less than the lower of:

(a) 2 volts; or

(b) 2/3 of the voltage of the undischarged cell

or batteries containing one or more such cells, are forbidden from transport."

905 PACKING INSTRUCTION 905 905

The description 'Life-saving appliances, self-inflating' (UN 2990) is intended to apply to life-saving appliances that present a hazard if the self-inflating device is activated accidentally.

Life-saving appliances, such as life-rafts, aircraft survival kits or aircraft evacuation slides, may be carried when packed in strong outer packagings and may contain dangerous goods in inner packagings packed so as to prevent movement and as listed below:

a) Division 2.2, compressed gases, without subsidiary risk, in cylinders as permitted in Packing Instruction 200; these may be connected to the life-saving appliance;

b) signal devices (Class 1), which may include smoke and illumination signal flares; signal devices must be packed in plastic or fibreboard inner packagings;

c) small quantities of flammable substances, corrosive solids and organic peroxides (Class 3, Class 8, Division 4.1 and 5.2), which may include a repair kit and not more than 30 strike-anywhere matches. The organic peroxide may only be a component of a repair kit and the kit must be packed in strong inner packaging. The strike-anywhere matches must be packed in a cylindrical metal or composition packaging with a screw-type closure and be cushioned to prevent movement;

d) electric storage batteries (Class 8); and

A e) first aid kits which may include flammable, corrosive and ~~poisonous~~ toxic articles or substances.

Self-inflating life vests with small carbon dioxide cylinders attached must be packed in strong outer packagings so that they cannot be accidentally activated. Passenger restraint systems consisting of a cylinder charged with a non-liquefied, non-flammable compressed gas and no more than two actuating cartridges per passenger restraint system that meet the requirements of the State of Manufacture must be packed in strong outer packagings so they cannot be accidentally activated.

J Life-saving appliances may also include ~~non-dangerous~~ articles and substances not subject to these Instructions which are an integral part of the appliance.

Note.— For loading restrictions for self-inflating life-saving appliances see Part 5;2.13.

906 PACKING INSTRUCTION 906 906

The general packing requirements of Part 3, Chapter 1 must be met.

907 PACKING INSTRUCTION 907 907

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 L
	Plastic – IP.2	5 L
	Metal – IP.3, IP.3A	10 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Solid plastic box – 4H2

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Plastic drum – 1H1, 1H2 – not permitted for UN 1941
Plastic jerrican – 3H1, 3H2 – not permitted for UN 1941
Composites (plastic) – all

Y907 PACKING INSTRUCTION Y907 Y907

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (9 1.1.8 d) and 1.1.1.7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 L
	Plastic – IP.2	5 L
	Metal – IP.3, IP.3A	5 L
	Glass ampoule – IP.8	0.5 L

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Solid Plastic box

908 PACKING INSTRUCTION 908 908

The general packing requirements of Part 3, Chapter 1 must be met.

Polymeric beads or granules, expandable, impregnated with flammable gas or liquid as a blowing agent and plastic moulding materials in dough, sheet or extruded rope form must be packed in wooden (4C1, 4C2), plywood (4D), fibreboard (4G) or reconstituted wood (4F) boxes with sealed inner plastic liner, plywood drums (1D), fibre drums (1G) with sealed inner plastic liner or in metal (1A1, 1A2, 1B1, 1B2) packagings.

Note:— For loading restrictions see Part 5;2.12.

909 PACKING INSTRUCTION 909 909

The general packing requirements of Part 3, Chapter 1 must be met.

Ammonium nitrate fertilizers (UN 2071) must be carried in:

a) rigid, sift-proof packagings (1A2, 1B2, 3A2, 1D, 1G, 1H2, 3H2 or 4C2); or

b) 5L2, 5L3, 5H2, 5H3 or 5H4 bags.

White asbestos (UN 2590) must be carried in:

a) rigid, sift-proof packagings (1A2, 1B2, 3A2, 1D, 1G, 1H2, 3H2, 4C2, 4D, 4G, 4F, 4H1 or 4H2); or

b) 5L2, 5L3, 5H2, 5H3 or 5H4 bags, which must be palletized and unitized by methods such as shrink-wrapping in plastic film or wrapping in fibreboard secured by strapping.

Y909 PACKING INSTRUCTION Y909 Y909

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3;1.1.2 (9 1.1.8 d) and 1.1.1.7 16 do not apply.

Single packagings are not permitted.

Combination packagings:

Inner	Glass or earthenware – IP.1	5 kg
	Plastic – IP.2	5 kg
	Metal – IP.3, IP.3A	5 kg
	Paper – IP.4	5 kg
	Plastic bag – IP.5	5 kg
	Fibre – IP.6	5 kg
	Paper, plastic/aluminium – IP.10	5 kg

(cont.)

Y909 PACKING INSTRUCTION Y909 *(cont.)* **Y909**

Outer	Steel drum	Plastic jerrican
	Aluminium drum	Wooden box
	Steel jerrican	Plywood box
	Plywood drum	Reconstituted wood box
	Fibre drum	Fibreboard box
	Plastic drum	Plastic box

Consumer commodities are materials that are packaged and distributed in a form intended or suitable for retail sale for purposes of personal care or household use.

910 *PACKING INSTRUCTION 910* **910**

~~Cosmetics, drugs and medicines which are substances that have been manufactured and are packed in packagings of a type intended for retail sale or distribution for personal or household consumption.~~ These include items administered or sold to patients by doctors or medical administrations. Except as otherwise provided below, dangerous goods packed in accordance with this Packing Instruction do not need to comply with Part 3, Chapter 1 or Part 7 of these Instructions; they must, however, comply with all other applicable requirements.

a) Each packaging must be designed and constructed to prevent leakage that may be caused by changes in altitude and temperature during air transport.

b) Inner packagings that are breakable (such as earthenware, glass or brittle plastic) must be packed to prevent breakage and leakage under conditions normally incident to transport. These completed packagings must be capable of withstanding a 1.2 m drop on solid concrete in the position most likely to cause damage.

c) When filling receptacles for liquids, sufficient ullage (outage) must be left to ensure that neither leakage nor permanent distortion of the receptacle will occur as a result of an expansion of the liquid caused by temperatures likely to prevail during transport. Unless specific requirements are prescribed in national rules or international agreements, liquids must not completely fill a receptacle at a temperature of 55°C. At this temperature a minimum ullage of 2 per cent should be left. The primary packaging (which may include composite packaging), for which retention of the liquid is a basic function, must be capable of withstanding, without leakage, an internal pressure which produces a pressure differential of not less than 75 kPa or a pressure related to the vapour pressure of the liquid to be conveyed, whichever is the greater. The pressure related to the vapour pressure must be determined by the method shown in Part 3;1.1.6.1. Tests on sample receptacles must be carried out to demonstrate the capability of the primary packaging to withstand the above pressure.

d) Stoppers, corks or other such friction-type closures must be held securely, tightly and effectively in place by positive means. The closure device must be so designed that it is extremely improbable that it can be incorrectly or incompletely closed and must be such that it may be easily checked to determine that it is completely closed.

e) Inner packagings must be tightly packed in strong outer packagings and must be so packed, secured or cushioned as to prevent any breakage, leakage or significant movement within the outer packaging(s) during normal conditions of transport. Absorbent material must be provided for glass or earthenware inner packaging(s) containing ~~cosmetics, drugs and medicines~~ in Class 2 or 3 or liquids of Division 6.1, in sufficient quantity to absorb the liquid contents of the largest of such inner packagings contained in the outer packaging. Absorbent and cushioning material must not react dangerously with the contents of the inner packagings. Notwithstanding the above, absorbent material may not be required if the inner packagings are so protected that breakage of the inner packagings and leakage of their contents from the outer packaging will not occur during normal conditions of transport.

f) Packagings (including closures) in direct contact with dangerous goods must be resistant to any chemical or other action of such goods; the materials of the receptacles must not contain substances which may react dangerously with the contents, form hazardous products or significantly weaken the receptacles.

g) Each completed package as prepared for shipment must not exceed a gross mass of 25 kg.

h) ~~Cosmetics~~ may only include substances of Class 2 (non-~~poisonous~~ aerosols only) and Class 3 (Group II or III)

i) ~~Drugs and medicines may only include substances of Class 2 (non-poisonous aerosols only), Class 3 (Group II or III only) and Division 6.1 (Group III only).~~ and Division 6.1 (packing group III only) provided such substances do not have a subsidiary hazard.

j) Class 2 substances must be further limited to aerosol products containing non-~~poisonous~~ solutions and compressed gas(es) packed in inner non-refillable non-metal receptacles not exceeding 120 mL capacity each, or in inner non-refillable metal receptacles not exceeding 820 mL capacity each (except that flammable aerosols must not exceed 500 mL capacity each), subject in either case to the following provisions:

1) the pressure in the aerosol must not exceed 1 500 kPa at 55°C and each receptacle must be capable of withstanding without bursting a pressure of at least 1.5 times the equilibrium pressure of the contents at 55°C;

2) if the pressure in the aerosol exceeds 970 kPa at 55°C but does not exceed 1 105 kPa at 55°C, an inner IP.7, IP.7A or IP.7B metal receptacle must be used;

3) if the pressure in the aerosol exceeds 1 105 kPa at 55°C but does not exceed 1 245 kPa at 55°C, an IP.7A or IP.7B metal receptacle must be used;

4) if the pressure in the aerosol exceeds 1 245 kPa at 55°C, an IP.7B metal receptacle must be used;

6) the liquid contents must not completely fill the closed receptacle at 55°C;

5) *Note.- IP.7B metal receptacles having a minimum burst pressure of 1800 kPa may be equipped with an inner ~~metal~~ capsule charged with a non-flammable, non-toxic compressed gas to provide the propellant function. In this case, the pressures indicated in 1), 2), 3) or 4) above do not apply to the pressure within the capsule. The quantity of gas contained in the capsule must be so limited such that the minimum burst pressure of the receptacle would not be exceeded if the entire gas content of the capsule were released into an aerosol.*

(cont.)

910 PACKING INSTRUCTION 910 *(cont.)* 910

7) each aerosol exceeding 120 mL capacity must have been heated until the pressure in the aerosol is equivalent to the equilibrium pressure of the contents at 55°C, without evidence of leakage, distortion or other defect; and

8) the valves must be protected by a cap or other suitable means during transport.

j) For aerosols containing a biological or medical preparation which will be deteriorated by a heat test and which are non-~~poisonous~~ toxic and non-flammable, packed in inner non-refillable receptacles not exceeding 575 mL capacity each, the following provisions are applicable:

1) the pressure in the aerosol must not exceed 970 kPa at 55°C;

2) the liquid contents must not completely fill the closed receptacle at 55°C;

3) one aerosol out of each lot of 500 or less must be heated until the pressure in the aerosol is equivalent to the equilibrium pressure of the contents at 55°C, without evidence of leakage, distortion or other defect; and

4) the valves must be protected by a cap or other suitable means during transport.

k) Class 3 and/or Division 6.1 substances must be further limited as follows:

1) inner packagings ~~for cosmetics~~ of Class 3 must not exceed 500 mL; and

2) inner packagings ~~for drugs and medicines~~ of Division 6.1 must not exceed ~~150~~ 500 mL for liquids and ~~250~~ 500 g for solids.

l) Manufactured substances falling within these descriptions and shipped according to these provisions may be shipped in a unit load device prepared by a single shipper provided that no other dangerous goods are included in the unit load device.

~~m) The gross mass of packages must be shown as not exceeding 25 kg on the dangerous goods transport document (Part 4;4.1) and in the information to the pilot in command (Part 5;4.1).~~

911 PACKING INSTRUCTION 911 911

The general packing requirements of Part 3, Chapter 1 must be met.

~~An IP.5 inner packaging is forbidden in a 4H1 outer packaging.~~

Combination packagings:

Inner	Glass or earthenware – IP.1	5 kg
	Plastic – IP.2	10 kg
	Metal – IP.3, IP.3A	10 kg
	Paper – IP.4	5 kg
	Plastic bag – IP.5	5 kg
	Fibre – IP.6	5 kg
	Glass ampoule – IP.8	0.5 kg
	Paper, plastic/aluminium – IP.10	5 kg

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Single packagings:

Steel drum – 1A1, 1A2
Aluminium drum – 1B1, 1B2
Steel jerrican – 3A1, 3A2
Plywood drum – 1D with inner plastic liner
Fibre drum – 1G with inner plastic liner
Plastic drum – 1H1, 1H2
Plastic jerrican – 3H1, 3H2
Woven plastic bag – 5H2, 5H3
Plastic film bag – 5H4
Paper bags – 5M2
Composites (plastic) – all

912 PACKING INSTRUCTION 912 912

Lithium batteries (liquid or solid cathode) contained in equipment must meet all the requirements of Packing Instruction 903, other than those related to packaging, be protected against short circuits and be securely held in place. Cells must not be capable of being discharged *during transport to the extent that the open circuit voltage is less than the lower of:*

a) 2 volts; or

b) 2/3 of the voltage of the undischarged cell.

or is made waterproof through the use of a liner, such as a plastic bag.

Equipment containing lithium batteries must be packed in accordance with the general packing requirements of Part 3, Chapter 1 and be contained in strong outer packaging which is waterproof. The equipment must be secured against movement within the outer packaging and be packed so as to prevent accidental operation during air transport.

The quantity of lithium metal contained in any piece of equipment must not exceed 3 g per cell and 125 g per battery for passenger aircraft or 12 g per cell and 500 g per battery for cargo aircraft.

Not more than 5 kg of lithium batteries may be contained in any piece of equipment.

913 PACKING INSTRUCTION 913 913

The general packing requirements of Part 3, Chapter 1 must be met.

Genetically modified micro-organisms must be packed according to Packing Instruction 602, except that the packagings need not be tested as provided for in Part 7, Chapter 6. The maximum quantity in a primary receptacle must not exceed 100 mL or 100 g.

914 PACKING INSTRUCTION 914 914

The general packing requirements of Part 3, Chapter 1 must be met.

Combination packagings:

Inner	Glass or earthenware – 1P.1	5 L
	Plastic – 1P.2	5 L
	Metal – 1P.3, 1P.3A	10 L
	Glass ampoule – 1P.8	0.5 L

Outer	Steel drum – 1A2	Plastic jerrican – 3H2
	Aluminium drum – 1B2	Wooden box – 4C1, 4C2
	Steel jerrican – 3A2	Plywood box – 4D
	Plywood drum – 1D	Reconstituted wood box – 4F
	Fibre drum – 1G	Fibreboard box – 4G
	Plastic drum – 1H2	Plastic box – 4H1, 4H2

Single packagings:

Steel drum – 1A1
Aluminium drum – 1B1
Steel jerrican – 3A1
Plastic drum – 1H1
Plastic jerrican – 3H1
Composites (plastic) – all
Cylinders – as permitted in Packing Instruction 200.

915 PACKING INSTRUCTION 915 915

The descriptions 'Chemical Kit' and 'First Aid Kit' are intended to apply to boxes, cases, etc. containing small amounts of various dangerous goods which are used for medical, analytical or testing purposes.

The general packing requirements of Part 3, Chapter 1 (including 1.1.7 and 1.1.8) must be met. The kits may contain dangerous goods which require segregation according to Table 5-1. The packing group assigned to the kit as a whole must be the most stringent packing group assigned to any individual substance contained in the kit.

Inner packagings must not exceed 250 mL for liquids or 250 g for solids and must be protected from other materials in the kit.

The total quantity of dangerous goods in any one kit must not exceed either 1 L or 1 kg. The total quantity of dangerous goods in any one package must not exceed 10 kg.

Kits must be packed in one of the following:

- wooden boxes (4C1, 4C2)
- plywood boxes (4D)
- reconstituted wood boxes (4F)
- fibreboard boxes (4G)
- plastic boxes (4H1, 4H2)

Y915 PACKING INSTRUCTION Y915 Y915

The general packing requirements of Part 3, Chapter 1 must be met except that the requirements of Part 3:1.1.2 ,1.1.8 d) and 1.1.16 do not apply.

Single packagings are not permitted.

Chemical kits or first-aid kits include boxes, cases, etc. containing small amounts of various compatible dangerous goods which are used for medical, analytical or testing purposes.

Inner packagings must not exceed 30 ml for liquids or 100 g for solids and must be protected from other materials in the kit. Any dangerous good included in these kits must be acceptable for air transport in limited quantities according to 1.2.6 1.2. Kits must be packed in wooden, plywood, reconstituted wood, fibreboard or plastic boxes. The total quantity of dangerous goods in any one kit and in any one package must not exceed 1 kg. Kits may contain dangerous goods which require segregation according to Table 5-1

See page 3-11-9A for Packing Instruction 916

916 PACKING INSTRUCTION 916 916

The general packing requirements of part 3, Chapter 1 must also be met.

Machinery or apparatus, designed to perform a function other than solely to contain dangerous goods, containing dangerous goods fitted as an integral part of such machinery or apparatus, must be packed in strong outer packagings with sealed inner liners or similar provision so as to prevent leakage of the dangerous goods. More than one dangerous good in excepted or limited quantity may be contained in the machinery or apparatus, providing that they would not react dangerously together and that they do not require segregation according to Table 5-1.

Only those dangerous goods permitted in excepted or limited quantities, in quantities not exceeding the excepted or limited quantity limitations are permitted in such machinery or apparatus.

In the case of liquid dangerous goods, the package must bear the "Package Orientation" (This way up) label as per figure 4-22, on two opposite sides so as to show the proper package orientation.

The dangerous goods transport document must indicate the nature of the containment of the dangerous goods and list the net quantities of each article or substance.

Note: This Packing Instruction does not apply to machinery and apparatus containing dangerous goods that are covered by specific UN numbers as follows:
UN 3091 Lithium batteries contained in equipment
UN 2809 Mercury contained in manufactured articles
UN 2857 Refrigerating machines
UN 2910 Radioactive material, Excepted packages, Instruments

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917 PACKING INSTRUCTION 917 917

The general packing requirements of Part 3, Chapter 1 must be met.

Air bag inflators, air bag modules, seat-belt pre-tensioners and seat-belt modules must be packed in steel drums (1A2), aluminium drums (1B2), plywood drums (1D), fibre drums (1G), plastic drums (1H2), wooden boxes (4C1, 4C2), plywood boxes (4D), reconstituted wood boxes (4F), fibreboard boxes (4G) or solid plastic boxes (4H2). ~~Packagings must meet Packing Group III requirements.~~

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918 PACKAGING INSTRUCTION 918 918

Lithium cells or batteries packed with equipment must meet the requirement of Packing Instruction 903 other than those related to packaging. Lithium cells and batteries, must be packed in fibreboard boxes (4G), or fibre drums (1G) of Packing Group II and in such a manner as to effectively prevent movement which could lead to short circuits.

The equipment and the packages of lithium cells or batteries must be contained in a further packaging. The fibre drums or fibreboard boxes are regarded as outer packagings and the packaging containing the equipment and the packaged lithium cells or batteries is regarded as an overpack for the purposes of compliance with the labelling, marking and documentation requirements of these Instructions.

Not more than 5 kg of lithium cells or batteries may be packed with each item of equipment"

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916 ~~919~~ PACKAGING INSTRUCTION 916 ~~919~~ 916 ~~919~~

The general packing requirements of Part 3, Chapter 1 must be met, except that the requirements of Part 3, paragraphs 1.1.2, 1.1.8, 1.1.10, 1.1.13 and 1.1.16 do not apply.

Machinery or apparatus may only contain dangerous goods permitted under Part 1, paragraph 2.6.1.2. If the machinery or apparatus contains more than one item of dangerous goods, the individual substances must not be capable of reacting dangerously together.

The nature of the containment must be such that:

a) damage to receptacles containing the dangerous goods during air transport is unlikely; and

b) in the event of damage to receptacles containing the dangerous goods, no leakage of the dangerous goods from the machinery of apparatus is possible. A leakproof liner may be required.

In addition:

1) Dangerous goods in machinery or apparatus must be packed in strong outer packagings unless the receptacles containing the dangerous goods are afforded adequate protection by the construction of the machinery or apparatus.

2) Receptacles containing dangerous goods must be so secured or cushioned as to prevent their breakage or leakage and so as to control their movement within the machinery or apparatus during normal conditions of transport. Cushioning material must not react dangerously with the contents of the receptacles. Any leakage of the contents must not substantially impair the protective properties of the cushioning material.

3) For Division 2.2 gases, the inner cylinder or pressure vessel for gases, their contents and filling densities, must conform to the requirements of the State in which cylinders or pressure vessels are filled.

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4) The total net quantity of dangerous goods contained in one package must not exceed the following:

(i) 1 kg in the case of solids,

(ii) 0.5 L in the case of liquids,

(iii) 0.5 kg in the case of Division 2.2 gases

or any combination thereof.

OR

The machinery or apparatus or the packaging in which it is contained must be labelled according to each hazard contained therein. This includes the primary hazard label and any subsidiary risk applicable. If a subsidiary hazard has already been indicated by the primary class or division label or a subsidiary risk label applied for another substance in the machinery or apparatus, such subsidiary risk label is not required.

"Package orientation" labels (Figure 4-22), or pre-printed orientation labels meeting the same specification as either Figure 4-22 or ISO Standard 780-1985 must be affixed on at least two opposite vertical sides with the arrows pointing in the correct direction only when required to ensure liquid dangerous goods remain in their intended orientation.

The machinery or apparatus or the packagings in which it is contained must be marked "Dangerous goods in machinery" or "Dangerous goods in apparatus", as appropriate.

Chapter 1

GENERAL

Parts of this Chapter are affected by State Variations AU 6, BE 4; CA 1, DE 1, DE 2, DK 1, GB 1, HK 3, IR 1, IT 1, IT 2, IT 5, IT 6, JP 8, MY 2, MY 3, SA 1, US 8, VU 2, ZA 1; see Table A-1

1.1. GENERAL REQUIREMENTS

Before a person offers any package or overpack of dangerous goods for transport by air he must ensure that:

a) the articles or substances are not prohibited for transport by air (see Part 1, Chapter 2);

b) the goods are properly classified, packaged, marked and labelled;

c) the dangerous goods transport document has been properly executed and the declaration signed;

d) an overpack is used for packages bearing the 'Cargo aircraft only' label only if:

1) the packages are assembled in such a way that clear visibility and easy access to them is possible; or

2) the packages are not required to be accessible under Part 5;2.4.1; or

3) not more than one package is involved;

e) the overpack does not contain packages of dangerous goods which require segregation according to Table 5-1;

f) proper shipping names, UN numbers, labels, 'limited quantities' (when applicable) and special handling instructions appearing on the interior packages are clearly visible or reproduced on the outside of the overpack (for an overpack containing packages of radioactive material, see 3.2.6);

g) when these Instructions require the use of packagings bearing UN Specification Markings, the statement 'Inner packages comply with prescribed specifications' appears on an overpack used to enclose ~~any~~ packages ~~bearing UN Specification Markings~~, unless such markings are visible;

h) the dangerous goods are not included in any freight container/unit load device except for radioactive material as specified in Part 5;2.9 (this does not apply to a unit load device containing ~~cosmetics, drugs and/or medicines~~ prepared according to Packing Instruction 910 or dry ice used as a refrigerant for other than dangerous goods);

i) before a package or overpack is reused, all inappropriate dangerous goods labels and markings are removed or completely obliterated; and

j) each package contained within an overpack is properly packed, marked, labelled and in all respects be properly prepared as required in these Instructions.

1.2 ADDITIONAL GENERAL REQUIREMENTS FOR INFECTIOUS SUBSTANCES

Transport of infectious substances requires co-ordinated action by the shipper, the operator and the consignee to ensure safe transport and arrival on time and in proper condition. This necessitates the following actions:

a) *Advance arrangements between shipper, operator and consignee.* Dispatch of infectious substances must not take place before advance arrangements have been made between shipper, operator and consignee and before the consignee has confirmed with his appropriate national authorities that the substances can legally be imported and that no delay will be incurred in the delivery of the consignment to its destination.

b) *Routing.* Shipments by any mode of transport must be made by the quickest routing. When transfers are necessary precautions must be taken to assure special care, expeditious handling and monitoring of the substances in transit. Shipping papers must show commercial transport flight numbers with date and destination and any airport(s) of trans-shipment.

c) *Timely notification of all transport data by shipper to consignee.* The shipper must notify the consignee in advance of shipping details, such as flight number(s), consignment paper number, date and hour of expected arrival at the point of destination so that the consignment can be collected promptly. The most rapid means of communication must be used for this notification.

Chapter 2
PACKAGE MARKINGS

Parts of this Chapter are affected by State Variations AU 2, ES 2, HK 2, MY 6, NL 1, NL 3, NZ 1, PK 1, US 9, US 34, VU 1; see Table A-1

2.1 THE REQUIREMENT TO MARK

Unless otherwise provided in these Instructions, packages of dangerous goods and overpacks containing dangerous goods offered for transport by air must be marked as required by this Chapter.

2.2 APPLICATION OF MARKINGS

2.2.1 All markings must be readily visible and legible and also placed on the packagings that they are not covered or obscured by any part of or attachment to the packaging or any other label or marking.

2.2.2 Markings, required by 2.4.4 or 2.4.5 must be stamped, printed or otherwise marked on the package to provide adequate permanency ~~and contrast so as to be readily visible and understandable~~. Other required markings must be durable and printed or otherwise marked on, or affixed to, the external surface of the package and displayed on a background of contrasting colour.

2.3 PROHIBITED MARKING

Arrows for purposes other than indicating proper package orientation must not be displayed on a package containing liquid dangerous goods.

2.4 MARKING SPECIFICATIONS AND REQUIREMENTS

2.4.1 Marking with proper shipping name

2.4.1.1 Unless otherwise provided in these Instructions, the proper shipping name of the dangerous goods (supplemented with the technical name(s) if appropriate, see 2;11.2) and, when assigned, the corresponding UN number preceded by the letters 'UN' must be displayed on each package. A typical package marking would be:

'Corrosive liquid, n.o.s. (caprylyl chloride) UN 1760'

Note.— Additional descriptive text in the entries in column 1 of the Dangerous Goods List (Table 2-14) are not part of the proper shipping name but may be used in addition to the proper shipping name.

2.4.2 Shipper and consignee identification

The name and address of the person who offers the dangerous goods for transport by air and of the consignee must be provided on each package.

2.4.3 Special marking requirements for explosives

Each package must be marked with the net quantity of explosive and the gross mass of the package. The proper shipping name required by 2.4.1 may be supplemented by additional descriptive text to indicate commercial or military names.

2.4.1.2 For solid substances, unless the word "molten" is already included in the proper shipping name, it must be added to the proper shipping name on the package when a substance is ~~likely to become molten during air transport~~ offered for air transport in the molten state - see 2; 11.3.4.

2.4.4 Packaging specification markings

Each outer or single packaging used for dangerous goods, for which specification packaging is required in Part 3, must bear the markings appropriate to the contents as specified in Part 7, Chapter 2.

2.4.5 Special marking requirements for radioactive material

a) Each package of gross mass exceeding 50 kg must have its permissible gross mass legibly and durably marked on the outside of the packaging.

b) Each package which conforms to a Type A package design must be legibly and durably marked on the outside of the packaging with 'Type A'.

c) Each package which conforms to a design approved under Part 7;7.5.4, 7.6.10 or 7.13 must be legibly and durably marked on the outside of the packaging with:

1) the identification mark allocated to that design by the competent authority;

2) a serial number to identify uniquely each packaging which conforms to that design; and

3) in the case of a Type B(U) or Type B(M) package design, with 'TYPE B(U)' or 'TYPE B(M)', as appropriate.

d) Each package which conforms to a Type B(U) or Type B(M) package design must 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 as shown on the labels.

2.4.6 Special marking requirements for refrigerated liquefied gas

The upright position of each package must be indicated prominently by arrows or by using the 'Package orientation' label (Figure 4-23). The wording 'KEEP UPRIGHT' must be placed at 120° intervals around the package or on each side. Packages must also be clearly marked 'DO NOT DROP - HANDLE WITH CARE'.

2.4.7 Special marking requirement for dry ice

The net mass of solid carbon dioxide (dry ice) must be marked on any package containing such substance.

2.4.8 Marking of overpacks

a) Proper shipping names, UN numbers, 'limited quantities' (when applicable) and special handling instructions appearing on interior packages must be clearly visible, or reproduced on the outside of the overpack;

b) When these Instructions require the use of packagings bearing UN Specification Markings, the statement 'Inner packages comply with prescribed specifications' must appear on an overpack used to enclose ~~any~~ packages ~~bearing UN Specification Markings~~, unless such markings are visible.

2.4.9 Markings required by other modes of transport

Markings required by other international or national transport regulations are permitted in addition to markings required by these Instructions, provided that they cannot be confused with or conflict with any markings prescribed by these Instructions, because of their colour, design or shape.

2.5 LANGUAGES TO BE USED

In addition to the languages which may be required by the State of origin, English should be used.

Chapter 3
LABELLING

Parts of this Chapter are affected by State Variations AU 3, AU 4, IT 7, JP 9, JP 21, NZ 2, PK 2, US 10, VU 5; see Table A-1.

Note 1.— In 3.5 of this chapter there are requirements concerning the placarding of large freight containers for radioactive material.

Note 2.— The requirements concerning the placarding of portable tanks are shown in the Supplement, Part S-3;12.4.

3.1 THE REQUIREMENT TO LABEL

3.1.1 Unless otherwise provided in these Instructions, packages of dangerous goods and overpacks containing dangerous goods offered for transport by air must be labelled as required by this Chapter and Column 5 of Table 2-14.

3.1.2 The label identifying the primary hazard of the dangerous goods must bear the class or division number as required in 3.4.1 while label(s) identifying subsidiary risk(s) must bear no class or division number.

3.1.3 All labels must be able to withstand open weather exposure without a substantial reduction in effectiveness.

3.2 APPLICATION OF LABELS

3.2.1 The labels required to be displayed on packages of dangerous goods are identified in the dangerous goods list for articles and substances specifically listed by name and for single hazard articles and substances not specifically listed by name which are covered by generic or n.o.s. entries. Labels required on packages within an overpack must be clearly visible or else be reproduced on the outside of the overpack. ~~In the case of overpacks or combination packagings containing dangerous goods for which a 'Poison' label and a 'Keep away from food' label are required, the 'Keep away from food' label should not be used.~~

~~3.2.2 For articles and substances, other than those of Class 2, possessing more than one hazard that are not specifically listed by name,~~ a label for the subsidiary risks must be applied according to Table 4-1, except that substances of Class 8 with a subsidiary risk of Division 6.1 solely on account of their destructive effect on tissue need not show the label for Division 6.1 and that substances of Division 4.2 with a subsidiary risk of Division 4.1 need not show the label for Division 4.1.

Table 4-1. Requirement for subsidiary risk label

Packing group indicated by subsidiary risk	*Subsidiary risk class or division*						
	3	*4.1*	*4.2*	*4.3*	*5.1*	*6.1*	*8*
I	X	Note	Note	X	X	X	X
II	X	X	X	X	X	X	X
III	–	–	X	X	–	–	X

An "X" indicates that a subsidiary risk label must be applied.

~~*Note.— Impossible as a subsidiary risk.*~~

3.2.3 Packages containing organic peroxides which meet the criteria for Class 8, Packing Group I or II must be labelled with a corrosive subsidiary risk label.

Note.— Many liquid organic peroxide formulations are flammable; however, no subsidiary risk flammable label is required because the organic peroxide label itself is considered to imply that the product may be flammable.

3.2.2 Substances of Class 8 need not show a subsidiary risk label for Division 6.1 if the toxicity arises solely from the destructive effect on tissue. Substances of Division 4.2 need not show a subsidiary risk label for Division 4.1 if the substance is also a flammable solid.

3.2.4 Packages containing radioactive material having additional hazardous characteristics must also be labelled to indicate those characteristics except that such subsidiary risk labelling is not required for an uncompressed gas that is non-flammable and non-~~poisonous or where the subsidiary risk is of Packing Group III and is in Class 3 or in Division 1.1, 5.1 or 6.1~~ toxic.

3.2.~~6~~ All labels must be so placed on the packaging that they are not covered or obscured by any part of or attachment to the packaging or any other label or marking. Each label must be affixed to a background of contrasting colour or must have a dotted or solid line outer boundary.

3.2.~~5~~ Each package and freight container (both large and small) containing radioactive material must bear at least two labels which conform to the appropriate model shown in 3.4.1 according to the category (see Part 2;7.8.4) of that package or freight container. Furthermore, these labels must be affixed by the shipper to two opposite sides on the outside of the package, or on the outside of all four sides of the freight container (see also 3.5). Each rigid overpack containing radioactive material must bear at least two labels affixed by *the shipper to opposite sides of the exterior of the overpack*, while each non-rigid overpack must bear at least one label affixed by a securely attached durable tag, conforming to the appropriate model shown in 3.4.1 below according to the category (see Part 2;7.8.4).

3.2.7 *Labels must not be folded. Cylindrical packages must be of such dimensions that a label will not overlap itself. In the case of* cylindrical packages containing radioactive materials, which require two identical labels, these labels must be centred on opposite points of the circumference and must not overlap each other. If the dimensions of the package are such that two identical labels cannot be affixed without overlapping each other, one label is acceptable provided it does not overlap itself.

3.2.8 Labels must be firmly affixed to or printed on the package of dangerous goods. Where a package is of such an irregular shape that a label cannot be affixed to or printed on a surface, it is acceptable to attach the label to the package by an adequately strong tag.

3.2.9 Since packages or consignments of magnetized material (Class 9) must bear the 'Magnetized material' label (Figure ~~4-21~~ 4-20) as required by column 5 of Table 2-14, such packages or consignments do not need to bear the 'Miscellaneous dangerous goods' label (Figure ~~4-20~~ 4-19).

3.2.10 In addition to the class hazard labels specified in 3.1, handling labels must also be affixed to packages of dangerous goods as follows:

a) the 'Cargo aircraft only' label (Figure 4-~~22~~ 21) must be affixed:

   1) when the package containing the dangerous goods may only be transported on a cargo aircraft. However, where the packing instruction number and the permitted quantity per package are identical for passenger and cargo aircraft, the 'Cargo aircraft *only' label should not be used*;

   2) to each Type B(M) package of radioactive material and any freight container containing such a Type B(M) package;

b) when required by the provisions of Part 3;1.1.13, either the 'Package Orientation' label (*Figure* 4-~~23~~ 22), or pre-printed package orientation labels meeting the same specification as either Figure 4-~~22~~ 23 or ISO Standard 780-1985, must be affixed to or printed on at least two opposite vertical sides of the package with the arrows pointing in the correct direction. The words 'Dangerous Goods' may be inserted on the label below the line.

3.2.11 Where a text is indicated in Figures 4-1 to 4-~~23~~ 22, an equivalent text in another language may be used.

3.2.12. Labels required by other international or national transport regulations are permitted in addition to labels required by these Instructions, provided that they cannot be confused with or conflict with any label prescribed by these Instructions, because of their colour, design or shape.

3.2.13 These requirements relate essentially to danger labels. However, additional marking or symbols indicating precautions to be taken in handling or storing a package (e.g. a symbol representing an umbrella indicating that a package should be kept dry) may be displayed on a package as appropriate. For such purposes it is preferable to use the symbols recommended by the International Organization for *Standardization (ISO).*

3.3 PROHIBITED LABELLING

Arrows for purposes other than indicating proper package orientation must not be displayed on a package containing liquid dangerous goods.

3.4 LABEL SPECIFICATIONS

3.4.1 Class hazard label *specifications*

3.4.1.1 Class hazard labels must conform to the following specifications:

a) They must be in the form of a square with minimum dimensions of 100 mm × 100 mm, set at an angle of 45° (diamond shaped) except that labels of 50 mm × 50 mm may be used on packages containing infectious substances where the packages are of dimensions such that they can only bear smaller labels. The labels have a line of the same colour as the symbol, 5 mm inside the edge and running parallel to it. With the exception of Divisions 1.4, 1.5 and 1.6, the upper half of the label is reserved for the pictorial symbol and the lower half for texts and the class or division number and the compatibility group letter as appropriate.

b) The symbols, texts and numbers must be shown in black on all labels except that:

1) white may be used on labels with green, red or blue backgrounds;

2) white must be used for the text and class number for the Class 8 label.

c) Except for Divisions 1.4, 1.5 and 1.6, labels for Class 1 show in the lower half the division number and compatibility group letter for the substance or article. Labels for Division 1.4, 1.5 and 1.6 show in the upper half the division number and in the lower half the compatibility group letter and in the bottom corner the class number.

d) In the case of labels for Class 5, the division number of the substance must be shown in the bottom corner of the label. For all other labels, the class number must be shown in the bottom corner of the label.

e) Each label for radioactive material must be completed by the shipper with the following information:

1) *contents:*

A) except for LSA-I material, the symbol of the radionuclide as given in Table 2-9. For mixtures of radionuclides, the most restrictive nuclides must be listed to the extent the space on the line permits. The group for LSA or SCO must be shown following the symbol of the radionuclide; the terms 'LSA-II', 'LSA-III', 'SCO-I' and 'SCO-II' being used for this purpose; and

B) for LSA-I materials, only the term 'LSA-I' need be used.

2) *activity:* the activity of the contents in terms of becquerels or multiples thereof. In addition the activity in curies, or multiples thereof, may be added in parentheses. For fissile radioactive material, the total mass of the fissile radionuclide in grams or kilograms may be used in place of activity (in all cases the units used must be clearly indicated). For overpacks and freight containers the 'Contents' and 'Activity' entries on the labels must bear the specific required information, except that on overpacks and freight containers containing multiples of packages of differing radionuclides, such entries may read 'See transport document';

3) *transport index:* see Part 2;7.6. No transport index is required for Category I – White labels.

f) Unless otherwise provided for in these Instructions, only text indicating the nature of the risk may be inserted in the lower half of the label (in addition to the class or division number or compatibility group).

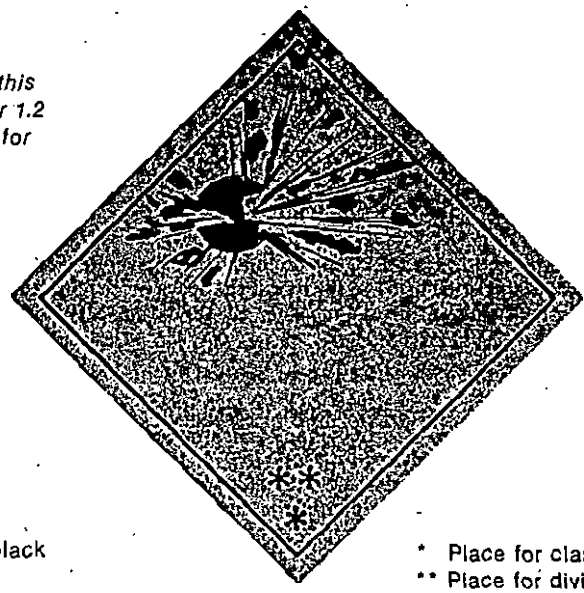
g) A label may contain form identification information, including the name of its maker, provided that information is printed outside of the solid line border in no larger than 10-point type.

3.4.1.2 Illustrations of the class hazard labels, showing the approved symbols and colours, are given in Figures 4-1 to 4-~~20~~ 19. The label descriptions used in Column 5 of Table 2-14 are indicated in parentheses.

Note.— The asterisk appearing in the bottom corner of the label indicates the location of the class or division number when the label is used to show the primary risk. See Figures 4-1 to 4-4 concerning the location of information on explosives labels. When the label is used to indicate a subsidiary risk the space indicated by the asterisk must be left blank or the class or division number obliterated.

(Explosive)

Note.— Packages bearing this label marked Division 1.1 or 1.2 are not normally permitted for transport by air.

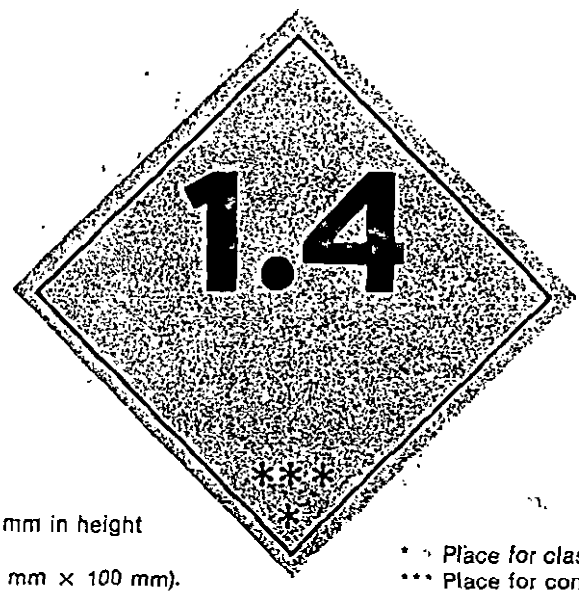


Symbol (exploding bomb): black
Background: orange

* Place for class number
** Place for division and compatibility group

Figure 4-1. Explosive, Class 1, Divisions 1.1, 1.2 and 1.3

(Explosive 1.4)



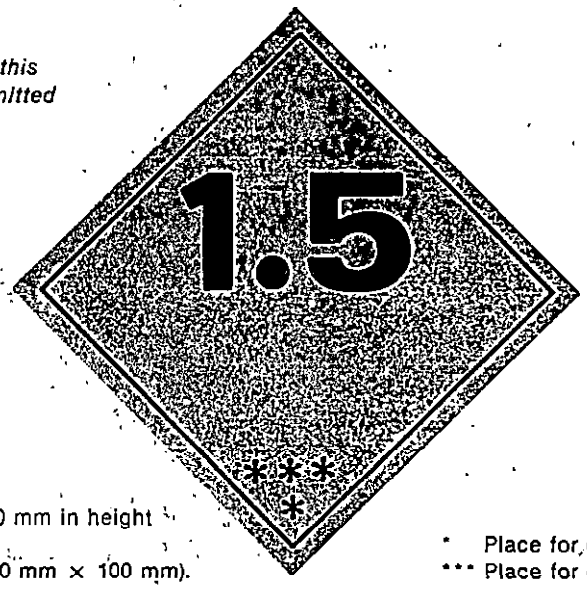
Background: orange
Figures: black
Numerals must be about 30 mm in height and about 5 mm thick
(for a label measuring 100 mm × 100 mm).

* Place for class number
*** Place for compatibility group

Figure 4-2. Explosive, Class 1, Division 1.4

(Explosive 1.5)

Note.— Packages bearing this label are not normally permitted for transport by air.



Background: orange
Figures: black
Numerals must be about 30 mm in height and about 5 mm thick (for a label measuring 100 mm × 100 mm).

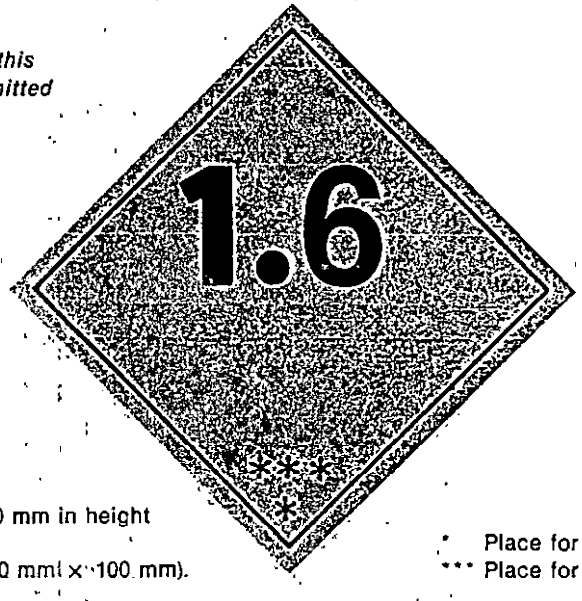
* Place for class number
*** Place for compatibility group

A

Figure 4-3. Explosives, Class 1, Division 1.5

(Explosive 1.6)

Note.— Packages bearing this label are not normally permitted for transport by air.



Background: orange
Figures: black
Numerals must be about 30 mm in height and about 5 mm thick (for a label measuring 100 mm × 100 mm).

* Place for class number
*** Place for compatibility group

A

Figure 4-4. Explosives, Class 1, Division 1.6

(Gas flammable)

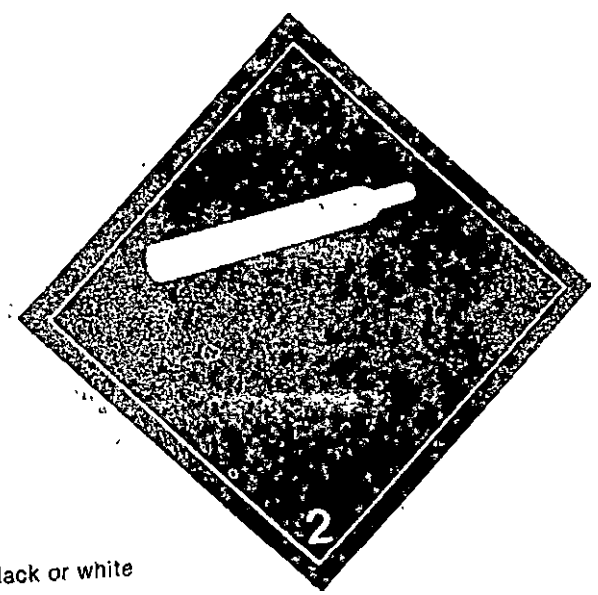
Symbol (flame): black or white
Background: red

* Place for class number

Figure 4-5. Flammable gases, Class 2, Division 2.1

A

(Gas non-flammable)

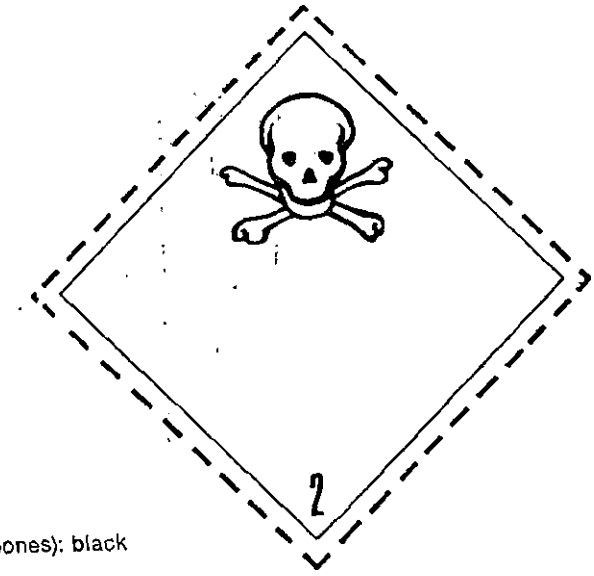


Symbol (gas cylinder): black or white
Background: green

Figure 4-6. Non-flammable, non-toxic gases, Class 2, Division 2.2

A

(Gas toxic)



Symbol (skull and crossbones): black
Background: white

Figure 4-7. Toxic gas, Class 2, Division 2.3

(Liquid flammable)

Symbol (flame): black or white
Background: red

* Place for class number

Figure 4-8. Flammable liquids, Class 3

4-3-8

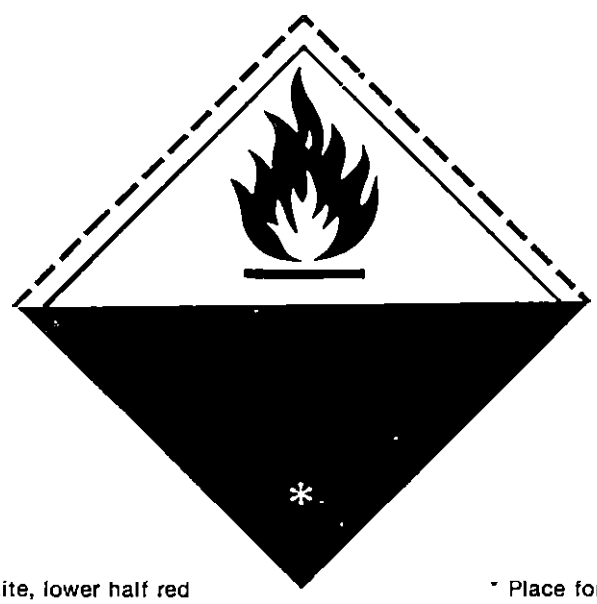
(Solid flammable)

Symbol (flame): black
Background: white with seven vertical red stripes

* Place for class number

Figure 4-9. Flammable solids, Class 4, Division 4.1

(Spontaneous combustion)

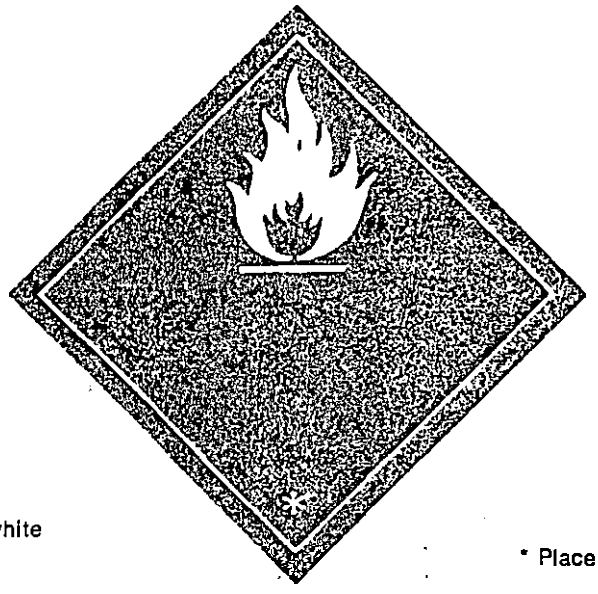


Symbol (flame): black
Background: upper half white, lower half red

* Place for class number

Figure 4-10. Substances liable to spontaneous combustion, Class 4, Division 4.2

(Danger if wet)

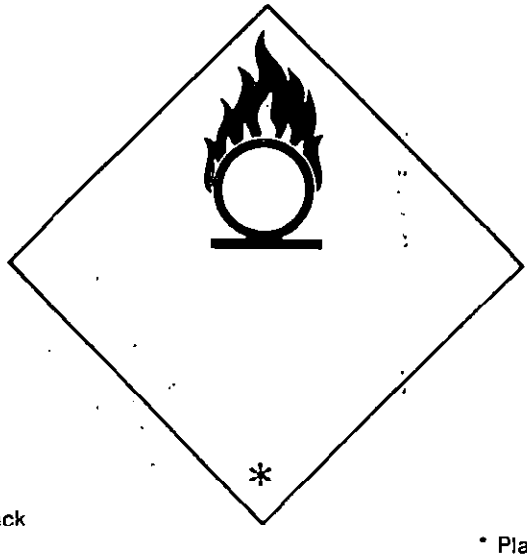


Symbol (flame): black or white
Background: blue

* Place for class number

Figure 4-11. Substances which, in contact with water, emit flammable gases, Class 4, Division 4.3

(Oxidizer or Organic peroxide)

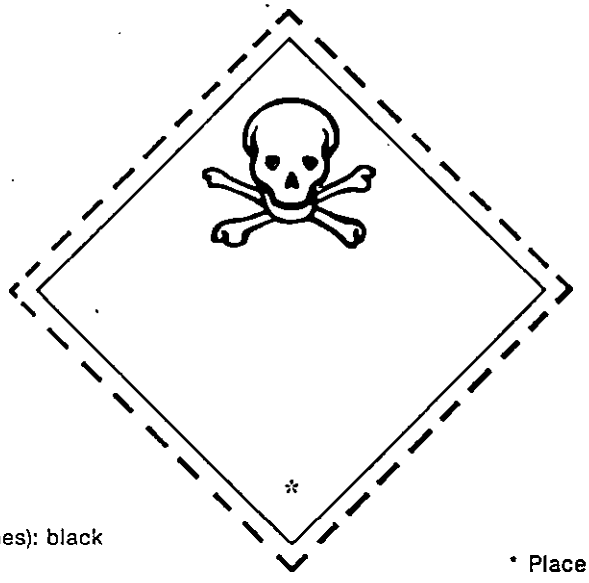


Symbol (flame over circle): black
Background: yellow

* Place for division number

Figure 4-12. Oxidizing substances and organic peroxides, Class 5

(Poison)



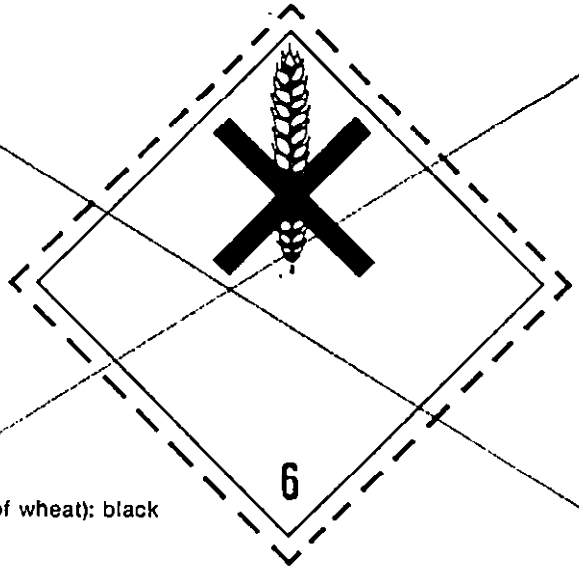
Symbol (skull and crossbones): black
Background: white

* Place for class number

Figure 4-13. ~~Poisonous (toxic)~~ Toxic substances, Class 6, Division 6.1 ~~Packing Groups I and II~~

(Keep away from food)

The bottom part of the label should bear the inscription 'HARMFUL — stow away from foodstuffs'

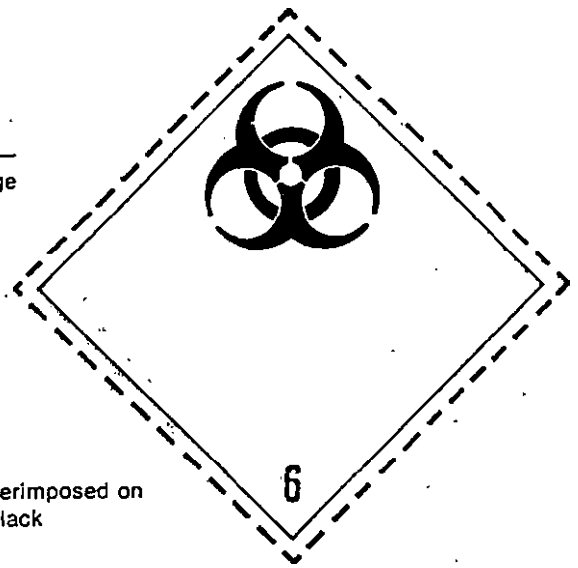


Symbol (an 'X' over an ear of wheat): black
Background: white
Figure '6' in bottom corner

~~Figure 4-14. Poisonous (toxic) substances, Class 6, Division 6.1; Packing Group III~~

(Infectious)

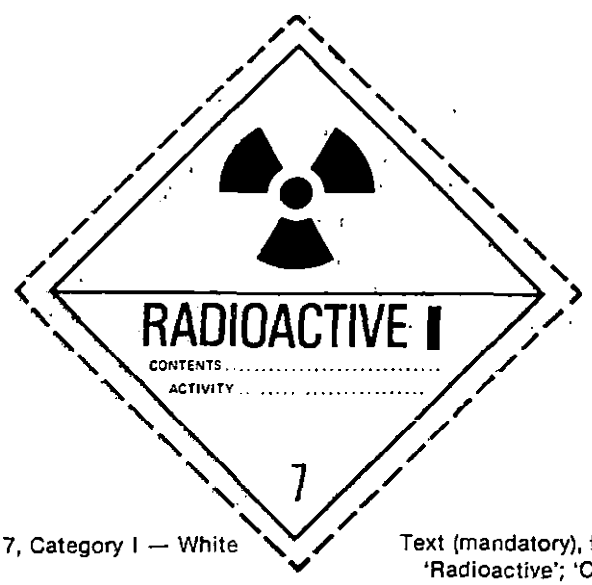
The bottom part of the label should bear the inscription 'INFECTIOUS SUBSTANCE — In case of damage or leakage immediately notify public health authority'



Symbol (three crescents superimposed on a circle) and inscription: black
Background: white
Figure '6' in bottom corner

Figure 4-14. Infectious substance, Class 6, Division 6.2

(Radioactive)

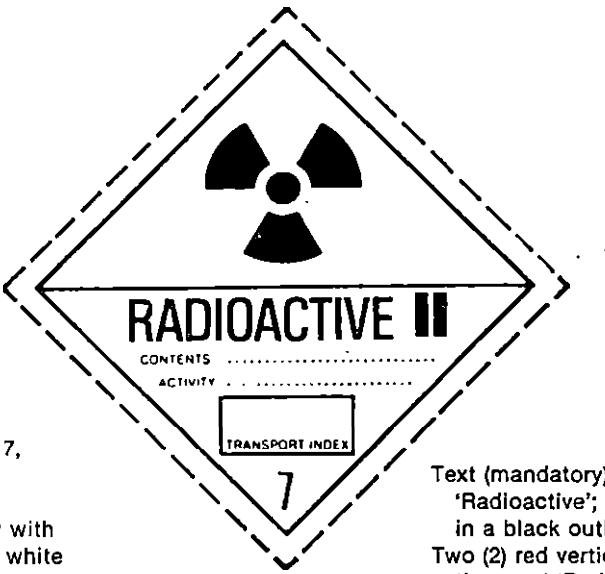


Radioactive material, Class 7, Category I — White
Symbol (trefoil): black
Background: white
Figure '7' in bottom corner

Text (mandatory), black in bottom half of label: 'Radioactive'; 'Contents . . .'; 'Activity . . .'
One (1) red vertical stripe must follow the word 'Radioactive'.

Figure 4-15. Radioactive material, Class 7, Category I

(Radioactive)

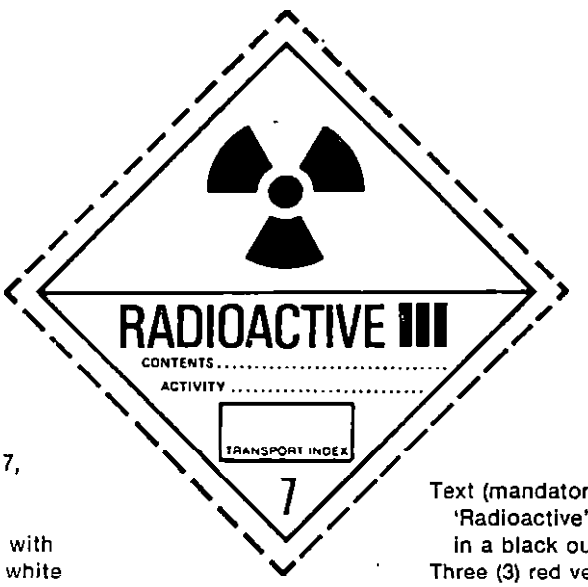


Radioactive material, Class 7, Category II — Yellow
Symbol (trefoil): black
Background: top half yellow with white border, bottom half white
Figure '7' in bottom corner

Text (mandatory), black in bottom half of label: 'Radioactive'; 'Contents . . .'; 'Activity . . .'; in a black outlined box — 'Transport Index'.
Two (2) red vertical stripes must follow the word 'Radioactive'.

Figure 4-~~17~~ 16. Radioactive material, Class 7, Category II

(Radioactive)

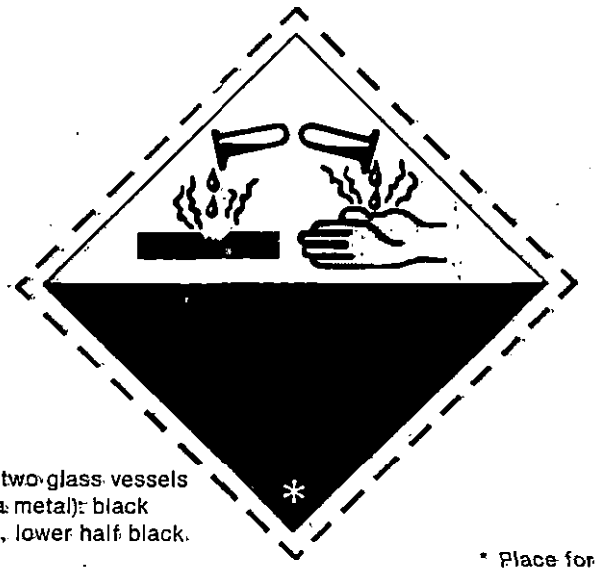


Radioactive material, Class 7, Category III — Yellow
Symbol (trefoil): black
Background: top half yellow with white border, bottom half white
Figure '7' in bottom corner

Text (mandatory), black in bottom half of label: 'Radioactive'; 'Contents . . .'; 'Activity . . .'; in a black outlined box — 'Transport Index'.
Three (3) red vertical stripes must follow the word 'Radioactive'.

Figure 4-~~18~~ 17. Radioactive material, Class 7, Category III

(Corrosive)

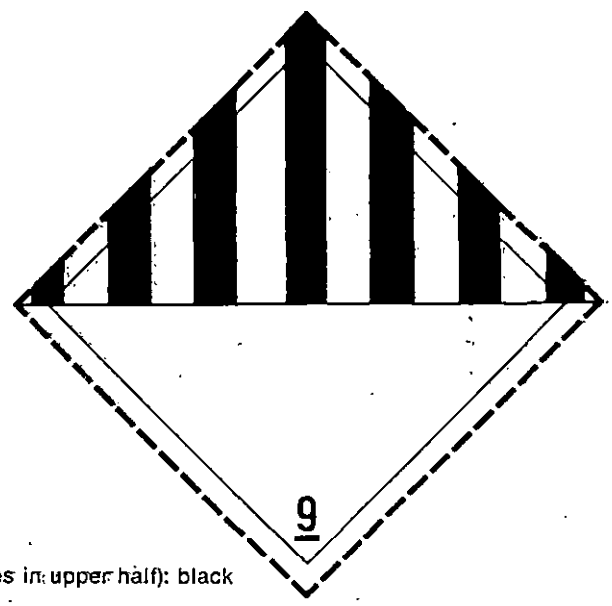


Symbol (liquids spilling from two glass vessels and attacking a hand and a metal): black
Background: upper half white, lower half black, with white border

* Place for class number

Figure 4-18. Corrosives, Class 8

(Miscellaneous)



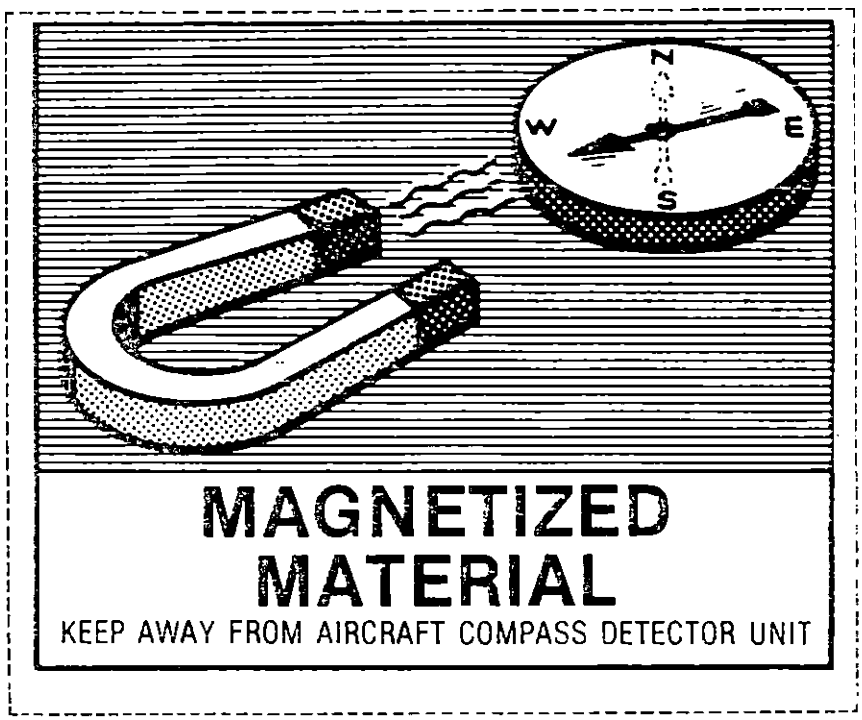
Symbol (seven vertical stripes in upper half): black
Background: white

Figure 4-19. Miscellaneous dangerous goods, Class 9

3.4.2 Handling label specifications

An illustration of each of the handling labels showing the approved design and colour is given in Figures 4-~~21~~ 20 to 4-~~28~~ 22. The minimum label dimensions are shown in the figures; however, labels having dimensions not smaller than half of those indicated may be used on packages containing infectious substances when the packages are of dimensions such that they can only bear smaller labels.

(Magnetic)

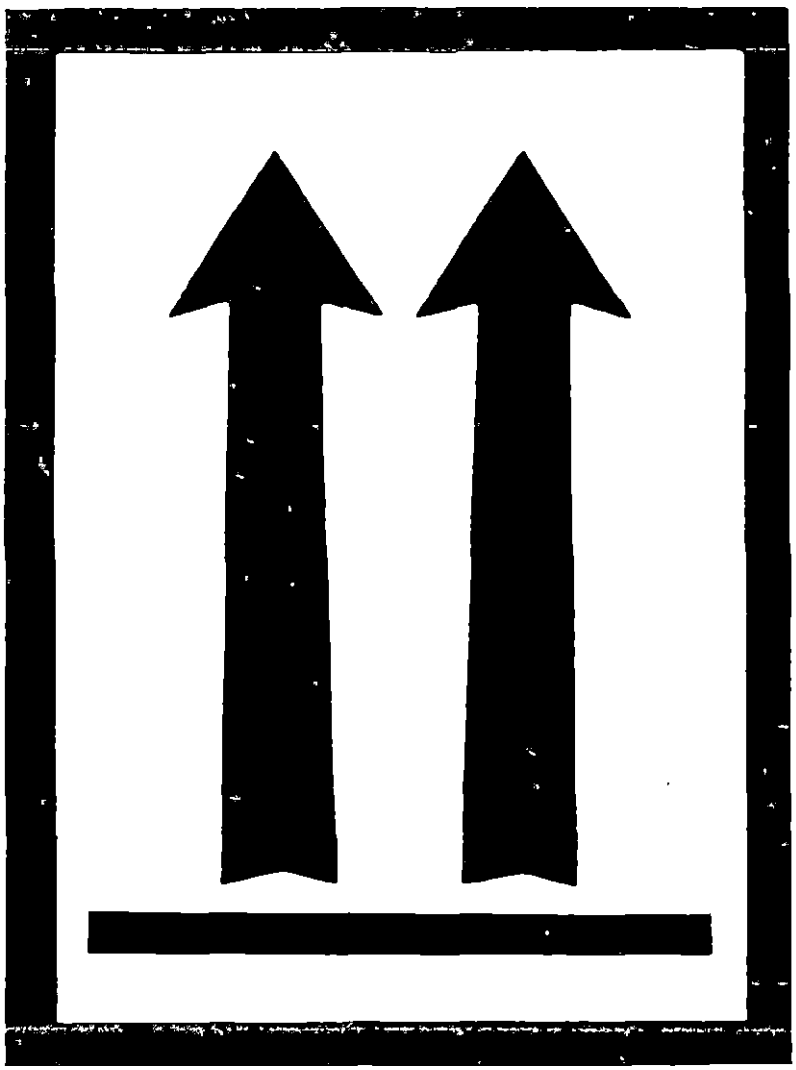


Colour: blue on white
Dimensions: 110 mm × 90 mm

Figure 4-~~21~~ 20. Magnetized material

Colour: black on orange
Dimensions: 120 mm × 110 mm

Figure 4-~~12~~ 21. Cargo aircraft only

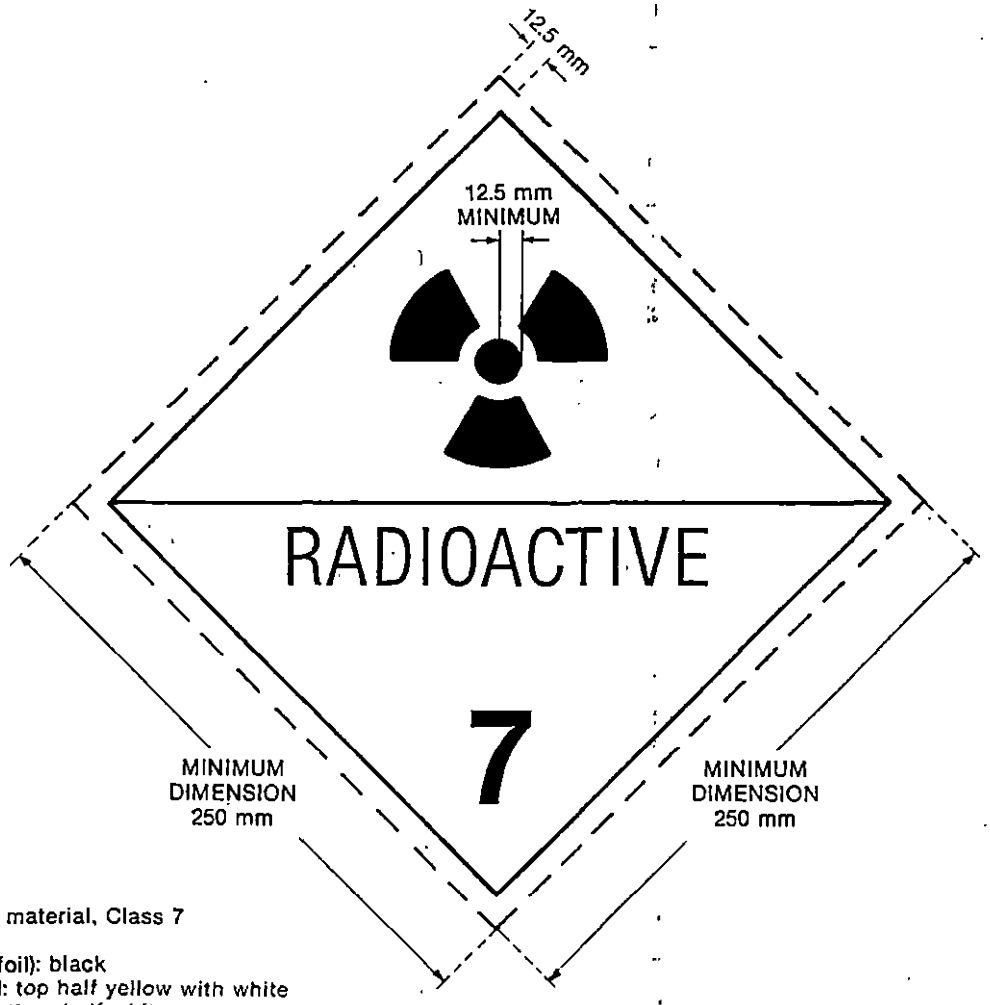


Colour: red or black on a contrasting background
Dimensions: 74 mm × 105 mm

Figure 4-~~23~~ 22. Package orientation

3.5 PLACARDING OF LARGE FREIGHT CONTAINERS

Large freight containers containing radioactive material, other than excepted packages, must bear in addition to the labels required by 3.2.5, four placards which conform to Figure 4-24 below. The placards must be affixed in a vertical orientation to each side wall and each end wall of the freight container. Any placards which do not relate to the contents of the freight container must be removed. As an alternative to the use of both labels and placards, (enlarged) labels only, conforming to Figures 4-15 to 4-17 may be used providing they have dimensions of the minimum size shown in Figure 4-24.



Radioactive material, Class 7
Placard
Symbol (trefoil): black
Background: top half yellow with white border, bottom half white
Dimensions: the minimum dimensions are shown. When larger dimensions are used, the relative proportions must be maintained. The figure '7' must be in the bottom corner and must be not less than 25 mm high.

Note.— The word 'RADIOACTIVE' in the bottom half is optional to allow the alternative use of the appropriate UN number.

Figure 4-24. Radioactive material, Class 7, placard for large freight containers

4-4-1

4.1.4 For solid substances, unless the word "molten" is already included in the proper shipping name, it must be added to the proper shipping name on the dangerous goods transport document when a substance is ~~likely to become molten during air transport~~ offered for air transport in the molten state - see 2; 11.3.4.

Chapter 4

DOCUMENTATION

Parts of this Chapter are affected by State Variations AU 5, BN 1, ES 3, HK 2, MY 6, NL 2, NZ 4, PK 3, US 9, US 11, US 12, US 13, US 17, US 34, VU 1; see Table A-1

group), UN number (if any) preceded by the letters "UN" and, where assigned, the appropriate packing group shown in Table 2-14. These four elements

4.1 DANGEROUS GOODS TRANSPORT DOCUMENT

4.1.1 The person who offers dangerous goods for transport by air must provide to the operator two copies of the dangerous goods transport document, completed and signed as provided for in this paragraph.

4.1.2 Dangerous goods must be accurately described on the dangerous goods transport document by their proper shipping name (supplemented with the technical name(s) if appropriate, see 2;11.2), class or when assigned, division (including for Class 1, compatibility group) and UN number (if any) preceded by the letters "UN". These three elements of the basic dangerous goods description must always be provided in the order given above. An example of a basic dangerous goods description is:

Acetone 3 UN 1090

For chemical kits and Dangerous goods in machinery or apparatus, first aid kits, the class or division of each of the dangerous goods contained therein must be indicated.

Note 1.— Additional descriptive text in the entries in column 1 of the Dangerous Goods List (Table 2-14) are not part of the proper shipping name but may be used in addition to the proper shipping name.

Note 2.— For explosives of Class 1, the basic dangerous goods description may be supplemented by additional descriptive text to indicate commercial or military names.

4.1.3 In addition to the basic dangerous goods description required by 4.1.2, the following additional information must be included on the dangerous goods transport document:

a) 1) when a maximum quantity per package is shown in columns 10 or 12 of Table 2-14, the net mass or the net volume or the gross mass, as appropriate, for every package of each item of dangerous goods bearing a different proper shipping name or UN number or packing group;

2) for chemical kits and first aid kits, the total net quantity of dangerous goods; The net mass of liquids within the kits to be calculated on a 1 to 1 basis of their volume, i.e. 1 litre equal to 1 kilogramme;

b) the number of packages;

c) the subsidiary risk(s), if any, corresponding to the subsidiary risk label(s) applied;

d) ~~the packing instruction applied or the special provision, if pertaining to packing, under Part 2, Chapter 12 applied, together with the appropriate packing group shown in Table 2-14, of the substance except for radioactive materials;~~

Note.— To qualify as acceptable for transport aboard passenger aircraft, passenger aircraft packing instruction number(s) must be used, and the package must not bear the 'Cargo aircraft only' label. To qualify as acceptable for transport aboard cargo only aircraft, cargo aircraft packing instruction number(s) must be used, and the package must bear the 'Cargo aircraft only' label; or passenger aircraft instruction number(s) must be shown and no 'Cargo aircraft only' label applied. However, where the packing instruction number(s) and the permitted quantity per package are identical for passenger and cargo aircraft, the 'Cargo aircraft only' label should not be used.

e) a statement, when appropriate, indicating that the dangerous goods are in limited quantities, see Part 1;2.6.6.

f) a statement indicating that the shipment is within the limitations prescribed for either passenger aircraft or cargo-only aircraft as appropriate;

g) special handling information, when appropriate;

h) an indication that an overpack has been used, when appropriate; and

i) the "Q" value rounded up to the first decimal place, if substances are packed in accordance with 1;2.6.3.3 or 3;1.1.8.6.e.

4.1.5 When waste dangerous goods (other than radioactive wastes) are being transported for disposal or for processing for disposal, the proper shipping name must be preceded by the word 'Waste'.

4.1.6 The name and address of the person who offers the dangerous goods for transport and the name and full address of the consignee must be included on the dangerous goods transport document. For infectious substances (Division 6.2), the name of a responsible person and his telephone number must also be provided.

d) the packing instruction applied and when applicable, reference to special provisions A1 or A2, except for radioactive materials;

3) For Dangerous goods in machinery or apparatus, the individual total quantities of dangerous goods in solid, liquid or gaseous state, contained in the article.

4-4-2

4.1.6 For explosive substances, where Packing Instruction 124 has been adopted by an appropriate national authority, the State's distinguishing sign for motor vehicles in international traffic of the country for which the authority acts must be marked on the dangerous goods transport document as follows:

Packaging authorized by the competent authority of .... .

Note.— In this instance the term 'competent authority' is used for inter-modal compatibility; it refers to the appropriate national authority.

4.1.7 When self-reactive substances of Division 4.1, or other substances having similar properties, are offered for transport, the shipper must indicate on the dangerous goods transport document that the packages containing such substances must be shaded from direct sunlight, stored away from all sources of heat in a well ventilated area and not overstowed with other cargo.

4.1.8 For radioactive material, the following additional information must be provided:

a) the words 'Radioactive material' if these words are not contained in the basic dangerous goods description required by 4.1.2;

b) the group for LSA material or SCO, using the terms 'LSA-I', 'LSA-II', 'LSA-III', 'SCO-I' or 'SCO-II' as appropriate;

c) the name or symbol of the radionuclide(s) in the radioactive material or, for mixtures of radionuclides, an appropriate general description or a list of the most restrictive radionuclides;

d) the activity contained in each package in terms of becquerels or multiples thereof. In addition the activity in curies, or multiples thereof, may be added in parentheses. For fissile material, the total mass of fissile material in grams or kilograms may be used in place of activity (in all cases the units used must be clearly identified);

e) a description of the physical and chemical form of the material, or a notation that the material is special form radioactive material (not required for UN 2974). A generic chemical description is acceptable for chemical form;

f) the identification mark for each competent authority certificate (special form, package design, and shipment) applicable to the shipment;

g) the category of the package, overpack or freight container, i.e. *I - White, II - Yellow, III - Yellow*;

h) for Categories II - Yellow and III - Yellow only, the transport index and the dimensions of each package, overpack or freight container (units used must be specified);

i) for a consignment of fissile material, the words 'Fissile excepted' if the material is excepted under Part 7;7.6.2;

j) any special stowage provisions that may be required for the safe dissipation of heat from the package, and if the package to be offered for transport has an average surface heat flux exceeding 15 W/m² (see 5;2.9.2.2);

k) for Type B(M) packages, a statement that no supplementary operational controls are required, when appropriate;

l) any restrictions on the type of aircraft and any necessary routing instructions;

m) any emergency arrangements appropriate to the consignment;

n) for consignments of packages in an overpack or freight container, a detailed statement of the contents of each package within the overpack or freight container and, where appropriate, of each overpack or freight container in the consignment. If packages are to be removed from the overpack or freight container at a point of intermediate unloading, additional dangerous goods transport *document(s) must be made available; and*

o) where a consignment is required to be shipped under exclusive use, the statement 'Exclusive use shipment'.

4.1.9 When the appropriate national authority authorizes the transport of a sample of a new self-reactive substance or a new formulation of an existing self-reactive substance or a new formulation of an organic peroxide, a statement must be included on the dangerous goods transport document to indicate that it is such a sample.

4.1.10 The dangerous goods transport document required by 4.1.1 must bear a declaration signed by the person who offers the dangerous goods for transport which includes the following text:

~~'I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labelled and are in all respects in proper condition for transport by air according to applicable international and national governmental regulations.'~~

4.1.11 In addition to the languages which may be required by the State of origin, English should be used for the dangerous goods transport document.

4.2 AIR WAYBILL

When an air waybill is issued for a consignment for which a dangerous goods transport document is required, the air waybill must contain a statement to indicate that the dangerous goods are described on an accompanying dangerous goods transport document. An air waybill issued for a consignment must, when applicable, indicate that the consignment must be loaded on cargo aircraft only.

4.1.9 When organic peroxides and self-reactive substances require an approval prior to transport under the provisions of Part 2; 4.1.3.3.2 or Part 2; 53.1.2.1, a statement to this effect must be included in the dangerous goods transport document. See also 4.3.4.

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations."

4.3 . ADDITIONAL DOCUMENTATION FOR OTHER THAN RADIOACTIVE MATERIAL

4.3.1 When dangerous goods are shipped as authorized by Special Provision A1 or A2, they must be accompanied by a copy of the document(s) of approval, showing the quantity limitations, the packing requirements and, in the case of A2, the labelling requirements.

4.3.2 When dangerous goods are shipped in portable tanks as authorized by Part S-3, Chapter 12 of the Supplement, they must be accompanied by a copy of the document(s) of approval.

4.3.3 When dangerous goods are shipped in packagings as authorized by Part 3;2.5, they must be accompanied by a copy of the document(s) of approval.

4.4 ADDITIONAL DOCUMENTATION FOR RADIOACTIVE MATERIAL

Copy(ies) of the applicable competent authority certificates referred to in 1.3.4 need not necessarily accompany the consignment to which they relate. The shipper must, however, be prepared to provide them to the operator before loading, unloading and at any trans-shipment. To facilitate shipment it may be preferable for the certificates to accompany the consignment.

4.5 DOCUMENTATION FOR RADIOACTIVE MATERIAL, EXCEPTED PACKAGE

Excepted packages of radioactive material must be described on the air waybill or other similar document (such as a consignment note) or on the dangerous goods transport document by the appropriate proper shipping name from the list below:

a) 'radioactive material, excepted package – limited quantity of material';

b) 'radioactive material, excepted package – instruments'; or 'radioactive material, excepted package – articles';

c) 'radioactive material, excepted package – articles manufactured from natural uranium'; or 'radioactive material, excepted package – articles manufactured from depleted uranium'; or 'radioactive material, excepted package – articles manufactured from natural thorium';

d) 'radioactive material, excepted package – empty packaging';

(see Part 2;7.9.2, 7.9.3, 7.9.4, 7.9.5 respectively).

4.3.4 When organic peroxides and self-reactive substances require an approval prior to transport under the provisions of Part 2; 4.1.3.3.2 or Part 2; 5.3.1.2.1, a copy of the approval must be attached to the dangerous goods transport document.

Introductory Note

Nothing in this Part is intended to preclude a ground handling agent from carrying out some or all of the functions of an operator.

Chapter 1
ACCEPTANCE PROCEDURES

Parts of this Chapter are affected by State Variations AU 6, CA 1, CA 5, HK 1, IR 1, IT 1, IT 5, IT 6, MY 1, MY 2, MY 3, SA 1, SG 1, US 8, US 16, US 18, US 34, ZA 1; see Table A-1

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Introductory Note

This Chapter details the responsibilities of operators with regard to the acceptance, handling and loading of dangerous goods. However, nothing contained herein should be interpreted as requiring an operator to transport a particular article or substance or as preventing an operator from imposing special requirements on the transport of a particular article or substance.

d) a unit load device containing magnetized material.

1.1 ACCEPTANCE OF DANGEROUS GOODS BY OPERATORS

1.1.1 An operator must not accept from a shipper a unit load device containing dangerous goods other than:

a) a freight container for radioactive material (see Part 7;7.1); consumer commodities

b) a unit load device containing ~~cosmetics, drugs and/or medicines~~ prepared according to Packing Instruction 910; ~~or~~

c) a unit load device containing dry ice used as a refrigerant for other than dangerous goods; or

1.1.2 An operator must not accept for transport aboard aircraft a package or overpack containing dangerous goods or a freight container containing radioactive material or a unit load device containing the dangerous goods as described in 1.1.1 b) and c) unless it is accompanied by two copies of the dangerous goods transport document or, where permitted, by the alternative documentation. One copy of the document must be retained by the operator and one copy must accompany the consignment to final destination. The operator must also not accept the package, overpack, freight container or unit load device mentioned above unless he has inspected it, found it to be properly marked and labelled and determined that ~~there are no holes, leakage or other indications~~ that its integrity has been compromised. With regard to overpacks and the packages they contain, the operator must take all reasonable steps to establish that: there is no leakage or other indication

a) the overpack does not contain packages bearing the 'Cargo aircraft only' label unless:

1) the packages are assembled in such a way that clear visibility and easy access to them is possible; or

2) the packages are not required to be accessible under Part 5;2.4.1; or

3) not more than one package is involved;

b) when these Instructions require the use of packagings bearing UN Specification Markings, or Type A or B packagings for radioactive material, the statement 'Inner packages comply with prescribed specifications' appears on an overpack used to enclose ~~any~~ these packages ~~bearing UN Specification Markings,~~ unless such markings are visible; and

c) proper shipping names, UN numbers, labels, 'limited quantities' (when applicable) and special handling instructions appearing on the interior package(s) are clearly visible or reproduced on the outside of the overpack.

With regard to freight containers containing radioactive materials, the operator must ensure that all four sides of the container are correctly labelled.

1.2 SPECIAL RESPONSIBILITIES IN ACCEPTING INFECTIOUS SUBSTANCES

1.2.1 Advance arrangements between shipper/~~carrier~~ and ~~consignee~~ operator

Dispatch of infectious substances must not take place before advance arrangements have been made between ~~consignor, operator~~ the shipper and ~~the consignee and before the consignee has confirmed with his appropriate national authorities that the substances can legally be imported and that no delay will be incurred in the delivery of the consignment to its destination.~~ the operator

1.2.2 ~~Once having made the advance arrangements required in 1.2.1,~~ The operator must accept and expedite the transport of those consignments which meet applicable requirements. If the operator finds any error in the labelling or documentation, he must immediately notify the shipper or consignee so that the appropriate corrective measures can be taken.

1.2.3 Routing

Shipments by any mode of transport must be made by the quickest possible routing. When transfers are necessary precautions must be taken to assure special care, expeditious handling and monitoring of the substances in transit. Shipping papers must show commercial transport flight numbers with date and destination and any airport(s) of trans-shipment.

1.3 ACCEPTANCE CHECKLIST

To assist in carrying out their responsibilities with respect to the acceptance of dangerous goods, operators must use a checklist. This checklist must include all reasonable steps to establish that:

a) the package(s) are correctly marked and labelled in accordance with Part 4, Chapters 2 and 3;

b) the documentation complies with the detailed requirements specified in Part 4, Chapter 4; and

c) the requirements of 1.1.2 have been fulfilled.

1.4 CARGO ACCEPTANCE PROCEDURES

Operators' acceptance staff must be adequately trained to assist them to identify and detect dangerous goods presented as general cargo.

Cargo acceptance staff should seek confirmation from shippers about the contents of any item of cargo where there are suspicions that it may contain dangerous goods. Experience has shown that many innocuous-looking items may, nevertheless, contain dangerous goods, for example:

Breathing apparatus	May indicate cylinders of compressed air or oxygen
Bull semen	May involve use of dry ice or refrigerated liquefied gas
Camping gear	May contain flammable gas, flammable liquid, matches or other dangerous goods
Chemicals	Often found to be dangerous
Consolidated consignments (groupages)	May contain any of the defined classes of dangerous goods
Cryogenic (liquid)	Indicates very low temperature, liquefied gases such as argon, helium, neon, nitrogen
Cylinders	May indicate compressed gas
Dental apparatus	May contain hazardous chemicals such as resins or solvents
Diagnostic specimens	May contain infectious substances
Diving equipment	May contain high intensity diving lamps which can generate extremely high heat when operated in air. In order to be carried safely, the bulb or battery must be disconnected
Drilling and mining equipment	May contain explosive(s) and/or other dangerous goods
Electrical equipment	May contain magnetized materials, mercury in switch gear, electron tubes or wet batteries

2.3 LOADING OF PACKAGES CONTAINING LIQUID DANGEROUS GOODS

A package of dangerous goods bearing the package orientation label prescribed in Part 4, Chapter 3 must be stowed and loaded aboard an aircraft in accordance with such a label. Single packagings with end closures containing liquid dangerous goods must be loaded and stowed aboard an aircraft with those closures upwards, notwithstanding that such single packages may also have side closures.

2.4 LOADING AND SECURING OF DANGEROUS GOODS

2.4.1 Loading on cargo aircraft

Packages or overpacks of dangerous goods bearing the 'Cargo aircraft only' label must be loaded in such a manner that a crew member or other authorized person can see, handle and, where size and mass permit, separate such packages or overpacks from other cargo in flight. This provision does not apply to:

a) substances of Class 3, Packing Group III, without a subsidiary risk;

b) poisonous and infectious substances (Class 6);

c) radioactive material (Class 7);

d) miscellaneous dangerous goods (Class 9).

2.4.2 Securing of dangerous goods

When dangerous goods subject to the provisions herein are loaded in an aircraft, the operator must protect the dangerous goods from being damaged. The operator must secure such goods in the aircraft in a manner that will prevent any movement in flight which would change the orientation of the packages. For packages or overpacks containing radioactive materials, the securing must be adequate to ensure that the separation requirements of 2.9.3 are met at all times.

2.5 DAMAGED PACKAGES OF DANGEROUS GOODS

Where any package of dangerous goods loaded on an aircraft appears to be damaged or leaking the operator must remove such package from the aircraft, or arrange for its removal by an appropriate authority or organization, and thereafter arrange for its safe disposal. In the case of a package which appears to be leaking the operator must ensure the remainder of the consignment is in a proper condition for transport by air and that no other package has been contaminated. See 3.1 and 3.2 of this Part concerning action to be taken in the event of damage to packages containing infectious substances in Class 6 and radioactive materials in Class 7.

2.6 REPLACEMENT OF LABELS

When an operator discovers that labels for packages of dangerous goods have become lost, detached or illegible he must replace them with appropriate labels in accordance with the information provided on the dangerous goods transport document.

2.7 IDENTIFICATION OF UNIT LOAD DEVICES CONTAINING DANGEROUS GOODS

2.7.1 Each unit load device containing dangerous goods which require a class hazard label must clearly display on its exterior an indication that dangerous goods are contained within the unit load device, unless those hazard class labels are themselves visible.

2.7.2 This indication must be provided by attaching to the unit load device an identification tag having a border of prominent red hatchings on both sides and the minimum dimensions of 148 mm × 210 mm. The primary hazard class or division of such dangerous goods must be visibly indicated on this tag.

2.7.3 If the unit load device contains packages bearing the 'Cargo aircraft only' label, either that label must be visible or the tag must indicate that the unit load device can only be loaded on a cargo aircraft.

2.7.4 The tag must be removed from the unit load device immediately after the dangerous goods have been unloaded.

2.8 STOWAGE OF ~~POISONOUS~~ Toxic AND INFECTIOUS SUBSTANCES

Substances requiring labels of Class 6 (~~poisonous~~ toxic and infectious substances) must not be carried in the same compartment of an aircraft with animals, substances marked as or known to be foodstuffs, feeds or other edible substances intended for consumption by humans or by animals, unless either the poisons or infectious substances and the foodstuffs or animals are loaded in separate unit load devices and when stowed aboard the aircraft the unit load devices are not adjacent to each other, or the poisons or infectious substances are loaded in one closed unit load device and the foodstuffs or animals are loaded in another closed unit load device

4.3 INFORMATION BY PILOT-IN-COMMAND IN CASE OF IN-FLIGHT EMERGENCY

If an in-flight emergency occurs, the pilot-in-command should inform the appropriate air traffic services unit, for the information of aerodrome authorities, of any dangerous goods on board. If the situation permits, the information must include the proper shipping names, class and subsidiary risks for which labels are required, the compatibility group for Class 1 and the quantity and location aboard the aircraft of the dangerous goods.

4.4 REPORTING OF DANGEROUS GOODS ACCIDENTS AND INCIDENTS

An operator must report dangerous goods accidents and incidents to the appropriate authority of the State in which the accident or incident occurred as required by that authority.

4.5 REPORTING OF UNDECLARED OR MISDECLARED DANGEROUS GOODS

An operator must report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo or when dangerous goods not permitted under 9;1.2 are discovered in passengers' baggage. Such a report must be made to the appropriate authority of the State in which this occurred.

4.6 INFORMATION BY OPERATOR IN CASE OF AN AIRCRAFT ACCIDENT OR INCIDENT

4.6.1 The operator of an aircraft carrying dangerous goods which is involved in an aircraft accident must, as soon as possible, inform the State in which the aircraft accident occurred of the dangerous goods carried together with their proper shipping names, class and subsidiary risks for which labels are required, the compatibility group for Class 1 and the quantity and location on board the aircraft.

4.6.2 The operator of an aircraft carrying dangerous goods which is involved in an aircraft incident should on request from the State in which the aircraft incident occurred provide that State with information required to minimize the hazards created by any damage to the dangerous goods carried.

4.7 CARGO ACCEPTANCE AREAS - PROVISION OF INFORMATION

An operator shall ensure that notices, sufficient in number and prominently displayed, are provided at acceptance points for cargo giving information about the transport of dangerous goods.

4.8 EMERGENCY RESPONSE INFORMATION

The operator must ensure that for consignments for which a dangerous goods transport document is required by these Instruction, appropriate information is immediately available at all times for use in emergency response to accidents and incidents involving dangerous goods in air transport. The information must be available to the pilot-in-command and can be provided by:

(a) the Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (Doc. 9481); or

(b) any other document, which provides similar information concerning the dangerous goods on board.

Chapter 2
TRAINING CURRICULA

2.1 GENERAL

Personnel engaged in the transport of dangerous goods should receive training in the requirements commensurate with their responsibilities. Such training should include:

a) general familiarization training — which should be aimed at providing familiarity with the general provisions;

b) function-specific training — which should provide detailed training in the requirements applicable to the function for which that person is responsible; and

c) safety training — which should cover the hazards presented by dangerous goods, safe handling and emergency response procedures.

Training should be provided or verified upon the employment of a person in a position involving the transport of dangerous goods by air. Recurrent training should ~~be provided to ensure knowledge remains up to date.~~ take place within 24 months of previous training to ensure knowledge is current.

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2.2 CONTENT OF TRAINING COURSES

To assist with the planning of training courses, the subject matter relating to dangerous goods transport with which various categories of personnel should be familiar as a minimum is indicated below:

Category of personnel	*Aspects of transport of dangerous goods by air with which they should be familiar*
Operator's cargo staff	Classification of dangerous goods; list of dangerous goods; prohibitions, packing instructions; labelling and marking; dangerous goods transport document(s); operator's responsibilities; shipper's responsibilities; emergency procedures
Personnel engaged in the ground handling, storage and loading of dangerous goods	General philosophy; labelling and markings; handling and loading procedures; compatibility; emergency procedures
Passenger handling staff and security staff who deal with the screening of passengers and their baggage	General philosophy; dangerous goods prohibited; exceptions for passengers; general label identification
Flight crew members	General philosophy; labelling and marking; pilots' notification; emergency procedures; compatibility; and loading procedures
Crew members (other than flight crew members)	General philosophy; dangerous goods prohibited; exceptions for passengers; general label identification; emergency procedures
Packers	Classes of dangerous goods; list of dangerous goods; general packing requirements; equivalents; specific packing instructions; labelling and marking
Shippers and shippers' agents	Classification of dangerous goods; list of dangerous goods; prohibitions; packing instructions; labelling and marking; shippers' responsibilities; dangerous goods transport document(s)

Chapter 1
APPLICABILITY, NOMENCLATURE AND CODES

1.1 APPLICABILITY

The applicability of each Chapter of this Part to the packagings for the various Classes and Divisions of dangerous goods is as set out in Table 7-1.

Table 7-1. Applicability of Chapters

Class or Division	*Chapter*
Classes 1, 2, 3, 4, 5, 8 and 9 and Division 6.1, where the packing instructions for these Classes and Division require the use of a packaging marked in accordance with Chapter 2 of this Part	1 to 4
Class 2, for refrigerated liquefied gases only	5
Division 6.2, infectious substances	2, 6
Class 7, radioactive material	7

1.2 NOMENCLATURE

1.2.1 The following nomenclature is used in these Instructions:

Bags are flexible packagings made of paper, plastic film, textiles, woven material or other suitable materials.

Boxes are packagings with complete rectangular or polygonal faces, made of metal, wood, plywood, reconstituted wood, fibreboard, plastic or other suitable material.

Closures are devices which close an opening in a receptacle.

Combination packagings are a combination of packagings for transport purposes, consisting of one or more inner packagings secured in an outer packaging in accordance with the relevant provisions of Part 3.

Composite packagings are packagings consisting of an outer packaging and an inner receptacle so constructed that the inner receptacle and the outer packaging form an integral packaging. Once assembled it remains thereafter an integrated single unit: it is filled, stored, transported and emptied as such.

Note.— Composite packagings for the purpose of these Instructions are regarded as single packagings.

Drums are flat-ended or convex-ended cylindrical packagings made of metal, fibreboard, plastic, plywood or other suitable materials. This definition also includes packagings of other shapes, e.g. round taper-necked packagings, or pail-shaped packagings. Jerricans are not covered by this definition.

Inner packagings are packagings for which an outer packaging is required for transport.

Inner receptacles are receptacles which require an outer packaging in order to perform their containment function.

Jerricans are metal or plastic packagings of rectangular or polygonal cross-section.

Maximum capacity, as used in Chapter 3, is the maximum inner volume of packagings expressed in litres.

... Small holes for purposes such as ease of handling or opening, or to meet classification requirements, are permitted as long as they do not compromise the integrity of the packaging during transport.

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Maximum net mass, as used in Chapter 3, is the maximum net mass of contents in a single packaging or maximum combined mass of inner packagings and the contents thereof expressed in kilograms.

Outer packaging is the outer protection of a composite or combination packaging together with any absorbent materials, cushioning and any other components necessary to contain and protect inner receptacles or inner packagings.

Packages are the complete product of the packing operation, consisting of the packaging and its contents prepared for transport.

Packagings are receptacles and any other components or materials necessary for the receptacle to perform its containment function and to ensure compliance with the minimum packing requirements of these Instructions.

Re-conditioned packagings include ~~the following:~~ metal drums that are:

~~— metal drums that are:~~

a) cleaned to original materials of construction, with all former contents, internal and external corrosion, and external coatings and labels removed;

b) restored to original shape and contour, with chimes (if any) straightened and sealed, and all non-integral gaskets replaced; and

c) inspected after cleaning but before painting, with rejection of packagings with visible pitting, significant reduction in material thickness, metal fatigue, damaged threads or closures, or other significant defects.

Note.— It is anticipated that further examples will be added in future.

~~*Re-used packagings* include the following:~~

~~— metal drums that are refilled with the same or similar compatible contents and are transported within distribution chains controlled by the shipper of the product.~~

~~*Note.— It is anticipated that further examples will be added in future.*~~

Single packagings are packagings which do not require any inner packaging to perform their containment function during transport.

1.2.2 The following explanations and examples are meant to assist in clarifying the use of the nomenclature in 1.2.1:

a) The 'inners' of 'combination packagings' are always termed 'inner packagings' not 'inner receptacles'. A glass bottle is an example of such an 'inner packaging'.

b) The 'inners' of 'composite packagings' are normally termed 'inner receptacles'. For example, the 'inner' of a 6HA1 composite packaging (plastic material) is such an 'inner receptacle' since it is normally not designed to perform a containment function without its 'outer packaging' and is not therefore an 'inner packaging'.

1.3 CODES FOR DESIGNATING TYPES OF PACKAGINGS

1.3.1 Two systems of codes are used in these Instructions for designating types of packagings. The first is based on the UN Recommendations, Chapter 9 and is applicable to packagings other than inner packagings. The second is applicable to inner packagings.

1.3.2 The following code is used in these Instructions for designating packagings other than inner packagings:

— an Arabic numeral indicating the ~~type~~ Kind of packaging, e.g. drum, jerrican, etc., followed by

— a capital letter(s) in Latin characters indicating the nature of the material, e.g. steel, wood, etc., followed where necessary by

— an Arabic numeral indicating the category of packaging within the ~~type~~ Kind to which the packaging belongs.

1.3.3 For composite packagings, two capital letters in Latin characters are used to indicate the nature of the materials, the first to indicate the material of the inner receptacle and the second to indicate the material of the outer packaging.

1.3.4 For combination packagings, only the code number for the outer packaging is used.

1.3.5 The following Arabic numerals indicate the ~~types~~ Kinds of packaging:

1. Drum
2. Wooden barrel (not used in these Instructions)
3. Jerrican
4. Box
5. Bag
6. Composite packaging
7. Pressure receptacle (not used in these Instructions)

Reused packagings are packagings to be filled which have been examined and found free of defects affecting the ability to withstand the performance tests; the term includes those which are transported within distribution chains controlled by the shipper of the product.

Remanufactured packagings include metal drums that:

(a) are produced as a UN type from a non-UN type;

(b) are converted from one UN type to another UN type; or

(c) undergo the replacement of integral structural components (such as non-removable heads)

Remanufactured drums are subject to the same requirements of these Instructions as apply to a new drum of the same type.

Siftproof packagings are packagings impermeable to dry contents including fine solid material produced during transport.

1.3.6 The following Latin characters indicate the material:

A. Steel (all types and surface treatments)
B. Aluminium
C. Natural wood
D. Plywood
F. Reconstituted wood
G. Fibreboard
H. Plastic material
L. Textile
M. Paper, multiwall (not used in these Instructions)
N. Metal (other than steel or aluminium) (not used in these Instructions)
P. Glass, porcelain or stoneware (not used in these Instructions)

1.3.7 If the letter 'V' follows the packaging code, this signifies a special packaging as shown in 4.1.7.

1.3.8 If the letter 'W' follows the packaging code this signifies that the packaging, although of the same type indicated by the code, is manufactured to a specification different from that in 3.1. The transport of such a packaging by air is subject to the written approval of the State of origin.

1.3.9 The following code is used in these Instructions for designating inner packagings:

— the capital letters 'IP' in Latin characters indicating 'Inner Packaging';

— an Arabic numeral indicating the type of inner packaging;

— where appropriate, a capital letter in Latin characters indicating the category within the type.

1.4 INDEX OF PACKAGINGS

Table 7-2 contains an index of packagings, other than inner packagings, referred to in Chapters 1 to 4. It lists all the packagings, except inner packagings, specified in the United Nations Recommendations for the transport of dangerous goods, and notes those not used in these Instructions for air transport. The index lists the number of the paragraph containing the requirements of those packagings used in these Instructions. The performance tests are specified in Chapter 4. Table 7-3 contains an index of inner packagings and lists the paragraph number containing the requirements together with, where applicable, individual performance tests (e.g. for aerosols).

Table 7-2. Index of packagings other than inner packagings

Kind	Code and, where applicable, category		Paragraph	Maximum capacity (L)	Maximum net mass (kg)
Steel drums	1A1	non-removable head	3.1.1	450	400
	1A2	removable head	3.1.1	450	400
Aluminium drums	1B1	non-removable head	3.1.2	450	400
	1B2	removable head	3.1.2	450	400
Steel jerricans	3A1	non-removable head	3.1.3	60	120
	3A2	removable head	3.1.3	60	120
Plywood drums	1D		3.1.4	250	400
Wooden barrels	2C1	bung type	Not used in these Instructions		
	2C2	removable head	Specialized use only		
Fibre drums	1G		3.1.5	450	400
Plastic drums and jerricans	1H1	drums, non-removable head	3.1.6	450	400
	1H2	drums, removable head	3.1.6	450	400
	3H1	jerricans, non-removable head	3.1.6	60	120
	3H2	jerricans, removable head	3.1.6	60	120
Boxes of natural wood	4C1	ordinary	3.1.7		400
	4C2	with sift-proof walls	3.1.7		400

Kind	Code and, where applicable, category		Paragraph	Maximum capacity (L)	Maximum net mass (kg)
Plywood boxes	4D		3.1.8		400
Reconstituted wood boxes	4F		3.1.9		400
Fibreboard boxes	4G		3.1.10		400
Plastic boxes	4H1	expanded plastic boxes	3.1.11		60
	4H2	solid plastic boxes	3.1.11		400
Steel or aluminium boxes	4A	steel	3.1.12		400
	~~1A2~~	~~steel with inner liner or coating~~	~~3.1.12~~		~~400~~
	4B	aluminium ~~(not yet used)~~	3.1.12		400
	~~4B2~~	~~aluminium with inner liner or coating (not yet used)~~	~~3.1.12~~		~~400~~
Textile bags	5L1	without inner liner or coating	Not used in these Instructions		
	5L2	siftproof	3.1.13		50
	5L3	water-resistant	3.1.13		50
Woven plastic bags	5H1	without inner liner or coating	Specialized use only		
	5H2	siftproof	3.1.14		50
	5H3	water-resistant	3.1.14		50
Plastic film bags	5H4		3.1.15		50
Paper bags	5M1	multiwall	Not used in these Instructions		
	5M2	multiwall, water resistant	3.1.16		50
Composite packagings (plastic material)	6HA1	plastic receptacle with outer steel drum	3.1.17	250	400
	6HA2	plastic receptacle with outer steel crate*/or box	3.1.17	60	75
	6HB1	plastic receptacle with outer aluminium drum	3.1.17	250	400
	6HB2	plastic receptacle with outer aluminium crate*/or box	3.1.17	60	75
	6HC	plastic receptacle with outer wooden box	3.1.17	60	75
	6HD1	plastic receptacle with outer plywood drum	3.1.17	250	400
	6HD2	plastic receptacle with outer plywood box	3.1.17	60	75
	6HG1	plastic receptacle with outer fibre drum	3.1.17	250	400
	6HG2	plastic receptacle with outer fibreboard box	3.1.17	60	75
	6HH1	plastic receptacle with outer plastic drum	3.1.17	250	400
	6HH2	plastic receptacle with outer solid plastic box	3.1.17	60	75
Composite packagings (glass, porcelain or stoneware)	6PA1	receptacle with outer steel drum			
	6PA2	receptacle with outer steel crate*/or box			
	6PB1	receptacle with outer aluminium drum			
	6PB2	receptacle with outer aluminium crate*/or box			
	6PC	receptacle with outer wooden box			
	6PD1	receptacle with outer plywood drum	Not used in these Instructions		
	6PD2	receptacle with outer wickerwork hamper			
	6PG1	receptacle with outer fibre drum			
	6PG2	receptacle with outer fibreboard box			
	6PH1	receptacle with outer expanded plastic packaging			
	6PH2	receptacle with outer solid plastic packaging			

* Crates are outer packagings with incomplete surfaces and are not acceptable for air transport.

Table 7-3. Index of inner packagings

Code	~~*Type*~~ Kind	*Paragraph*
IP.1	Earthenware, glass or wax	3.2.1
IP.2	Plastic	3.2.2
IP.3	Metal cans, tins or tubes (other than aluminium)	3.2.3.1
IP.3A	Metal cans, tins or tubes (aluminium)	3.2.3.2
IP.4	Multiwall paper bags	3.2.4
IP.5	Plastic bags	3.2.5
IP.6	Fibre cans or boxes	3.2.6
IP.7	Metal receptacles (aerosols), non-refillable	3.2.7.1
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Chapter 2

MARKING OF PACKAGINGS OTHER THAN INNER PACKAGINGS

Introductory Notes

Note 1.— The marking indicates that the packaging which bears it corresponds to a successfully tested design type and that it complies with the provisions of Chapters 3 and 4 which are related to the manufacture, but not to the use, of the packaging. In itself, therefore, the mark does not necessarily confirm that the packaging may be used for any particular substance.

Note 2.— The marking is intended to be of assistance to packaging manufacturers, reconditioners, packaging users, operators and appropriate authorities. In relation to the use of a new packaging, the original marking is a means for its manufacturer(s) to identify the type and to indicate those performance tests that have been met.

Note 3.— The marking does not always provide full details of the test levels, etc., and these may need to be taken further into account, e.g. by reference to a test certificate, test reports or register of successfully tested packagings. For example, a packaging having an X or Y marking may be used for substances to which a packing group having a lesser degree of danger has been assigned with the relevant maximum permissible value of the relative density, determined by taking into account the factor 1.5 or 2.25 indicated in the packaging test requirements in Chapter 4 as appropriate. That is, a Group I packaging tested for products with a relative density of 1.2 could be used as a Group II packaging for products with a relative density of 1.8 or as a Group III packaging for products with a relative density of 2.7, provided of course that all the performance criteria can still be met using the product with the higher relative density.

2.1 Marking requirements for packagings other than inner packagings

~~2.1 Each packaging intended for use according to these Instructions must bear markings which are durable, legible and of such a size relative to the packaging as to be readily visible and to show:~~

a) the United Nations packaging symbol (UN)

This must not be used for any purpose other than certifying that a packaging complies with the relevant requirements in Chapter 3 and performance tests in Chapter 4. For embossed metal packagings the capital letters 'UN' may be applied as the symbol;

b) the code ~~number~~ designating the type of packaging according to 1.3;

c) a code in two parts:

1) a letter designating the packing group(s) for which the design type has been successfully tested:

X for packing groups I, II and III
Y for packing groups II and III
Z for packing group III only;

2) A) for single packagings intended to contain liquids:
the relative density, rounded off to the first decimal, for which the design type has been tested; this may be omitted when the relative density does not exceed 1.2;

B) for packagings intended to contain solids or inner packagings:
the maximum gross mass, in kilograms, at which the design type has been tested;

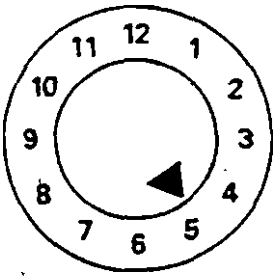
d) 1) for single packagings intended to contain liquids:
~~the maximum test pressure, in kPa rounded off to the nearest 10 kPa, successfully used for the internal pressure (hydraulic) test of the design type;~~
the hydraulic test pressure which the packaging was shown to withstand, in kPa rounded down to the nearest 10 kPa;

2) for packagings intended to contain solids or inner packagings:
the letter 'S';

2.1.1 Each packaging intended for use according to these Instructions must bear markings which are durable, legible and placed in a location and of such size relative to the packaging as to be readily visible. For packages with a gross mass of more than 30 kg the markings, or a duplicate thereof, must appear on the top or on a side of the packaging. Letters, numerals and symbols must be at least 12 mm high, except for packagings of 30 litres or 30 kg capacity or less, when they must be at least 6 mm in height and for packagings of 5 litres or 5 kg or less when they must be of an appropriate size.

The marking must show:

e) the last two digits of the year during which the packaging was manufactured. Packagings of types 1H1, 1H2, 3H1 and 3H2 must also be appropriately marked with the month of manufacture; this may be marked on the packaging in a different place from the remainder of the marking. An appropriate method is:



f) the State authorizing the allocation of the mark, indicated by the distinguishing sign for motor vehicles in international traffic;

g) the name of the manufacturer or other identification of the packaging specified by the appropriate national authority.

See page 7-2-2A

~~2.2 Every reusable packaging liable to undergo a reconditioning process which might obliterate the packaging markings must bear the marks indicated in 2.1 a) to e), in a permanent form (e.g. embossed) able to withstand the reconditioning process.~~

2.1.3 Marking must be applied in the sequence of the subparagraphs in 2.1; for examples see 2.6. Any additional markings authorized by the appropriate national authority must still enable the parts of the mark to be correctly identified with reference to 2.1.1.

2.1.4 After reconditioning a packaging, the reconditioner must apply to it, in sequence, a durable marking showing:

h) the State in which the reconditioning was carried out, indicated by the distinguishing sign for motor vehicles in international traffic;

i) the name or authorized symbol of the reconditioner;

j) the year of reconditioning; the letter 'R'; and for every packaging successfully passing the leakproofness test in 4.1.8 the additional letter 'L'.

See Page 7-2-2A

~~2.5 The marking referred to in 2.4 must be applied near the marking referred to in 2.1, and may replace that of 2.1 f) and g) or be in addition to that marking.~~

2.1.6 Examples of markings for NEW packagings:

(UN) 4G/Y145/S/84 NL/VL823	as in 2.1.1 a), b), c)1), c)2)B), d)2) and e) as in 2.1.1 f) and g)	for a new fibreboard box
(UN) 1A1/Y1.4/150/84 NL/VL824	as in 2.1.1 a), b), c)1), c)2)A), d)1) and e) as in 2.1.1 f) and g)	for a new steel drum to contain liquids
(UN) 1A2/Y150/S/84 NL/VL825	as in 2.1.1 a), b), c)1), c)2)B), d)2) and e) as in 2.1.1 f) and g)	for a new steel drum to contain solids, or inner packagings
(UN) 4HW/Y136/S/84 NL/VL826	as in 2.1.1 a), b), c)1), c)2)B), d)2) and e) as in 2.1.1 f) and g)	for a new plastic box of equivalent specification

2.1.7 Examples of markings for RECONDITIONED packagings:

(UN) 1A1/Y1.4/150/84 NL/RB/85 RL	as in 2.1.1 a), b), c)1), c)2)A), d)1) and e) as in 2.1.4 h), i) and j)	
~~(UN) 1A1/Y1.4/150/84 NL/VL824 NL/RB/85 RL~~	~~as in 2.1 a), b), c)1), c)2)A), d)1) and e) as in 2.1 f) and g) and as in 2.4 h), i) and j)~~	
(UN) 1A2/Y150/S/84 USA/RB/85 R	as in 2.1.1 a), b), c)1), c)2)B), d)2) and e) as in 2.1.4 h), i) and j)	

(In the examples above the markings are shown, for convenience, in either two or three lines; however, the markings can be applied in a single line or in multiple lines provided they are given in the correct sequence).

(UN) 1A2/Y/100/91 USA/MM5	as in 2.1.1 (a), (b), (c)(1), (c)(2)(A), (d)(1) and (e) as in 2.1.1 (f) and (g) (A)	For a remanufactured steel drum to contain liquids

Add 2.2 - See page 7-2-2A

A

2.1.2 Every reusable packaging liable to undergo a reconditioning process which might obliterate the packaging markings must bear the marks indicated in 2.1.1 (a) to (e) in a permanent form. Marks are permanent if they are able to withstand the reconditioning process (e.g. embossed). For packagings other than metal drums of a capacity greater than 100 litres, these permanent marks may replace the corresponding durable markings prescribed in 2.1.1.

2.1.2.1 In addition to the durable markings prescribed in 2.1.1, every new metal drum of a capacity greater than 100 litres must bear the marks described in 2.1.1 (a) to (e) on the bottom, with an indication of the nominal thickness of at least the metal used in the body (in mm, to 0.1 mm), in a permanent form (e.g. embossed). When the nominal thickness of either head of a metal drum is thinner than that of the body, the nominal thicknesses of the top head, body and bottom head must be marked on the bottom in a permanent form, for example "1.0-1.2-1.0" or "0.9-1.0-1.0". Nominal thicknesses of metal must be determined according to the appropriate ISO standard, for example ISO 3574:1986 for steel drums. The marks indicated in 2.1.1 (f) and (g) must not be applied in a permanent form except as provided for in 2.1.2.3.

2.1.2.2 For remanufactured metal drums, if there is no change to the packaging type and no replacement or removal of integral structural components, the required markings need not be permanent. Every other remanufactured metal drum must bear the markings indicated in 2.1.1 (a) to (e) in a permanent form on the top head or side.

2.1.2.3 Metal drums made from materials, such as stainless steel, designed to be reused repeatedly may bear the markings indicated in 2.1.1 (f) and (g) in a permanent form.

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2.1.5 When, after reconditioning, the markings required by 2.1.1 (a) to (d) no longer appear on the top head or the side of a metal drum, the reconditioner must apply them in a durable form followed by those required by ~~2.1.2.3.~~ 2.1.4. The markings must not identify a greater performance capability than that for which the original design type had been tested and marked.

A

2.2 PACKAGING MARKINGS FOR INFECTIOUS SUBSTANCES

2.2.1 Packagings for infectious substances, which meet the requirements of Packing Instruction 602 and ~~this chapter~~ Chapter 6 of this Part, must be marked with a packaging marking.

2.2.2 The packaging marking consists of:

(a) the United Nations packaging symbol;

(b) the text "CLASS 6.2";

(c) the last two digits of the year of manufacture of the packaging;

(d) the State authorizing the allocation of the mark, indicated by the distinguishing sign for motor vehicles in international traffic;

(e) the name of the manufacturer or other identification of the packaging specified by the appropriate national authority.

2.2.3 Example of a marking is:

(UN)	CLASS 6.2/92	as in 2.2.2 (a), (b) and (c)
	S/SP-9989-ERIKSSON	as in 2.2.2 (d) and (e)

7-3-2

3.1.2.5 Closure devices for removable head drums must be so designed and applied that they will remain secure and drums will remain leakproof under normal conditions of transport. Gaskets or other sealing elements must be used with all removable heads.

3.1.2.6 Maximum capacity of drum: 450 L.

3.1.2.7 Maximum net mass: 400 kg.

3.1.3 Steel jerricans
3A1 non-removable head
3A2 removable head

3.1.3.1 Body and heads must be constructed of steel sheet of a suitable type and of adequate thickness in relation to the capacity of the jerrican and intended use.

3.1.3.2 Chimes of all jerricans must be mechanically seamed or welded. Body seams of jerricans intended to contain more than 40 L of liquid must be welded. Body seams of jerricans intended to carry 40 L or less must be mechanically seamed or welded.

3.1.3.3 Openings in jerricans, non-removable head (3A1), must not exceed 70 mm in diameter. Jerricans with larger openings are considered to be of the removable head type (3A2). Closures must be so designed that they will remain secure and leakproof under normal conditions of transport. Gaskets or other sealing elements must be used with closures, unless the closure is inherently leakproof.

3.1.3.4 If materials used for body, heads, closures and fittings are not in themselves compatible with the contents to be transported, suitable internal protective coatings or treatments must be applied. These coatings or treatments must retain their protective properties under normal conditions of transport.

3.1.3.5 Maximum capacity of jerrican: 60 L.

3.1.3.6 Maximum net mass: 120 kg.

3.1.4 Plywood drums
1D

3.1.4.1 The wood used must be well seasoned, commercially dry and free from any defect likely to lessen the effectiveness of the drum for the purpose intended. If a material other than plywood is used for the manufacture of the heads, it must be of a quality equivalent to the plywood.

3.1.4.2 At least 2-ply plywood must be used for the body and at least 3-ply plywood for the heads; the plies must be firmly glued together by a water-resistant adhesive with their grain crosswise.

3.1.4.3 The body and heads of the drum and their joins must be of a design appropriate to the capacity of the drum and intended use.

3.1.4.4 In order to prevent sifting of the contents, lids must be lined with kraft paper or some other equivalent material which must be securely fastened to the lid and extend to the outside along its full circumference.

3.1.4.5 Maximum capacity of drum: 250 L.

3.1.4.6 Maximum net mass: 400 kg.

3.1.5 Fibre drums
1G

3.1.5.1 The body of the drum must consist of multiple plies of heavy paper or fibreboard (without corrugations) firmly glued or laminated together and may include one or more protective layers of bitumen, waxed kraft paper, metal foil, plastic material, etc.

3.1.5.2 Heads must be of natural wood, fibreboard, metal, plywood, ~~or~~ plastic OR other suitable material and may include one or more protective layers of bitumen, waxed kraft paper, metal foil, plastic material, etc.

3.1.5.3 The body and heads of the drum and their joins must be of a design appropriate to the capacity of the drum and intended use.

3.1.5.4 The assembled packaging must be sufficiently water-resistant so as not to delaminate under normal conditions of transport.

3.1.5.5 Maximum capacity of drum: 450 L.

3.1.5.6 Maximum net mass: 400 kg.

3.1.6 Plastic drums and jerricans
1H1 drums, non-removable head
1H2 drums, removable head
3H1 jerricans, non-removable head
3H2 jerricans, removable head

3.1.6.1 The packaging must be manufactured from suitable plastic material and be of adequate strength in relation to its capacity and intended use. No used material other than production residues or regrind from the same manufacturing process may be used. The packaging must be adequately resistant to aging and to degradation caused either by the substance contained or by ultra-violet radiation. Any permeation of the substance contained must not constitute a danger under normal conditions of transport.

3.1.6.2 Unless otherwise approved by the appropriate national authority, the period of use permitted for the transport of dangerous substances must be five years from the date of manufacture of the packaging except where a shorter period of use is prescribed because of the nature of the substance to be transported.

3.1.6.3 If protection against ultra-violet radiation is required, it must be provided by the addition of carbon black or other suitable pigments or inhibitors. These additives must be compatible with the contents and remain effective throughout the life of the packaging. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, retesting may be waived if the carbon black content does not exceed 2 per cent by mass or if the pigment content does not exceed 3 per cent by mass; the content of inhibitors of ultra-violet radiation is not limited.

3.1.6.4 Additives serving purposes other than protection against ultra-violet radiation may be included in the composition of the plastic material provided that they do not adversely affect the chemical and physical properties of the material of the packaging. Under such circumstances retesting may be waived.

3.1.6.5 The wall thickness at every point of the packaging must be appropriate to its capacity and intended use, taking into account the stresses to which each point is liable to be exposed.

3.1.6.6 Openings for filling, emptying and venting in the bodies or heads of non-removable head drums (1H1) and jerricans (3H1) must not exceed 70 mm in diameter. Drums and jerricans with larger openings are considered to be of the removable head type (1H2 and 3H2). Closures for openings in the bodies or heads of drums and jerricans must be so designed and applied that they will remain secure and leakproof under normal conditions of transport. Gaskets or other sealing elements must be used with closures unless the closure is inherently leakproof.

3.1.6.7 Closure devices for removable head drums and jerricans (1H2 and 3H2) must be so designed and applied that they will remain secure and leakproof under normal conditions of transport. Gaskets must be used with all removable heads unless the drum design or jerrican design is such that, where the removable head is properly secured, the drum or jerrican is inherently leakproof.

3.1.6.8 Maximum capacity of drums and jerricans:
1H1, 1H2: 450 L;
3H1, 3H2: 60 L.

3.1.6.9 Maximum net mass:
1H1, 1H2: 400 kg;
3H1, 3H2: 120 kg.

3.1.7 Boxes of natural wood
4C1 ordinary
4C2 with sift-proof walls

3.1.7.1 The wood used must be well seasoned, commercially dry and free from defects that would materially lessen the strength of any part of the box. The strength of the material used and the method of construction must be appropriate to the capacity and intended use of the box. The tops and bottoms may be made of water-resistant reconstituted wood such as hardboard, particle board or other suitable type.

3.1.7.2 Box 4C2: each part must consist of one piece or equivalent. Parts are considered equivalent to one piece when one of the following methods of glued assembly is used: Lindermann joint, tongue and groove joint, ship lap or rabbet joint or butt joint with at least two corrugated metal fasteners at each joint.

3.1.7.3 Maximum net mass: 400 kg.

3.1.8 Plywood boxes
4D

3.1.8.1 Plywood used must be at least 3-ply. It must be made from well seasoned rotary cut, sliced or sawn veneer, commercially dry and free from defects that would materially lessen the strength of the box. The strength of the material used and the method of construction must be appropriate to the capacity and intended use of the box. All adjacent plies must be glued with water-resistant adhesive. Other suitable materials may be used together with plywood in the construction of boxes. Boxes must be firmly nailed or screwed to corner posts or ends or be assembled by equally suitable devices.

3.1.8.2 Maximum net mass: 400 kg.

3.1.7.2 Fastenings must be resistant to vibration experienced under normal conditions of transport. End grain nailing must be avoided whenever practicable. Joins which are likely to be highly stressed must be made using clenched or annular ring nails or equivalent fastenings.

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3.1.9 Reconstituted wood boxes
4F

3.1.9.1 The walls of boxes must be made of water-resistant reconstituted wood such as hardboard, particle board or other suitable type. The strength of the material used and the method of construction must be appropriate to the capacity of the boxes and their intended use.

3.1.9.2 Other parts of the boxes may be made of other suitable material.

3.1.9.3 Boxes must be securely assembled by means of suitable devices.

3.1.9.4 Maximum net mass: 400 kg.

3.1.10 Fibreboard boxes
4G

3.1.10.1 Strong and good quality solid or double-faced corrugated fibreboard (single or multiwall) must be used, appropriate to the capacity of the box and to its intended use. The water resistance of the outer surface must be such that the increase in mass, as determined in a test carried out over a period of 30 minutes by the Cobb method of determining water absorption, is not greater than 155 g/m² — see *ISO 535:1991*. *It must have proper bending qualities. Fibreboard must be cut, creased without scoring, and slotted so as to permit* assembly without cracking, surface breaks or undue bending. The fluting of corrugated fibreboard must be firmly glued to the facings.

~~3.1.10.2 The ends of boxes may have a wooden frame or be entirely of wood. Reinforcements of wooden battens may be used.~~

3.1.10.3 Manufacturing joins in the body of boxes must be taped, lapped and glued or lapped and stitched with metal staples. Lapped joins must have an appropriate overlap. Where closing is effected by gluing or taping a water-resistant adhesive must be used.

3.1.10.4 Boxes must be designed so as to provide a good fit to the contents.

3.1.10.5 Maximum net mass: 400 kg.

3.1.11 Plastic boxes
4H1 expanded plastic boxes
4H2 solid plastic boxes

3.1.11.1 The box must be manufactured from suitable plastic material and be of adequate strength in relation to its capacity and intended use. The box must be adequately resistant to aging and to degradation caused either by the substance contained or by ultra-violet radiation.

3.1.11.2 An expanded plastic box must comprise two parts made of a moulded expanded plastic material, a bottom section containing cavities for the inner packagings and a top section covering and interlocking with the bottom section. The top and bottom sections must be designed so that the inner packagings fit snugly. The closure cap for any inner packaging must not be in contact with the inside of the top section of this box.

3.1.11.3 For dispatch, an expanded plastic box must be closed with a self-adhesive tape having sufficient tensile strength to prevent the box from opening. The adhesive tape must be weather-resistant and its adhesive compatible with the expanded plastic material of the box. Other closing devices at least equally effective may be used.

3.1.11.4 For solid plastic boxes protection against ultra-violet radiation, if required, must be provided by the addition of carbon black *or other suitable pigments or inhibitors. These additives must be compatible with the contents* and remain effective throughout the life of the box. Where use is made of carbon black, pigments or inhibitors other than those used in the manufacture of the tested design type, retesting may be waived if the carbon black content does not exceed 2 per cent by mass or if the pigment content does not exceed 3 per cent by mass; the content of inhibitors of ultra-violet radiation is not limited.

3.1.11.5 Additives serving purposes other than protection against ultra-violet radiation may be included in the composition of the plastic material provided that they do not adversely affect the chemical or physical properties of the material of the box. Under such circumstances retesting may be waived.

3.1.11.6 Solid plastic boxes must have closure devices made of a suitable material, of adequate strength and so designed as to prevent the box from unintentional opening.

3.1.11.7 Maximum net mass of a 4H1 box: 60 kg.
Maximum net mass of a 4H2 box: 400 kg.

3.1.10.2 The ends of boxes may have a wooden frame or be entirely of wood or other suitable material. Reinforcements of wooden battens or other suitable material may be used.

3.1.12 Steel or aluminium boxes

4A steel

~~4A2 steel with inner liner or coating~~

4B aluminium

~~4B2 aluminium with inner liner or coating~~

3.1.12.1 The strength of the metal and the construction of the box must be appropriate to the capacity of the box and to its intended use.

3.1.12.2 Boxes ~~4A2 and 4B2~~ must be lined with fibreboard or felt packing pieces ~~as required~~ or have an inner liner or coating of suitable material. If a double seamed metal liner is used, steps must be taken to prevent the ingress of substances, particularly explosives, into the recesses of the seams.

3.1.12.3 Closures may be of any suitable type; they must remain secured under normal conditions of transport.

3.1.12.4 Maximum net mass: 400 kg.

3.1.13 Textile bags

5L2 sift-proof

5L3 water-resistant

3.1.13.1 The textiles used must be of good quality. The strength of the fabric and the construction of the bag must be appropriate to the capacity of the bag and intended use.

3.1.13.2 Bags, sift-proof, 5L2: the bag must be made sift-proof, for example by the use of:

paper bonded to the inner surface of the bag by a water-resistant adhesive such as bitumen: or

plastic film bonded to the inner surface of the bag; or

one or more inner liners made of paper or plastic material.

3.1.13.3 Bags, water-resistant, 5L3: to prevent the entry of moisture the bag must be made waterproof, for example by the use of:

separate inner liners of water-resistant paper (e.g. waxed kraft paper, tarred paper or plastic-coated kraft paper); or

plastic film bonded to the inner surface of the bag; or

one or more inner liners made of plastic material.

3.1.13.4 Maximum net mass: 50 kg.

3.1.14 Woven plastic bags

5H2 sift-proof

5H3 water-resistant

3.1.14.1 Bags must be made from stretched tapes or monofilaments of a suitable plastic material. The strength of the material used and the construction of the bag must be appropriate to the capacity of the bag and intended use.

3.1.14.2 If the fabric is woven flat, the bags must be made by sewing or some other method ensuring closure of the bottom and one side. If the fabric is tubular, the bag must be closed by sewing, weaving or some other equally strong method of closure.

3.1.14.3 Bags, sift-proof, 5H2: The bag must be made sift-proof, for example by means of:

paper or a plastic film bonded to the inner surface of the bag; or

one or more separate inner liners made of paper or plastic material.

3.1.14.4 Bags, water-resistant, 5H3: To prevent the entry of moisture, the bag must be made waterproof, for example by means of:

separate inner liners of water-resistant paper (e.g. waxed kraft paper, double-tarred kraft paper or plastic-coated kraft paper); or

plastic film bonded to the inner or outer surface of the bag; or

one or more inner plastic liner.

3.1.14.5 Maximum net mass: 50 kg.

3.1.15 Plastic film bags
5H4

3.1.15.1 Bags must be made of a suitable plastic material. The strength of the material used and the construction of the bag must be appropriate to the capacity of the bag and the intended use. Joins and closures must withstand pressures and impacts liable to occur under normal conditions of transport.

3.1.15.2 Maximum net mass: 50 kg.

3.1.16 Paper bags
5M2 multiwall, water resistant

3.1.16.1 Bags must be made of a suitable kraft paper or of an equivalent paper with at least three plies. The strength of the paper and the construction of the bags must be appropriate to the capacity of the bag and to the intended use. Joins and closures must be sift-proof.

3.1.16.2 To prevent the entry of moisture, a bag of four plies or more must be made waterproof by the use of either a water-resistant ply as one of the two outermost plies or a water-resistant barrier made of a suitable protective material between the two outermost plies. A bag of three plies must be made waterproof by the use of a water-resistant ply as the outermost ply. Where there is a danger of the ~~contained substance reacting with moisture or where it is packed damp, a water-resistant ply or barrier must also be placed next to the substance. Joins and closures must be waterproof~~.

3.1.16.3 Maximum net mass: 50 kg.

3.1.17 Composite packagings (plastic material)
6HA1 plastic receptacle with outer steel drum
6HA2 plastic receptacle with outer steel crate*/or box
6HB1 plastic receptacle with outer aluminium drum
6HB2 plastic receptacle with outer aluminium crate*/or box
6HC plastic receptacle with outer wooden box
6HD1 plastic receptacle with outer plywood drum
6HD2 plastic receptacle with outer plywood box
6HG1 plastic receptacle with outer fibre drum
6HG2 plastic receptacle with outer fibreboard box
6HH1 plastic receptacle with outer plastic drum
6HH2 plastic receptacle with outer solid plastic box

3.1.17.1 *Inner receptacle*

3.1.17.1.1 The provisions of 3.1.6.1 and 3.1.6.4 to 3.1.6.7 must apply to inner plastic receptacles.

3.1.17.1.2 The inner plastic receptacle must fit snugly inside the outer packaging, which must be free of any projection that might abrade the plastic material.

3.1.17.1.3 Maximum capacity of inner receptacles:

6HA1, 6HB1, 6HD1, 6HG1, 6HH1: 250 L;
6HA2, 6HB2, 6HC, 6HD2, 6HG2, 6HH2: 60 L.

3.1.17.1.4 Maximum net mass:

6HA1, 6HB1, 6HD1, 6HG1, 6HH1: 400 kg;
6HA2, 6HB2, 6HC, 6HD2, 6HG2, 6HH2: 75 kg.

3.1.17.2 *Outer packaging*

3.1.17.2.1 Plastic receptacle with outer steel or aluminium drum 6HA1 or 6HB1; the relevant provisions of 3.1.1 or 3.1.2, as appropriate, must apply to the construction of the outer packaging.

3.1.17.2.2 Plastic receptacle with outer steel or aluminium box 6HA2 or 6HB2; the relevant provisions of 3.1.12 must apply to the construction of the outer packaging.

3.1.17.2.3 Plastic receptacle with outer wooden box 6HC; the relevant provisions of 3.1.7 must apply to the construction of the outer packaging.

3.1.17.2.4 Plastic receptacle with outer plywood drum 6HD1: the relevant provisions of 3.1.4 must apply to the construction of the outer packaging.

* Crates are outer packagings with incomplete surfaces and are not acceptable for air transport.

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contained substance reacting with moisture or where it is packed damp, a waterproof ply or barrier, such as double-tarred kraft paper, plastic-coated kraft paper, plastic film bonded to the inner surface of the bag, or one or more inner plastic liners, must also be placed next to the substance. Joins and closures must be waterproof.

3.2.7 Metal receptacles (aerosols), non-refillable (IP.7, IP.7A, IP.7B)

3.2.7.1 *Receptacles (aerosols) IP.7 and IP.7A*

3.2.7.1.1 *Materials and construction.* Uniform quality steel plate or non-ferrous metal of uniform drawing quality must be used:

IP.7 receptacles must have a minimum wall thickness of 0.18 mm;
IP.7A receptacles must have a minimum wall thickness of 0.20 mm.

The receptacles may be seamless or with seams welded, soldered, brazed, double-seamed or swaged. The ends must be of pressure design. Maximum capacity must not exceed 820 mL and the maximum inner diameter must not exceed 76 mm.

3.2.7.1.2 *Performance test.* One out of each lot of 25 000 or less receptacles successively produced per day must be pressure-tested to destruction:

IP.7 receptacles must not burst below 1 650 kPa gauge pressure;
IP.7A receptacles must not burst below 1 860 kPa gauge pressure.

3.2.7.2 *Receptacles (aerosols) IP.7B*

3.2.7.2.1 *Materials and construction.* Uniform quality steel plate or non-ferrous metal of uniform drawing quality must be used. The receptacles may be seamless or with seams welded, soldered, brazed, double-seamed or swaged. The ends must be of pressure design. Maximum capacity must not exceed 1 000 mL and the maximum inner diameter must not exceed 76 mm. The aerosol, including its valve, must be virtually hermetically sealed under normal conditions of transport and the valve must be suitably protected to prevent actuation during transport.

3.2.7.2.2 Performance tests required:

— Hydraulic pressure test
— *Bursting test*
— Leakage test

3.2.7.2.3 *Hydraulic pressure test.* Number of samples: six receptacles.

Method of testing and pressure applied: the pressure must be applied slowly. The test pressure must be 50 per cent higher than the internal pressure at 50°C but at least 1 000 kPa. The test pressure must be applied for 25 seconds.

Criteria for passing the test successfully: the receptacle must not show major distortions, leaks or similar faults, but a slight symmetrical distortion of the base, or one affecting the profile of the top end shall be allowed, provided that the receptacle passes the bursting test.

3.2.7.2.4 *Bursting test.* Number of samples: six receptacles; these may be the same ones used in the hydraulic pressure test.

Method of testing and pressures applied: a hydraulic pressure at least 20 per cent higher than the test pressure as mentioned in 3.2.7.2.3 must be applied.

Criteria for passing the test successfully: no receptacle may leak.

3.2.7.2.5 *Leakage test.* Number of samples: every aerosol.

Method of testing: each aerosol must be immersed in a bath of water. ~~The temperature of the water and the period of immersion must be such that:~~

~~— the contents reach a uniform temperature of 50°C or~~
~~— the pressure in the aerosol reaches that exerted by its contents at a uniform temperature of 50°C.~~

Where an aerosol is sensitive to heat, the temperature of the bath may be set at between 20°C and 30°C in which case one receptacle in 2 000 must be tested at the higher temperature.

Equally effective methods of testing may also be used.

Criteria for passing the test successfully: the aerosol must not show visible permanent distortions or any leakage.

The temperature of the water and the duration of the test must be such that the internal pressure reaches that which would be reached at 55°C, or 50°C if the liquid phase does not exceed 95% of the capacity of the aerosol at 50°C.

Chapter 4
PACKAGING PERFORMANCE TESTS

Introductory Notes

Note 1.— The performance tests specified in this Chapter take account of the material used, and constructional design of packagings. They also take into account whether the goods to be transported are liquid or solid.

Note 2.— The performance tests are designed to ensure that there will be no loss of contents under normal transport conditions. The severity of the tests on a packaging is dependent on the intended contents, taking account of the degree of danger (i.e. packing group), relative density and vapour pressure (for liquids).

4.1 PERFORMANCE AND FREQUENCY OF TESTS

4.1.1 The design type of each packaging must be tested as provided in this Chapter in accordance with procedures established by the appropriate national authority.

4.1.2 Tests must be successfully performed on each packaging design type before such packaging is used. A packaging design type is defined by the design, size, material and thickness, manner of construction and packing, but may include various surface treatments. It also includes packagings which differ from the design type only in their lesser design height.

4.1.3 Tests must be repeated on production samples at intervals established by the appropriate national authority. For such tests on paper or fibreboard packagings preparation at ambient conditions is considered equivalent to the provisions of 4.2.3.

4.1.4 Tests must also be repeated after each modification which alters the design, material or manner of construction of a packaging.

4.1.5 The appropriate national authority may permit the selective testing of packagings that differ only in minor respects from a tested type, e.g. smaller sizes of inner packagings or inner packagings of lower net mass; and packagings such as drums, bags and boxes which are produced with small reductions in external dimension(s).

4.1.6 Where an outer packaging of a combination packaging has been successfully tested with different types of inner packagings, a variety of such different inner packagings may also be assembled in this outer packaging. In addition, provided an equivalent level of performance is maintained, the following variations in inner packagings are allowed without further testing of the package:

a) Inner packagings of equivalent or smaller size may be used provided:

   1) the inner packagings are of similar design to the tested inner packagings (e.g. shape — round, rectangular, etc.);

   2) the material of construction of the inner packagings (glass, plastics, metal, etc.) offers resistance to impact and stacking forces equal to or greater than that of the originally tested inner packaging;

   3) the inner packagings have the same or smaller openings and the closure is of similar design (e.g. screw cap, friction lid, etc.);

   4) sufficient additional cushioning material is used to take up void spaces and to prevent significant movement of the inner packagings; and

   5) inner packagings are oriented within the outer packaging in the same manner as in the tested package;

b) A lesser number of the tested inner packagings, or of the alternative types of inner packagings identified in a) above, may be used provided sufficient cushioning is added to fill the void space(s) and to prevent significant movement of the inner packagings.

4.1.7 ~~Inner~~ Articles or inner packagings of any type for solids or liquids may be assembled and transported without testing in an outer packaging under the following conditions:

a) The outer packaging must have been successfully tested in accordance with 4.3 with fragile (e.g. glass) inner packagings containing liquids using the Packing Group I drop height.

b) The total combined gross mass of inner packagings must not exceed one-half the gross mass of inner packagings used for the drop test in a) above.

c) The thickness of cushioning material between inner packagings and between inner packagings and the outside of the packaging must not be reduced below the corresponding thicknesses in the originally tested packaging; and when a single inner packaging was used in the original test, the thicknesses of cushioning between inner packagings must not be less than the thickness of cushioning between the outside of the packaging and the inner packaging in the original test. When either fewer or smaller inner packagings are used (as compared to the inner packagings used in the drop test), sufficient additional cushioning material must be used to take up void spaces.

d) The outer packaging, while empty, must have been successfully tested in accordance with the stacking test in 4.6. The total mass of identical packages must be based on the combined mass of inner packagings used for the drop test in a) above.

e) Inner packagings containing liquids must be completely surrounded with a sufficient quantity of absorbent material to absorb the entire liquid contents of the inner packagings.

f) When the outer packaging is intended to contain inner packagings for liquids and is not leakproof, or is intended to contain inner packagings for solids and is not sift-proof, a means of containing any liquid or solid contents in the event of leakage must be provided in the form of a leakproof liner, plastic bag or other equally efficient means of containment.

g) Inner packagings containing liquids must comply with Part 3;1.1.6.1 and 1.1.6.2

h) Packagings must be marked in accordance with Part 7, Chapter 2 as having been tested to Packing Group I performance for combination packagings. The marked gross mass in kilograms must be the sum of the mass of the outer packaging plus one half of the mass of the inner packaging(s) as used for the drop test referred to in a) above. In addition, the marking required by 2.1 b) must be followed by the letter 'V'.

4.1.8 The appropriate national authority may at any time require proof, by tests in accordance with this Chapter, that serially produced packagings meet the requirements of the design type tests.

4.1.9 If an inner treatment or coating is required for safety reasons, it must retain its protective properties even after the tests.

~~4.1.10 Every packaging intended to contain liquids must undergo the leakproofness test prescribed in 4.4.2 to 4.4.4:~~

~~a) before it is first used for transport;~~

~~b) after reconditioning, before it is reused for transport.~~

The inner receptacle of composite packagings may be tested without the outer packaging provided the test results are not affected. This test is not necessary for inner packagings of combination packagings.

4.1.12 Methods of testing other than those described in these Instructions are acceptable, provided they are equivalent.

For packagings containing liquids, the absorbent material required by (e) above must be placed inside the means of containing the liquid contents.

4.2 PREPARATION OF PACKAGINGS FOR TESTING

4.2.1 Tests must be carried out on packagings prepared as for transport including, with respect to combination packagings, the inner packagings used. Inner or single receptacles or packagings must be filled to not less than 98% of their capacity for liquids or 95% for solids. For combination packagings where the inner packaging is designed to carry liquids and solids, separate testing is required for both liquid and solid contents. The substances or articles to be transported in the packaging may be replaced by other substances or articles except where this would invalidate the results of the tests. For solids, when another substance is used it must have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass, so long as they are placed so that the test results are not invalidated.

4.2.2 In the drop tests for liquids, when another substance is used, its relative density and viscosity should be similar to those of the substance to be transported. Water may also be used for the liquid drop test under the conditions set forth in 4.3.4.

4.2.3 Paper or fibreboard packagings must be conditioned for at least 24 hours in an atmosphere having a controlled temperature and relative humidity (r.h.). There are three options, one of which must be chosen. The preferred atmosphere is 23°C ± 2°C and 50 per cent ± 2 per cent r.h. The two other options are 20°C ± 2°C and 65 per cent ± 2 per cent r.h., or 27°C ± 2°C and 65 per cent ± 2 per cent r.h.

Note.— Average values must fall within these limits. Short-term fluctuations and measurement limitations may cause individual measurements to vary by up to ±5% relative humidity without significant impairment of test reproducibility.

4.2.4 Steps must be taken to ascertain that the plastic material used in the manufacture of plastic drums, plastic jerricans and composite packagings (plastic material) complies with the provisions in Part 3;1.1.3, Part 7;3.1.6.1 and Part 7;3.1.6.4. This may be done, for example, by submitting sample receptacles or packagings to a preliminary test extending over a long period, for example six months, during which the samples would remain filled with the substances they are intended to contain, and after which the samples must be submitted to the applicable tests listed in 4.3, 4.4, 4.5 and 4.6. For substances which may cause stress-cracking or weakening in plastic drums or jerricans, the sample, filled with the substance or another substance that is known to have at least as severe a stress-cracking influence on the plastic materials in question, must be subjected to a superimposed load equivalent to the total mass of identical packages which might be stacked on it during transport. The minimum stacking height, including the test sample, must be 3 m.

4.1.10 Every packaging intended to contain liquids must successfully undergo a suitable leakproofness test and be capable of meeting the appropriate test level indicated in 4.4.2:

(a) before it is first used for transport;

(b) after remanufacturing or reconditioning, before it is reused for transport.

For this test packagings need not have their own closures fitted.

4.1.11 Provided the validity of the test results is not affected and with the approval of the appropriate national authority, several tests may be made on one sample.

Where more than one orientation is possible for a given drop, the orientation most likely to result in failure of the packaging must be used. 7-4-3

4.3 DROP TEST

4.3.1 Number of test samples (per design type and manufacturer) and drop orientation.

For other than flat drops the centre of gravity must be vertically over the point of impact.

Packaging	*No. of test samples*	*Drop orientation*
Steel drums Aluminium drums Steel jerricans Plywood drums Fibre drums Plastic drums and jerricans Composite packagings which are in the shape of a drum	Six (three for each drop)	First drop (using three samples): the packaging must strike the target diagonally on the chime or, if the packaging has no chime, on a circumferential seam or an edge. Second drop (using the other three samples): the packaging must strike the target on the weakest part not tested by the first drop, for example a closure or, for some cylindrical drums, the welded longitudinal seam of the drum body
Boxes of natural wood Plywood boxes Reconstituted wood boxes Fibreboard boxes Plastic boxes Steel or aluminium boxes Composite packagings which are in the shape of a box	Five (one for each drop)	First drop: flat on the bottom Second drop: flat on the top Third drop: flat on the long side Fourth drop: flat on the short side Fifth drop: on a corner
Bags — single-ply without a side seam, or multi-ply	Three (two drops per bag)	First drop: flat on a wide face Second drop: on an end of the bag
Bags — single-ply with a side seam	Three (three drops per bag)	First drop: flat on a wide face Second drop: flat on a narrow face Third drop: on an end of the bag

4.3.2 Special preparation of test samples for the drop test

~~Testing of plastic drums, jerricans and boxes (see 3.1.6 and 3.1.11), of composite packagings (plastic material) (see 3.1.17) and of combination packagings with inner plastic packagings — with the exception of bags and expanded polystyrene boxes — must be carried out when the temperature of the test sample and its contents has been reduced to −18°C or lower; where test samples are prepared in this way, the conditioning specified in 1.2.3 may be waived. Test liquids must be kept in the liquid state, if necessary by the addition of anti-freeze.~~

4.3.3 Target

The target must be a rigid, non-resilient, flat and horizontal surface.

4.3.4 Drop height

For solids and liquids, if the test is performed with the solid or liquid to be transported or with another substance having essentially the same physical characteristics:

Packing group I	*Packing group II*	*Packing group III*
1.8 m	1.2 m	0.8 m

The temperature of the test sample and its contents must be reduced to -18°C or lower for the following packagings:

(a) plastic drums (see 3.1.6);
(b) plastic jerricans (see 3.1.6);
(c) plastic boxes other than expanded polystyrene boxes (see 3.1.11);
(d) textile bags with inner plastic liner (see 3.1.13);
(e) woven plastic bags (see 3.1.14);
(f) plastic film bags (see 3.1.15);
(g) composite packagings (plastic material)(see 3.1.17); and
(h) combination packagings with plastic inner packagings.

Where test samples are prepared in this way, the conditioning specified in 4.2.3 may be waived. Test liquids must be kept in the liquid state by the addition of anti-freeze, if necessary.

7-4-4

For liquids if the test is performed with water:

a) where the substances to be transported have a relative density not exceeding 1.2:

Packing group I	*Packing group II*	*Packing group III*
1.8 m	1.2 m	0.8 m

b) where the substances to be transported have a relative density exceeding 1.2, the drop height must be calculated on the basis of the relative density of the substance to be transported, rounded up to the first decimal, as follows:

Packing group I	*Packing group II*	*Packing group III*
relative density × 1.5 (m)	relative density × 1.0 (m)	relative density × 0.67 (m)

4.3.5 Criteria for passing the test

4.3.5.1 Each packaging containing liquid must be leakproof when equilibrium has been reached between the internal and external pressures, except for inner packagings of combination packagings when it is not necessary that the pressures be equalized.

4.3.5.2 Where a packaging for solids undergoes a drop test and its upper face strikes the target, the test sample passes the test if the entire contents are retained by an inner packaging or inner receptacle (e.g. a plastic bag), even if the closure is no longer sift-proof.

4.3.5.3 The packaging or the outer packaging of a composite or of a combination packaging must not exhibit any damage liable to affect safety during transport. There must be no leakage of the filling substance from the inner receptacle or inner packaging(s).

4.3.5.4 The outermost ply of a bag or an outer packaging must not exhibit any damage liable to affect safety during transport.

4.3.5.5 A slight discharge from the closure(s) upon impact need not be considered to be a failure of the packaging provided that no further leakage occurs.

4.3.5.6 No rupture is permitted in packagings for goods of Class 1 which would permit the spillage of loose explosive substances or articles from the outer packaging.

4.4 LEAKPROOFNESS TEST

The leakproofness test must be performed on all types of packagings intended to contain liquids; however, this test is not required for the inner packagings of combination packagings.

4.4.1 Number of test samples: three test samples per design type and manufacturer.

~~4.4.2 Test method and pressure to be applied: for design type tests the packagings including their closures must be restrained under water while an internal air pressure is applied; the method of restraint must not affect the results of the test. Other methods at least equally effective may be used. The air pressure (gauge) to be applied must be:~~

Packing group I	*Packing group II*	*Packing group III*
Not less than 30 kPa	Not less than 20 kPa	Not less than 20 kPa

~~4.4.3 For the leakproofness test specified in 4.1.9 the packagings need not have their own closures fitted. Each packaging must be tested as specified in 4.4.2.~~

4.4.3 Criterion for passing the test: there must be no leakage.

4.5 INTERNAL PRESSURE (HYDRAULIC) TEST

~~4.5.1 Packagings to be tested: the internal pressure (hydraulic) test must be carried out on all metal, plastic and composite packagings intended to contain liquids. However, this test is not essential for the inner packagings of combination packagings. For the internal pressure requirements for inner packagings see Part 3; 1.1.6.1.~~

4.5.2 Number of test samples: three test samples per design type and manufacturer.

4.5.1 Packagings to be tested: the internal pressure (hydraulic) test must be carried out on all design types of metal, plastic and composite packagings intended to contain liquids. This test is not required for the inner packagings of combination packagings. For the internal pressure requirements for inner packagings see Part 3; 1.1.6.1.

4.4.2 Test method and pressure to be applied: the packagings including their closures must be restrained under water for 5 minutes while an internal air pressure is applied; the method of restraint must not affect the results of the test. The air pressure (gauge) to be applied must be:

Other methods at least equally effective may be used.

4.5.3 Test method and pressure to be applied: metal packagings including their closures must be subjected to the test pressure for 5 minutes. Plastic packagings and composite packagings (plastic material) including their closures must be subjected to the test pressure for 30 minutes. The manner in which the packagings are supported must not invalidate the test. The test pressure must be applied continuously and evenly: it must be kept constant throughout the test period. The hydraulic pressure (gauge) applied, as determined by any one of the following methods, must be:

a) not less than the total gauge pressure measured in the packaging (i.e. the vapour pressure of the filling substance and the partial pressure of the air or other inert gases minus 100 kPa) at 55°C, multiplied by a safety factor of 1.5. This total gauge pressure must be determined on the basis of a maximum degree of filling in accordance with Part 3;1.1.5 and a filling temperature of 15°C. The test pressure must be not less than 95 kPa (not less than 75 kPa for liquids in Packing Group III of Class 3 or Division 6.1); or

b) not less than 1.75 times the vapour pressure at 50°C of the substance to be transported, minus 100 kPa but with a minimum test pressure of 100 kPa; or

c) not less than 1.5 times the vapour pressure at 55°C of the substance to be transported, minus 100 kPa but with a minimum test pressure of 100 kPa.

These are expressed as:

a) $P_T = (P_{M55} \times 1.5)$ kPa with minima of 95 or 75 kPa;

b) $P_T = (Vp_{50} \times 1.75) - 100$ kPa with a minimum of 100 kPa;

c) $P_T = (Vp_{55} \times 1.5) - 100$ kPa with a minimum of 100 kPa;

where:

P_T = Test pressure in kPa (gauge)

P_{M55} = Pressure measured in the filled packaging at a temperature of 55°C

Vp_{50} = Vapour pressure at 50°C

Vp_{55} = Vapour pressure at 55°C

4.5.4 In addition, packagings intended to contain liquids of Packing Group I must be tested to a minimum test pressure of 250 kPa (gauge) for a test period of 5 or 30 minutes depending upon the material of construction of the packaging.

4.5.5 Criterion for passing the test: the packaging must not leak.

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A design types of

4.6 STACKING TEST

4.6.1 All packagings other than bags must be subjected to a stacking test.

4.6.2 Number of test samples: three test samples per design type and manufacturer.

which are not subject to these instructions

4.6.3 Test method: the test sample must be subjected to a force applied to the top surface of the test sample equivalent to the total weight of identical packages which might be stacked on it during transport: where the contents of the test samples are ~~non-dangerous~~ liquids with a relative density different from that of the liquid to be transported, the force must be calculated in relation to the latter. The minimum height of the stack including the test sample must be 3 m. The duration of the test must be 24 hours except that plastic drums, jerricans and composite packagings (6HH1 and 6HH2) intended for liquids must be subjected to the stacking test for a period of 28 days at a temperature of not less than 40°C.

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4.6.4 Criteria for passing the test: the test sample must not leak. In composite packagings or combination packagings, there must be no leakage of the filling substance from the inner receptacle or inner packaging. No test sample must show any deterioration which could adversely affect transport safety or any distortion liable to reduce its strength or cause instability in a stack of packages. In instances (such as guided load tests of drums and jerricans) where stacking stability is assessed after completion of the test, this may be considered sufficient when two filled packagings of the same type placed on each test sample maintain their position for one hour. Plastic packagings must be cooled to ambient temperature before the assessment.

A Add 4.7 Test Report (See page 7-4-5A)

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4.7 TEST REPORT

4.7.1 A test report containing at least the following particulars must be drawn up and must be available to the users of the packaging:

(a) name and address of the test facility;

(b) name and address of the applicant (where appropriate);

(c) a unique test report identification;

(d) date of the test report;

(e) manufacturer of the packaging:

(f) description of the packaging type (eg dimensions, materials, closures, thickness, etc), including method of manufacture (eg blow moulding); drawings and/or photographs may be included;

(g) maximum capacity;

(h) characteristics of the test contents (eg the viscosity and relative density for liquids and the particle size for solids);

(i) test descriptions and results;

(j) a signature and name and status of the signatory.

4.7.2 The test report must contain statements that:

(a) the packaging prepared as for transport was tested in accordance with the appropriate provisions of these Instructions or the equivalent provisions of Chapter 9 of the United Nations Recommendations on the Transport of Dangerous Goods; and

(b) the use of other packaging methods or components may render it invalid.

4.7.3 A copy of the test report must be made available to the appropriate national authority.

6.1.1 Other than for packagings for organisms, samples of each packaging must be prepared for testing as described in 6.1.2 and then subjected to the tests in 6.2 and 6.3. If the nature of the packaging makes it necessary, equivalent preparation and tests are permitted, providing that these may be demonstrated to be at least as effective.

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Chapter 6

TESTING PROCEDURES FOR INFECTIOUS SUBSTANCES PACKAGINGS

6.1 GENERAL

6.1.1 *Samples of each packaging must be prepared as for transport except* that the liquid or solid infectious substance must be replaced by water or, where conditioning at –18°C is specified in 6.2.1.1 below, by a water/antifreeze mixture. Each primary receptacle must be filled to 98 per cent capacity.

~~6.1.2 Samples of each packaging for the drop test must be prepared for testing as described in 6.2.1 and then subjected to the tests in 6.2.2. If the nature of the packaging makes it necessary, equivalent preparation and tests are permitted, provided that these may be demonstrated to be at least as effective. Samples of each packaging must be subjected to the puncture test in 6.3.~~

6.2 FREE DROP TEST

6.2.1 Preparation of packagings for the drop test

6.2.1.1 Prior to testing, samples of packagings prepared as required by 6.1.2 above must be conditioned as follows based on the materials of construction of the outer and inner packagings:

Material of outer packaging	*Material of inner packaging*	*Condition packaging as provided in*
Fibreboard	Plastic	6.2.1.1.1 and 6.2.1.1.2
Fibreboard	Other	6.2.1.1.1
Plastic	Plastic	6.2.1.1.2
Plastic	Other	6.2.1.1.2
Other	Plastic	6.2.1.1.2
Other	Other	No special conditioning required

Note 1.— In the above table, 'fibreboard' refers to fibreboard or similar materials whose performance may be rapidly affected by moisture; 'plastic' refers to plastic which may embrittle at low temperature; and 'other' refers to other materials such as metal whose performance is not significantly affected by moisture or temperature.

Note 2.— Where a primary receptacle and a secondary packaging of an inner packaging are made of different materials, the material of the primary receptacle determines the appropriate conditioning and test requirements. In instances where a primary receptacle is made of two materials, the material most liable to damage determines the appropriate test.

6.2.1.1.1 The samples must be fully immersed in water for a period of at least 5 minutes and then allowed to drain for not more than 30 minutes at 23°C and 50 per cent ±2 per cent relative humidity. They must then be subjected to the test described in 6.2.2.

6.2.1.1.2 The samples must be conditioned in an atmosphere of –18°C or less for a period of at least 24 hours and within 15 minutes of removal from that atmosphere be subjected to the test described in 6.2.2. Where the samples contain dry ice, the conditioning period *may be reduced to 4 hours.*

6.2.1.2 Where the packaging is intended to contain dry ice, a test additional to those required by 6.2.1.1.1 and/or 6.2.1.1.2 must be carried out. One sample must be stored so that all the dry ice dissipates and then be subjected to whichever one of the tests in 6.2.2 is considered likely to cause the most damage.

6.1.3 Providing an equivalent level of performance is maintained, the following variations in the primary receptacles placed within a secondary packaging are allowed without further testing of the completed package:

(a) primary receptacles of equivalent or smaller size as compared to the tested primary receptacles provided;

(i) they are of similar design to the tested primary receptacle;

(ii) their material of construction (glass, plastic, metal, etc) offers resistance to impact and stacking forces equal to or greater than that of the originally tested primary receptacle;

(iii) they have the same or smaller openings and the closure is of similar design;

(iv) sufficient additional cushioning material is used to take up void spaces and to prevent significant movement of the primary receptacles; and

(v) the primary receptacles are oriented within the secondary packaging in the same manner as in the tested package;

(b) a lesser number of the tested primary receptacles, or of the alternate types of primary receptacles identified in (a), providing sufficient cushioning material is added to fill the void spaces and to prevent significant movement of the primary receptacles.

6.2.2 Drop test procedure

6.2.2.1 *General.* Samples of each packaging must be subjected to free-fall drops onto a rigid, non-resilient, flat, horizontal surface from a height of 9 metres.

6.2.2.2 *Number of samples and drop orientation.* The samples must be released in the required orientation, but it is accepted that for aerodynamic reasons the impact may not take place in that orientation.

6.2.2.2.1 Where the samples are in the shape of a box, five must be dropped once each:

A — flat onto the ~~bottom~~ base;

— flat onto the top;

A — flat onto the ~~long~~ longest side;

A — flat onto the ~~short~~ shortest side;

— onto a corner.

6.2.2.2.2 Where the samples are in the shape of a drum, three must be dropped once each:

— diagonally onto the top chime, with the centre of gravity directly above the point of impact;

— diagonally onto the base chime;

— flat onto the side.

6.2.2.3 *Criteria for passing the test.* Following each drop there must be no leakage from the primary receptacle(s), which must remain protected by absorbent material in the secondary packaging.

6.3 PUNCTURE TEST

6.3.1 General

Packagings with a gross mass of 7 kg or less must be subjected to the test described in 6.3.2.1 below and packagings with a gross mass exceeding 7 kg must be subjected to the test described in 6.3.2.2 below.

6.3.2 Test procedures

6.3.2.1 *Puncture test A.* Samples of the packaging to be tested must be placed on a level, hard surface. One sample is placed on its base. A second sample is placed in an orientation perpendicular to that used for the first sample. A cylindrical steel rod with a mass of at least 7 kg, a diameter not exceeding 38 mm and the impact end edges of a radius not exceeding 6 mm is dropped in a vertical free fall from a height of one metre measured from the impact end of the steel rod to the surface of the sample. For each sample, the steel rod is aimed to impact the primary receptacle.

6.3.2.2 *Puncture test B.* Samples of the packaging to be tested are dropped onto the end of a cylindrical steel rod. The rod is set vertically in a level hard surface and has a diameter of 38 mm with the upper end edges of a radius not exceeding 6 mm. The rod protrudes from the surface a distance at least equal to the distance between the primary receptacle(s) and the outer surface of the outer packaging, with a minimum protrusion of 200 mm. One sample is dropped in a vertical free fall from a height of 1 m, measured from the top of the steel rod. A second sample is dropped from the same height in an orientation perpendicular to that used for the first sample. In each instance the packaging must be so orientated that the steel rod would penetrate the primary receptacle(s).

6.3.2.3 *Criteria for passing the test.* Following each impact there should be no leakage from the inner packaging.

Part 8

CLASSIFICATION TESTING METHODS AND PROCEDURES ~~FOR CLASS 4 AND DIVISION 5.1~~

1.1.2.2.2.2.2 One mL of a wetting solution must be added to the pile 30-40 mm beyond the 100 mm timing zone. The wetting solution is applied to the ridge drop by drop, ensuring the whole cross-section of the pile is wetted without loss of liquid from the sides. The liquid must be applied over the shortest possible length of the pile consistent with avoiding loss from the sides. If a wetting agent is necessary because plain water rolls off the sides of the pile, it must be free from combustible diluents and the total active matter in the wetting solution must not exceed one per cent. The agent may be added to a hollow up to 3 mm deep and 5 mm in diameter in the top of the pile. The addition of a wetting solution or agent is not applicable to metal powders.

1.1.2.2.2.2.3 One end of the pile is ignited. When the pile has burned a distance of 80 mm, the rate of burning is measured over the next 100 mm. Note must be taken of whether or not the wetted zone stops propagation of the flame. The test must be performed six times using a clean cool plate each time, unless a positive result is observed earlier.

1.1.2.2.3 *Criteria for classification.* Powdered, granular or pasty substances must be classified in Division 4.1 when the time of burning of one or more of the test runs, in accordance with the test method in 1.1.2.2, is less than 45 seconds or the rate of burning is more than 2.2 mm per second. Powders of metals or metal alloys must be classified in Division 4.1 when they can be ignited and the reaction spreads over the whole length of the sample in 10 minutes or less.

1.2 SUBSTANCES IN DIVISION 4.2

1.2.1 Test methods for pyrophoric substances

1.2.1.1 *Test method for solid substances*

1.2.1.1.1 *Principle of the method and procedure.* One to two mL of the powdery substance to be tested is poured from a height of about 1 m onto a non-combustible surface and it is observed whether the substance ignites during dropping or within five minutes of settling. This test must be repeated six times unless a positive result is obtained earlier.

1.2.1.1.2 *Criterion for classification.* The substance must be considered to be pyrophoric and classified in Division 4.2 if the sample ignites in one of the tests.

1.2.1.2 *Test method for liquid substances*

1.2.1.2.1 *Principle of the method.* Liquid substances must undergo a two-part test: Part I determines if the substance ignites when added to an inert carrier and exposed to air. Part II is carried out if a negative result is obtained for Part I. This second part determines if the substance chars or ignites a filter paper.

1.2.1.2.2 *Procedure*

1.2.1.2.2.1 Part I: A porcelain cup of about 100 mm in diameter is filled with diatomaceous earth or silica gel at room temperature to a height of about 5 mm. Approximately 5 mL of the liquid to be tested is poured into the prepared porcelain cup and it is observed whether the substance ignites within five minutes. This procedure must be repeated six times unless a positive result is obtained earlier.

1.2.1.2.2.2 Part II: A 0.5 mL test sample is delivered from a syringe to an indented dry No. 3 Whatman filter paper. The test must be conducted at 25°C ± 2°C and a relative humidity of 50 per cent ± 5 per cent. Observations are made to see whether ignition or charring occurs on the filter paper within five minutes after the liquid to be tested is introduced. The test must be repeated three times using fresh filter paper each time unless a positive result is obtained earlier.

1.2.1.2.3 *Criteria for classification.* The liquid must be considered to be pyrophoric and classified in Division 4.2 if the sample ignites in Part I of the test or if the sample ignites or chars the filter paper in Part II of the test.

1.2.2 Test method for self-heating substances

1.2.2.1 *Principle of the method*

Samples in 25 mm and 100 mm cubes are kept at a constant temperature for 24 hours and observed to see whether the temperature of the sample exceeds 200°C.

Note.— The test method is a modified version of the Bowes-Cameron cage test which is a self-heating test method for carbon.

1.2.2.2 *Test equipment*

1.2.2.2.1 The equipment listed in 1.2.2.2.2 to 1.2.2.2.4 must be used for the test.

1.2.2.2.2 *Oven.* A hot air circulating type of oven with an inner volume of over 9 L and capable of controlling the internal temperature at 140°C ± 2°C is used.

Editorial note: No italics

1.2.2.2.3 *Sample containers.* The sample containers, one a 25 mm cube, the other a 100 mm cube, must be made of stainless steel net of mesh opening 0.053 mm, and the top face of each must be open. Each container must be housed in a cube-shaped cover that is made of stainless steel net of mesh opening 0.595 mm and that is slightly larger than the sample container, so that the container just fits the cover. Another cage, 150 mm × 150 mm × 250 mm in size and constructed of stainless steel net of mesh opening 0.595 mm, is required to house the cover.

Editorial note: No italics

1.2.2.2.4 *Temperature measurement.* Chromel-Alumel thermocouples of 0.3 mm diameter are placed in the centre of the sample and between the sample container and the oven wall. The temperatures must be measured continuously.

1.2.2.3 *Procedure*

Editorial note: No italics

1.2.2.3.1 *Preparation.* The sample container is filled to the brim with the powdered or granular substance, in its commercial form and the container tapped several times. If the sample settles, more must be added. If the sample is heaped it must be levelled to the brim. The container is housed in the cover and hung in the centre of the oven inside the stainless steel cage which must be located so as to avoid the effects of air circulation.

Editorial note: No italics

1.2.2.3.2 *Test conditions.* The oven temperature must be raised to 140°C and maintained for 24 hours. The temperature of the sample is then recorded. The first test is conducted with the 100 mm cube sample and observations are made to determine if spontaneous ignition occurs or if the temperature of the sample exceeds 200°C. If negative results are obtained, no further test is necessary. If positive results are obtained, a second test must be conducted with the 25 mm cube sample to determine the data for the packing group assignment.

H 1.2.2.4 *Criteria for classification*

A substance must be classified in Division 4.2 if in the first test using a 100 mm cube sample, spontaneous ignition occurs or the temperature of the sample exceeds 200°C during the 24-hour testing time. Substances with self-ignition temperatures higher than 50°C for a cubic volume of 27 m³ (i.e. a 3 m cube) should not be classified in Division 4.2.

Note.— This criterion is based on the self-ignition temperature of charcoal, which is 50°C for a cubic volume of 27 m³ and 140°C for a 1 L sample.

1.3 SUBSTANCES IN DIVISION 4.3

1.3.1 Test method for substances which, in contact with water, emit flammable gases

This test method is used to determined whether the reaction of a substance with water leads to the development of a dangerous amount of flammable gases. The test method can be applied to solid and liquid substances. It is not applicable to pyrophoric substances.

H 1.3.1.1 *Principle of the method*

Except where 1.3.1.2.4 applies the substance must be tested in its commercial form, at ambient temperature (20°C) by bringing it into contact with water. If spontaneous ignition of the gas occurs at any step, no further testing is necessary.

1.3.1.2 *Procedure*

1.3.1.2.1 A small quantity (approximately 2 mm in diameter) of the test substance is placed in a trough of distilled water at 20°C. *It must be noted whether any gas is evolved and if spontaneous ignition of the gas occurs.*

1.3.1.2.2 A small quantity (approximately 2 mm in diameter) of the test substance is placed on the centre of a filter paper which is floated flat on the surface of distilled water at 20°C in a 100-mm diameter evaporating dish. It must be noted whether any gas is evolved and if spontaneous ignition of the gas occurs.

Note.— The filter paper is to keep the substance in one place, under which condition the likelihood of spontaneous ignition of any gas is greatest.

1.3.1.2.3 The test substance must be made into a pile approximately 20 mm high and 30 mm in diameter with an indentation in the top. A few drops of water are added to the hollow. It must be noted whether any gas is evolved and if spontaneous ignition occurs.

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Chapter 3

METHOD OF TESTING FOR COMBUSTIBILITY FOR CLASS 3 SUBSTANCES

3.1 Test method

This test method is used to determine if the substance when heated under the test conditions and exposed to an external source of flame applied in a standard manner sustains combustion.

3.1.1 *Principle of the method*

A metal block with a concave depression (test portion well) is heated to a specified temperature. A specified volume of the substance under test is transferred to the well and its ability to sustain combustion is noted after application and subsequent removal of a standard flame under specified conditions.

3.1.2 *Sample*

The sample must be representative of the substance to be tested. It must be supplied and kept in a tightly closed container prior to the test. Due to the possibility of the loss of the volatile constituents, the sample must receive only the minimum treatment necessary to ensure its homogeneity. After the removal from the container of each test portion of the sample the container must be immediately closed tightly to ensure that no volatile constituents escape. Should this closure be incomplete an entirely new sample must be taken.

3.1.3 *Test equipment*

3.1.3.1 *Combustibility tester.* A block of aluminium alloy or other corrosion-resistant metal of high thermal conductivity. The block has a concave well and a pocket drilled to take a thermometer. A small gas jet assembly on a swivel is attached to the block. The handle and gas inlet for the gas jet may be fitted at any convenient angle to the gas jet. A suitable apparatus is shown in Figure 8.3 and the essential dimensions are given in Figures 8.3 and 8.4.

3.1.3.2 *Gauge.* To be used to check the height of the centre of the gas jet.

3.1.3.3 *Thermometer.* To be used to check the test temperature. The thermometer should be mercury in glass, for horizontal operation, with a sensitivity of not less than 1 mm/°C, or other measuring device of equivalent sensitivity permitting readings at 0.5°C intervals. When in position in the block the thermometer bulb must be surrounded with thermally conducting thermoplastic compound.

3.1.3.4 *Hotplate or other suitable apparatus.* To be used to heat the metal block. It must be fitted with a temperature control device or other suitable temperature control facilities.

3.1.3.5 *Stopwatch or other suitable timing device.* To be used for timing during the test.

3.1.3.6 *Syringe.* to be used to deliver the test sample to the combustibility tester. It must be capable of delivering 2 mL to an accuracy of ± 0.1mL.

3.1.3.7 *Fuel source.* Butane must be used as the test fuel.

continued on 8-3-2 and 8-3-3

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3.1.4 *Procedure*

3.1.4.1 The test must be carried out three times.

3.1.4.2 The combustibility tester must be set up in a completely draught-free area and in the absence of strong light, to facilitate the observation of flash, flame, etc. The test should not be carried out in a confined area due to the possibility of an explosion occurring.

3.1.4.3 The metal block must be placed on the hotplate or heated by other suitable means, so that its temperature, as indicated by the thermometer placed in the metal block, is maintained at the specified temperature within a tolerance of ± 1°C. The test temperature must be 60.5°C or 75°C (see 3.1.4.9). This temperature must be corrected for the difference in barometric pressure from the standard atmospheric pressure (101.3 kPa) by raising the test temperature for a higher pressure or lowering the test temperature for a lower pressure by 1.0°C for each 4 kPa difference. It must be ensured that the top of the metal block is exactly horizontal. The gauge must be used to check that the gas jet is 2.2 mm above the top of the well when in the test position.

3.1.4.4 The butane test fuel is lit with the jet away from the test position (ie in the "off" position, away from the well). The size of the flame must be adjusted so that it is 8 mm to 9 mm high and approximately 5 mm wide.

3.1.4.5 Using the syringe, a sample of at least 2 mL is taken from the container and a test portion of 2 mL ± 0.1 mL is transferred rapidly to the well of the combustibility tester and the timing device started immediately.

3.1.4.6 After a heating time of 60 s, by which time the test portion may be deemed to have reached its equilibrium temperature, and if the test portion has not ignited, the test flame must be placed into the test position over the edge of the pool of liquid. The test flame must be maintained in this test position for 15 s, after which time it must be returned to its position away from the test position (ie in the "off" position, away from the well), while observing the behaviour of the test portion. The test flame must remain alight throughout the test.

3.1.4.7 For each test observe and record:

(a) whether there is ignition and sustained combustion or flashing, or neither, of the test portion before the test flame is moved into the test position;

(b) whether the test portion ignites while the test flame is in the test position and, if so, for how long combustion is sustained after the test flame is removed from the test position.

3.1.4.8 If combustion is not sustained as specified in 3.1.5, the complete procedure must be repeated with new test portions and a heating time of 30 s.

3.1.4.9 If combustion is not sustained as specified in 3.1.5 at the test temperature of 60.5°C, the complete procedure must be repeated with new test portions and a test temperature of 75°C.

3.1.5 *Criteria for combustibility*

3.1.5.1 The liquid must be assessed as either sustaining combustion or not sustaining combustion. It must be regarded as sustaining combustion if, at either of the heating times, one of the following occurs with any of the test portions:

(a) the test portion ignites and sustains combustion when the test flame is in the position away from the test position (ie in the "off" position, away from the well);

(b) the test portion ignites while the test flame is in the test position and combustion is maintained for 15 s and sustained for more than 15 s after the test flame has been removed from the test position.

3.1.5.2 Intermittent flashing should not be interpreted as sustained combustion. Normally at the end of 15 s combustion has either clearly ceased or continues. In cases of doubt the liquid must be deemed to sustain combustion.

Dimensions in millimetres

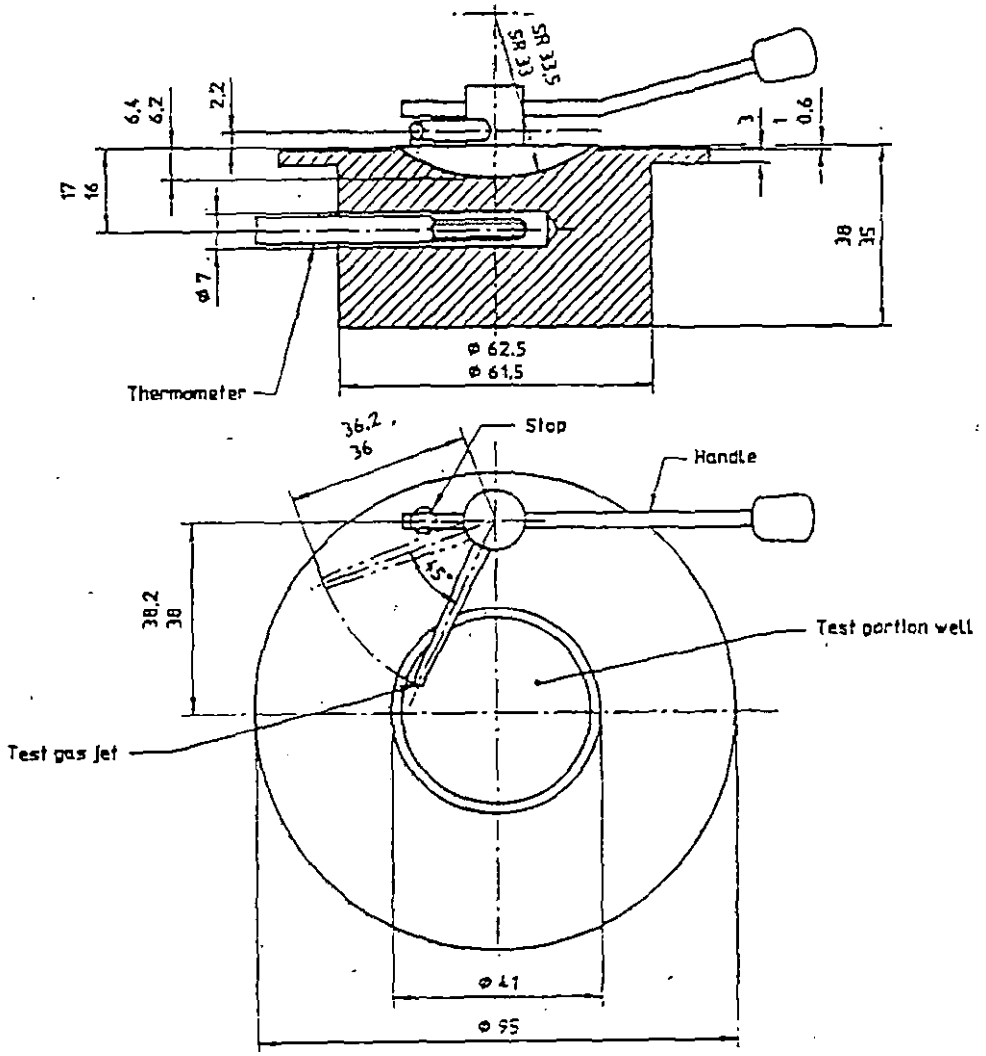

Figure 8.3 - COMBUSTIBILITY TESTER

Dimensions in millimetres

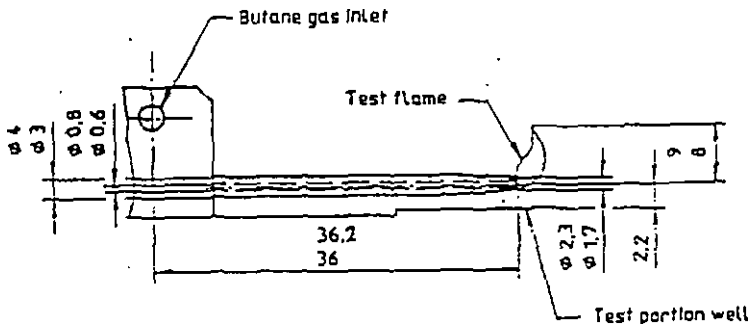

Figure 8.4 - TEST GAS JET AND FLAME

Chapter 1

PROVISIONS FOR DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

Parts of this Chapter are affected by State Variation CH 2; see Table A-1

1.1 Except as otherwise provided in 1.2 below, dangerous goods must not be carried by passengers or crew members, either as or in carry-on baggage or checked baggage or on their person. Security type attaché cases incorporating dangerous goods, for example lithium batteries or pyrotechnic material, are totally forbidden; see entry in Table 2-14.

1.2 The provisions of these Instructions do not apply to the following when carried by passengers or crew members:

a) alcoholic beverages not exceeding 70 per cent alcohol by volume when packed in receptacles of less than 5 L;

b) non-radioactive medicinal or toilet articles (including aerosols). Also aerosols in Division 2.2, with no subsidiary risk, for sporting or home use in checked baggage only. The total net quantity of all such articles carried by each person must not exceed 2 kg or 2 L and the net quantity of each single article must not exceed 0.5 kg or 0.5 L. The term 'medicinal or toilet articles (including aerosols)' is intended to include such items as hair sprays, perfumes, colognes and medicines containing alcohols;

c) with the approval of the operator(s), small gaseous oxygen or air cylinders required for medical use;

d) small carbon dioxide gas cylinders worn for the operation of mechanical limbs, also spare cylinders of a similar size if required to ensure an adequate supply for the duration of the journey;

e) with the approval of the operator(s), as checked baggage only, securely boxed cartridges for sporting purposes, in Division 1.4S, in quantities not exceeding 5 kg gross mass per person for that person's own use, excluding ammunition with explosive or incendiary projectiles. Allowances for more than one person must not be combined into one or more packages;

f) dry ice in quantities not exceeding 2 kg per person, when used to pack ~~non-dangerous~~ perishables not Subject to these Instructions, provided the package permits the release of carbon dioxide gas:

— in carry-on baggage; or

— with the approval of the operator(s), in checked baggage;

g) safety matches or a lighter intended for use by an individual when carried on the person. However, lighters containing unabsorbed liquid fuel (other than liquefied gas), lighter fuel and lighter refills are not permitted on one's person or in checked or carry-on baggage;

h) radioisotopic cardiac pacemakers or other devices, including those powered by lithium batteries, implanted into a person, or radio-pharmaceuticals contained within the body of a person as the result of medical treatment;

i) with the approval of the operator(s), wheelchairs or other battery-powered mobility aids with non-spillable batteries (see Packing Instruction 806 and Special Provision A67), as checked baggage provided that the battery is disconnected, the battery terminals are insulated to prevent accidental short circuits and the battery is securely attached to the wheelchair or mobility aid;

j) with the approval of the operator(s), wheelchairs or other battery-powered mobility aids with spillable batteries as checked baggage; provided that the wheelchair or mobility aid can be loaded, stowed, secured and unloaded always in an upright position and that the battery is disconnected, the battery terminals are insulated to prevent accidental short circuits and the battery is securely attached to the wheelchair or mobility aid. If the wheelchair or mobility aid cannot be loaded, stowed, secured and unloaded always in an upright position, the battery must be removed and the wheelchair or mobility aid may then be carried as checked baggage without restriction. The removed battery must be carried in strong, rigid packagings as follows:

1) these packagings must be leaktight, impervious to battery fluid and be protected against upset by securing to pallets or by securing them in cargo compartments using appropriate means of securement (other than by bracing with freight or baggage) such as by use of restraining straps, brackets or holders;

2) batteries must be protected against short circuits, secured upright in these packagings and surrounded by compatible absorbent material sufficient to absorb their total liquid contents; and

Note.— "Strike anywhere" matches are forbidden for air transport.

Class or division	Subsidiary risk	UN No.	Proper shipping name
Division 1.6			
1.6N		0486	**Articles, E.E.I.**
1.6N		0486	**Articles, explosive, extremely insensitive**
CLASS 2			
Division 2.1			
Specific entries			
2.1		1964	**Hydrocarbon gas, compressed, n.o.s.***
2.1		1965	**Hydrocarbon gas, liquefied, n.o.s.***
A 2.1		1964	**Hydrocarbon gas mixtures, compressed, n.o.s.***
A 2.1		1965	**Hydrocarbon gas mixtures, liquefied, n.o.s.***
General entries			
2.1		1950	**Aerosols,** flammable, n.o.s.
2.1		1954	**Compressed gas, flammable, n.o.s.***
A 2.1		3167	~~**Gas samples, non-pressurized, flammable, n.o.s.,** not deeply refrigerated~~
2.1		3161	**Liquefied gas, flammable, n.o.s.***
Division 2.2			
Specific entries			
2.2		1968	**Insecticide gas, n.o.s.***
2.2		1078	**Refrigerant gas, n.o.s.***
General entries			
2.2		1950	**Aerosols,** non-flammable, n.o.s.
2.2		1956	**Compressed gas, n.o.s.***
2.2	5.1	3156	**Compressed gas, oxidizing, n.o.s.***
2.2		3158	**Gas, refrigerated liquid, n.o.s.***
2.2		3163	**Liquefied gas, n.o.s.***
2.2	5.1	3157	**Liquefied gas, oxidizing, n.o.s.***
Division 2.3			
Specific entries			
2.3		1967	**Insecticide gas, toxic, n.o.s.***
General entries			
2.3		1955	**Compressed gas, toxic, n.o.s.***
2.3	2.1	1953	**Compressed gas, toxic, flammable, n.o.s.***
A 2.3	2.1	3168	~~**Gas samples, non-pressurized, toxic, flammable, n.o.s.,** not deeply refrigerated~~
A 2.3		3169	~~**Gas samples, non-pressurized, toxic, n.o.s.,** not deeply refrigerated~~
2.3	2.1	3160	**Liquefied gas, toxic, flammable, n.o.s.***
2.3		3162	**Liquefied gas, toxic, n.o.s.***

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	Class or division	Subsidiary risk	UN No.	Proper shipping name
	CLASS 3			
	Specific entries			
	3		1987	**Alcohols, n.o.s.***
	3	6.1	1986	**Alcohols, toxic, n.o.s.***
	3		1989	**Aldehydes, n.o.s.***
	3	6.1	1988	**Aldehydes, toxic, n.o.s.***
A	3	8	2733	~~**Alkylamines, n.o.s.***, flammable, corrosive~~
A	3	8	2985	~~**Chlorosilanes, n.o.s.**, flash point <23°C~~
A	3	6.1	2478	~~**Isocyanates, n.o.s.***, flash point <23°C~~
A	3	6.1	2478	~~**Isocyanate solutions, n.o.s.***, flash point <23°C~~
	3		1224	**Ketones, liquid, n.o.s.***
A	3	6.1	3248	~~**Medicines, liquid, flammable, poisonous, n.o.s.**~~
A	3	6.1	1228	~~**Mercaptans, liquid, n.o.s.***, flash point <23°C~~
A	3	6.1	1228	~~**Mercaptan mixtures, liquid, n.o.s.***, flash point <23°C~~
A	3		1268	~~**Petroleum distillates, n.o.s.***~~
A	3	8	2733	~~**Polyalkylamines, n.o.s.***, flammable, corrosive~~
	3		2319	**Terpene hydrocarbons, n.o.s.**
	Pesticides			
A	3	6.1	2760	**Arsenical pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2770	**Benzoic derivative pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2782	**Bipyridilium pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2758	**Carbamate pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2776	**Copper based pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	3024	**Coumarin derivative pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2772	**Dithiocarbamate pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2778	**Mercury based pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2762	**Organochlorine pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2784	**Organophosphorus pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2787	**Organotin pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	3021	**Pesticides*, liquid, flammable, toxic, n.o.s.***, flash point <23°C
A	3	6.1	2766	**Phenoxy pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2768	**Phenyl urea pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2774	**Phthalimide derivative pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2780	**Substituted nitrophenol pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C
A	3	6.1	2764	**Triazine pesticides*, liquid, flammable, toxic, ~~n.o.s.~~**, flash point <23°C

Class or division	*Subsidiary risk*	*UN No.*	*Proper shipping name*
General entries			
3		1993	Flammable liquid, n.o.s.*
3	8	2924	Flammable liquid, corrosive, n.o.s.*
A 3	6.1	1992	~~Flammable liquid, poisonous, n.o.s.*~~
CLASS 4			
Division 4.1			
Specific entries			
4.1		1353	Fabrics impregnated with weakly nitrated nitrocellulose, n.o.s.
4.1		1353	Fibres impregnated with weakly nitrated nitrocellulose, n.o.s.
4.1		3182	Metal hydrides, flammable, n.o.s.*
A 4.1		3089	Metal powders, flammable, n.o.s.
4.1		3221	Self-reactive liquid type B*
4.1		3223	Self-reactive liquid type C*
4.1		3225	Self-reactive liquid type D*
4.1		3227	Self-reactive liquid type E*
4.1		3229	Self-reactive liquid type F*
4.1		3231	Self-reactive liquid type B, temperature controlled*
4.1		3233	Self-reactive liquid type C, temperature controlled*
4.1		3235	Self-reactive liquid type D, temperature controlled*
4.1		3237	Self-reactive liquid type E, temperature controlled*
4.1		3239	Self-reactive liquid type F, temperature controlled*
4.1		3222	Self-reactive solid type B*
4.1		3224	Self-reactive solid type C*
4.1		3226	Self-reactive solid type D*
4.1		3228	Self-reactive solid type E*
4.1		3230	Self-reactive solid type F*
4.1		3232	Self-reactive solid type B, temperature controlled*
4.1		3234	Self-reactive solid type C, temperature controlled*
4.1		3236	Self-reactive solid type D, temperature controlled*
4.1		3238	Self-reactive solid type E, temperature controlled*
4.1		3240	Self-reactive solid type F, temperature controlled*
General entries			
A 4.1	8	3180	~~Flammable solid, inorganic, corrosive, n.o.s.*~~
4.1		3178	Flammable solid, inorganic, n.o.s.*
A 4.1	6.1	3179	~~Flammable solid, inorganic, poisonous, n.o.s.*~~
A 4.1	8	2925	~~Flammable solid, organic, corrosive, n.o.s.*~~
4.1		3176	Flammable solid, organic, molten, n.o.s.*
4.1		1325	Flammable solid, organic, n.o.s.*
A 4.1	6.1	2926	~~Flammable solid, organic, poisonous, n.o.s.*~~
4.1	5.1	3097	Flammable solid, oxidizing, n.o.s.*
4.1		3181	Metal salts of organic compounds, flammable, n.o.s.*
4.1		3175	Solids containing flammable liquid, n.o.s.*

	Class or division	Subsidiary risk	UN No.	Proper shipping name
	Division 4.2			
	Specific entries			
A	4.2	8	3206	~~Alkali metal alcoholates, n.o.s.*~~
	4.2		3205	Alkaline earth metal alcoholates, n.o.s.*
	4.2		1373	Fabrics, animal or vegetable or synthetic, n.o.s., with oil
	4.2		1373	Fibres, animal or vegetable or synthetic, n.o.s., with oil
	4.2		3049	Metal alkyl halides, n.o.s.*
	4.2		3050	Metal alkyl hydrides, n.o.s.*
	4.2		2003	Metal alkyls, n.o.s.*
	4.2		3049	Metal aryl halides, n.o.s.*
	4.2		3050	Metal aryl hydrides, n.o.s.*
	4.2		2003	Metal aryls, n.o.s.*
	4.2		2881	Metal catalyst, dry
	4.2		1378	Metal catalyst, wetted with a visible excess of liquid
	4.2		2006	Plastics, nitrocellulose-based, self-heating, n.o.s.*
A	4.2		1383	Pyrophoric metals, n.o.s.* or Pyrophoric alloys, n.o.s.*
A	4.2		3189	~~Self-heating metal powders, n.o.s.*~~
	General entries			
	4.2		3194	Pyrophoric liquid, inorganic, n.o.s.*
	4.2		2845	Pyrophoric liquid, organic, n.o.s.*
A	4.2		3203	Pyrophoric organometallic compounds, n.o.s.*
	4.2		3200	Pyrophoric solid, inorganic, n.o.s.*
	4.2		2846	Pyrophoric solid, organic, n.o.s.*
A	4.2	8	3188	~~Self-heating liquid, inorganic, corrosive, n.o.s.*~~
	4.2		3186	Self-heating liquid, inorganic, n.o.s.*
A	4.2	6.1	3187	~~Self-heating liquid, inorganic, poisonous, n.o.s.*~~
A	4.2	8	3185	~~Self-heating liquid, organic, corrosive, n.o.s.*~~
	4.2		3183	Self-heating liquid, organic, n.o.s.*
A	4.2	6.1	3184	~~Self-heating liquid, organic, poisonous, n.o.s.*~~
	4.2		3190	Self-heating solid, inorganic, n.o.s.*
A	4.2	8	3192	~~Self-heating solid, inorganic, corrosive, n.o.s.*~~
A	4.2	6.1	3191	~~Self-heating solid, inorganic, poisonous, n.o.s.*~~
	4.2		3088	Self-heating solid, organic, n.o.s.*
A	4.2	8	3126	~~Self-heating solid, organic, corrosive, n.o.s.*~~
A	4.2	6.1	3128	~~Self-heating solid, organic, poisonous, n.o.s.*~~
	4.2	5.1	3127	Self-heating solid, oxidizing, n.o.s.*
	Division 4.3			
	Specific entries			
A	4.3		1421	Alkali metal alloys, liquid, n.o.s.
A	4.3		1389	Alkali metal amalgams
	4.3		1390	Alkali metal amides
A	4.3		1391	Alkali metal dispersions
A	4.3		1393	Alkaline earth metal alloys, n.o.s.
A	4.3		1392	Alkaline earth metal amalgams

Class or division	Subsidiary risk	UN No.	Proper shipping name
4.3		1391	Alkaline earth metal dispersion
4.3	3 + 8	2988	~~Chlorosilanes, n.o.s., which in contact with water emit flammable gases~~
4.3		1409	Metal hydrides, water-reactive, n.o.s.*
4.3		3208	Metallic substances, water-reactive, n.o.s.*
4.3	4.2	3209	Metallic substances, water-reactive, self-heating, n.o.s.*
General entries			
4.3	3	3207	Organometallic compounds, or Compound solutions, or Compound dispersions, water-reactive, flammable, n.o.s.*
4.3		3148	Water-reactive liquid, n.o.s.*
4.3	8	3129	Water-reactive liquid, corrosive, n.o.s.*
4.3	6.1	3130	~~Water-reactive liquid, poisonous, n.o.s.*~~
4.3		2813	Water-reactive solid, n.o.s.*
4.3	8	3131	Water-reactive solid, corrosive, n.o.s.*
4.3	4.1	3132	Water-reactive solid, flammable, n.o.s.*
4.3	5.1	3133	Water-reactive solid, oxidizing, n.o.s.*
4.3	6.1	3134	~~Water-reactive solid, poisonous, n.o.s.*~~
4.3	4.2	3135	Water-reactive solid, self-heating, n.o.s.*

CLASS 5

Division 5.1

Specific entries

5.1		2072	Ammonium nitrate fertilizers, n.o.s.
5.1		1450	Bromates, inorganic, n.o.s.
5.1		3213	Bromates, inorganic, aqueous solutions, n.o.s.
5.1		1461	Chlorates, inorganic, n.o.s.
5.1		3210	Chlorates, inorganic, aqueous solutions, n.o.s.
5.1		1462	Chlorites, inorganic, n.o.s.
5.1		3212	Hypochlorites, inorganic, n.o.s.
5.1		1477	Nitrates, inorganic, n.o.s.
5.1		3218	Nitrates, inorganic, aqueous solutions, n.o.s.
5.1		2627	Nitrites, inorganic, n.o.s.
5.1		3219	Nitrites, inorganic, aqueous solutions, n.o.s.
5.1		3217	Percarbonates, inorganic, n.o.s.
5.1		1481	Perchlorates, inorganic, n.o.s.
5.1		3211	Perchlorates, inorganic, aqueous solutions, n.o.s.
5.1		1482	Permanganates, inorganic, n.o.s.
5.1		3214	Permanganates, inorganic, aqueous solutions, n.o.s.
5.1		1483	Peroxides, inorganic, n.o.s.
5.1		3215	Persulphates, inorganic, n.o.s.
5.1		3216	Persulphates, inorganic, aqueous solutions, n.o.s.

	Class or division	Subsidiary risk	UN No.	Proper shipping name
	General entries			
	5.1		3139	Oxidizing liquid, n.o.s.*
	5.1	8	3098	Oxidizing liquid, corrosive, n.o.s.*
A	5.1	6.1	3099	~~Oxidizing liquid, poisonous, n.o.s.*~~
	5.1		1479	Oxidizing solid, n.o.s.*
	5.1	8	3085	Oxidizing solid, corrosive, n.o.s.*
	5.1	4.1	3137	Oxidizing solid, flammable, n.o.s.*
A	5.1	6.1	3087	~~Oxidizing solid, poisonous, n.o.s.*~~
	5.1	4.2	3100	Oxidizing solid, self-heating, n.o.s.*
	5.1	4.3	3121	Oxidizing solid, water-reactive, n.o.s.*
	Division 5.2			
	Specific entries			
	5.2		3101	Organic peroxide type B, liquid*
	5.2		3111	Organic peroxide type B, liquid, temperature controlled*
	5.2		3102	Organic peroxide type B, solid*
	5.2		3112	Organic peroxide type B, solid, temperature controlled*
	5.2		3103	Organic peroxide type C, liquid*
	5.2		3113	Organic peroxide type C, liquid, temperature controlled*
	5.2		3104	Organic peroxide type C, solid*
	5.2		3114	Organic peroxide type C, solid, temperature controlled*
	5.2		3105	Organic peroxide type D, liquid*
	5.2		3115	Organic peroxide type D, liquid, temperature controlled*
	5.2		3106	Organic peroxide type D, solid*
	5.2		3116	Organic peroxide type D, solid, temperature controlled*
	5.2		3107	Organic peroxide type E, liquid*
	5.2		3117	Organic peroxide type E, liquid, temperature controlled*
	5.2		3108	Organic peroxide type E, solid*
	5.2		3118	Organic peroxide type E, solid, temperature controlled*
	5.2		3109	Organic peroxide type F, liquid*
	5.2		3119	Organic peroxide type F, liquid, temperature controlled*
	5.2		3110	Organic peroxide type F, solid*
	5.2		3120	Organic peroxide type F, solid, temperature controlled*
	CLASS 6			
	Division 6.1			
	Specific entries			
A	6.1		3140	Alkaloids, liquid, n.o.s.* or Alkaloid salts, liquid, n.o.s.*, ~~or 3293~~
A	6.1		1544	Alkaloids, solid, n.o.s.* or Alkaloid salts, solid, n.o.s.*, ~~or 3249~~
A	~~6.1~~		~~3145~~	~~Alkyl phenols, liquid, n.o.s. (including C_2-C_9 homologues)~~
A	~~6.1~~		~~2430~~	~~Alkyl phenols, solid, n.o.s. (including C_2-C_9 homologues)~~
A	6.1		3141	~~Antimony compounds, inorganic, liquid, n.o.s.~~
A	6.1		1549	~~Antimony compounds, inorganic, solid, n.o.s.~~

Class or division	Subsidiary risk	UN No.	Proper shipping name
6.1		1556	~~Arsenic compounds, liquid, n.o.s.~~
6.1		1557	~~Arsenic compounds, solid, n.o.s.~~
6.1		1564	~~Barium compounds, n.o.s.~~
6.1		1566	~~Beryllium compounds, n.o.s.~~
6.1		2570	~~Cadmium compounds~~
6.1	3+ 8	2742	~~Chloroformates, n.o.s.*, flash point ≥ 23°C~~
6.1		1583	Chloropicrin mixtures, n.o.s.
6.1		1588	~~Cyanides, inorganic, n.o.s.~~
6.1		3142	~~Disinfectants, liquid, n.o.s.*, poisonous~~
6.1		1601	~~Disinfectants, solid, n.o.s.*, poisonous~~
6.1		1602	~~Dyes, liquid, n.o.s.* or Dye intermediates, liquid, n.o.s.*, poisonous~~
6.1		3143	~~Dyes, solid, n.o.s.* or Dye intermediates, solid, n.o.s.*, poisonous~~
~~6.1~~		~~2941~~	~~Fluoroanilines~~
6.1		2856	Fluorosilicates, n.o.s.
6.1		1610	Halogenated irritating liquid, n.o.s.*
~~6.1~~		~~2207~~	~~Isocyanates, n.o.s.* or Isocyanate solutions, n.o.s.*, boiling point: ≥ 300°C~~
6.1		2206	~~Isocyanates, n.o.s.* or Isocyanate solutions, n.o.s.*, flash point > 60.5°C and boiling point < 300°C~~
6.1	3	3080	~~Isocyanates, n.o.s.* or Isocyanate solutions, n.o.s.*, flash point: ≥ 23°C and ≤ 60.5°C and boiling point < 300°C~~
6.1		2291	Lead compounds, soluble, n.o.s.
6.1		1851	~~Medicines, liquid, poisonous, n.o.s.~~
6.1		3249	~~Medicines, solid, poisonous, n.o.s.~~
6.1	3	3071	~~Mercaptans, liquid, n.o.s.* or Mercaptan mixtures, liquid, n.o.s.*, flash point ≥ 23°C~~
6.1		2024	Mercury compounds, liquid, n.o.s.
6.1		2025	Mercury compounds, solid, n.o.s.
6.1		3144	Nicotine compounds, liquid, n.o.s. or Nicotine preparations, liquid, n.o.s.
6.1		1655	Nicotine compounds, solid, n.o.s. or Nicotine preparations, solid, n.o.s.
6.1		2788	Organotin compounds, liquid, n.o.s.
6.1		3146	Organotin compounds, solid, n.o.s.
6.1		2026	Phenylmercuric compounds, n.o.s.
6.1		1693	Tear gas substances, liquid or solid, n.o.s.*
6.1		1707	Thallium compounds, n.o.s.
Pesticides (a) Solid			
6.1		2759	Arsenical pesticides, solid, toxic, ~~n.o.s.~~
6.1		2769	Benzoic derivative pesticides, solid, toxic, ~~n.o.s.~~
6.1		2781	Bipyridilium pesticides, solid, toxic, ~~n.o.s.~~
6.1		2757	Carbamate pesticides, solid, toxic, ~~n.o.s.~~
6.1		2775	Copper based pesticides, solid, toxic, ~~n.o.s.~~
6.1		3027	Coumarin derivative pesticides, solid, toxic, ~~n.o.s.~~
6.1		2771	Dithiocarbamate pesticides, solid, toxic, ~~n.o.s.~~
6.1		2777	Mercury based pesticides, solid, toxic, ~~n.o.s.~~

	Class or division	Subsidiary risk	UN No.	Proper shipping name
A	6.1		2761	Organochlorine pesticides, solid, toxic, ~~n.o.s.~~ *
A	6.1		2783	Organophosphorus pesticides, solid, toxic, ~~n.o.s.~~ *
A	6.1		2786	Organotin pesticides, solid, toxic, ~~n.o.s.~~ *
A	6.1		2588	Pesticides, solid, toxic, n.o.s.*
A	6.1		2765	Phenoxy pesticides, solid, toxic, ~~n.o.s.~~ *
A	6.1		2767	Phenyl urea pesticides, solid, toxic, ~~n.o.s.~~ *
A	6.1		2773	Phthalimide derivative pesticides, solid, toxic, ~~n.o.s.~~ *
A	6.1		2779	Substituted nitrophenol pesticides, solid, toxic, ~~n.o.s.~~ *
A	6.1		2763	Triazine pesticides, solid, toxic, ~~n.o.s.~~ *
	(b) Liquid			
A	6.1		2994	Arsenical pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	2993	Arsenical pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		3004	Benzoic derivative pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	3003	Benzoic derivative pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		3016	Bipyridilium pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	3015	Bipyridilium pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		2992	Carbamate pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	2991	Carbamate pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		3010	Copper based pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	3009	Copper based pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		3026	Coumarin derivative pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1		3025	Coumarin derivative pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		3006	Dithiocarbamate pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	3005	Dithiocarbamate pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		3012	Mercury based pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	3011	Mercury based pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		2996	Organochlorine pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	2995	Organochlorine pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		3018	Organophosphorus pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	3017	Organophosphorus pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		3020	Organotin pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	3019	Organotin pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C
A	6.1		2902	Pesticides, liquid, toxic, n.o.s.*
A	6.1	3	2903	Pesticides, liquid, toxic, flammable, n.o.s.*, flash point ≥ 23°C
A	6.1		3000	Phenoxy pesticides, liquid, toxic, ~~n.o.s.~~ *
A	6.1	3	2999	Phenoxy pesticides, liquid, toxic, flammable, ~~n.o.s.~~ *, flash point ≥ 23°C

	Class or division	Subsidiary risk	UN No.	Proper shipping name
A	6.1		3002	Phenyl urea pesticides, liquid, toxic, ~~n.o.s.~~
A	6.1	3	3001	Phenyl urea pesticides, liquid, toxic, flammable, ~~n.o.s.~~, flash point ≥ 23°C
A	6.1		3008	Phthalimide derivative pesticides, liquid, toxic, ~~n.o.s.~~
A	6.1	3	3007	Phthalimide derivative pesticides, liquid, toxic, flammable, ~~n.o.s.~~, flash point ≥ 23°C
A	6.1		3014	Substituted nitrophenol pesticides, liquid, toxic, ~~n.o.s.~~
A	6.1	3	3013	Substituted nitrophenol pesticides, liquid, toxic, flammable, ~~n.o.s.~~, flash point ≥ 23°C
A	6.1		2998	Triazine pesticides, liquid, toxic, ~~n.o.s.~~
A	6.1	3	2997	Triazine pesticides, liquid, toxic, flammable, ~~n.o.s.~~, flash point ≥ 23°C
	General entries			
A	6.1		2810	~~Poisonous liquid, n.o.s.*~~
A	6.1	8	2927	~~Poisonous liquid, corrosive, n.o.s.*~~
A	6.1	3	2929	~~Poisonous liquid, flammable, n.o.s.*~~
A	6.1	5.1	3122	~~Poisonous liquid, oxidizing, n.o.s.*~~
A	6.1	4.3	3123	~~Poisonous liquid, water-reactive, n.o.s.*~~
A	6.1		2811	~~Poisonous solid, n.o.s.*~~
A	6.1	8	2928	~~Poisonous solid, corrosive, n.o.s.*~~
A	6.1	4.1	2930	~~Poisonous solid, flammable, n.o.s.*~~
A	6.1	5.1	3086	~~Poisonous solid, oxidizing, n.o.s.*~~
A	6.1	4.2	3124	~~Poisonous solid, self-heating, n.o.s.*~~
A	6.1	4.3	3125	~~Poisonous solid, water-reactive, n.o.s.*~~
A	6.1		3243	~~Solids containing poisonous liquid, n.o.s.*~~
	6.1		3172	Toxins, extracted from living sources, n.o.s.*
	Division 6.2			
	General entries			
A	6.2		2900	Infectious substances, affecting animals* only
A	6.2		2814	Infectious substances, affecting humans*
	CLASS 7			
	General entries			
	7		2982	Radioactive material, n.o.s.
	7		2918	Radioactive material, fissile, n.o.s.
	7		2912	Radioactive material, low specific activity (LSA), n.o.s.
	7		2974	Radioactive material, special form, n.o.s.

	Class or division	Subsidiary risk	UN No.	Proper shipping name
	CLASS 8			
	Specific entries			
A	8		2735	~~Alkylamines, n.o.s.*, corrosive~~
A	8	3	2734	~~Alkylamines, n.o.s.*, corrosive, flammable~~
A	8		1740	~~Bifluorides, n.o.s.~~
A	8		2693	**Bisulphites, ~~inorganic~~, aqueous solutions, n.o.s.***
	8		1719	**Caustic alkali liquid, n.o.s.***
A	8		2987	~~Chlorosilanes, n.o.s.~~
A	8	3	2986	~~Chlorosilanes, n.o.s., flash point ≥ 23°C~~
A	8		1903	~~Disinfectants, corrosive, liquid, n.o.s.*~~
A	8		2801	~~Dyes, liquid, n.o.s.* or Dye intermediates, liquid, n.o.s.*, corrosive~~
A	8		3147	~~Dyes, solid, n.o.s.* or Dye intermediates, solid, n.o.s.*, corrosive~~
A	8		2735	~~Polyalkylamines, n.o.s.*, corrosive~~
A	8	3	2734	~~Polyalkylamines, n.o.s.*, corrosive, flammable~~
	General entries			
	8		1760	**Corrosive liquid, n.o.s.***
	8	3	2920	**Corrosive liquid, flammable, n.o.s.***
A	8	6.1	2922	~~Corrosive liquid, poisonous, n.o.s.*~~
	8	5.1	3093	**Corrosive liquid, oxidizing, n.o.s.***
	8	4.3	3094	**Corrosive liquid, water-reactive, n.o.s.***
	8		1759	**Corrosive solid, n.o.s.***
	8	4.1	2921	**Corrosive solid, flammable, n.o.s.***
	8	5.1	3084	**Corrosive solid, oxidizing, n.o.s.***
A	8	6.1	2923	~~Corrosive solid, poisonous, n.o.s.*~~
	8	4.2	3095	**Corrosive solid, self-heating, n.o.s.***
	8	4.3	3096	**Corrosive solid, water-reactive, n.o.s.***
	8		3244	**Solids containing corrosive liquid, n.o.s.***
	CLASS 9			
	General entries			Consumer Commodity.
F	9		–	~~Drugs, n.o.s.~~, containing flammable aerosol and/or non-flammable aerosol and/or flammable liquid and/or toxic substance, ~~in small inner packagings~~
A	9		3082	**Environmentally hazardous substances, liquid, n.o.s.***
A	9		3077	**Environmentally hazardous substances, solid, n.o.s.***
L	~~9~~		–	~~Cosmetics, n.o.s., containing flammable aerosol and/or non-flammable aerosol and/or flammable liquid, in small inner packagings~~
L	~~9~~		–	~~Medicines, n.o.s., containing flammable aerosol and/or non-flammable aerosol and/or flammable liquid and/or toxic substance, in small inner packagings~~

A

AMENDMENTS AND ADDITIONS TO ATTACHMENT 1, CHAPTER 2
(Additions are indicated by "|" in margin)

Division 1.1

1.1C		0497	Propellant, liquid
1.1C		0498	Propellant, solid

Division 1.3

1.3C		0495	Propellant, liquid
1.3C		0499	Propellant, solid

Division 2.1

General entries

2.1		3167	Gas sample, non-pressurized, flammable, n.o.s., not refrigerated liquid

Division 2.3

General entries

2.3	2.1	1950	Aerosols, flammable, n.o.s., containing toxic gas
2.3		1950	Aerosols, non-flammable, n.o.s., containing toxic gas
2.3		3169	Gas sample, non-pressurized, toxic, n.o.s., not refrigerated liquid
2.3	2.1	3168	Gas sample, non-pressurized, toxic, flammable, n.o.s., not refrigerated liquid

Class 3

Specific entries

3		3274	Alcoholates solution, n.o.s.*, in alcohol
3	8	2733	Amines, flammable, corrosive, n.o.s.*
3	8	2985	Chlorosilanes, flammable, corrosive, n.o.s.
3		3272	Esters, n.o.s.*
3		3271	Ethers, n.o.s.*
3		3295	Hydrocarbons liquid, n.o.s.
3	6.1	2478	Isocyanates, flammable, toxic, n.o.s.* or Isocyanate solution, flammable, toxic, n.o.s.*
3	6.1	3248	Medicine, liquid, flammable, toxic, n.o.s.

3	6.1	1228	Mercaptan mixture, liquid, flammable, toxic, n.o.s.* or Mercaptans, liquid, flammable, toxic, n.o.s.*
3	6.1	3273	Nitriles, flammable, toxic, n.o.s.*
3		1268	Petroleum distillates, n.o.s. or Petroleum products, n.o.s.
3	8	2733	Polyamines, flammable, corrosive, n.o.s.*
General entries			
3		3256	Elevated temperature liquid, flammable, n.o.s., with flash point above 60.5°C, at or above its flash point
3	6.1	1992	Flammable liquid, toxic, n.o.s.*
3	6.1+8	3286	Flammable liquid, toxic, corrosive, n.o.s.*
Division 4.1			
General entries			
4.1	8	3180	Flammable solid, corrosive, inorganic, n.o.s.*
4.1	8	2925	Flammable solid, corrosive, organic, n.o.s.*
4.1	6.1	3179	Flammable solid, toxic, inorganic, n.o.s.*
4.1	6.1	2926	Flammable solid, toxic, organic, n.o.s.*
Division 4.2			
Specific entries			
4.2	8	3206	Alkali metal alcoholates, self-heating, corrosive, n.o.s.*
4.2		3189	Metal powder, self-heating, n.o.s.*
General entries			
4.2	8	3188	Self-heating liquid, corrosive, inorganic, n.o.s.*
4.2	8	3185	Self-heating liquid, corrosive, organic, n.o.s.*
4.2	6.1	3187	Self-heating liquid, toxic, inorganic, n.o.s.*
4.2	6.1	3184	Self-heating liquid, toxic, organic, n.o.s.*
4.2	8	3192	Self-heating solid, corrosive, inorganic, n.o.s.*
4.2	8	3126	Self-heating solid, corrosive, organic, n.o.s.*
4.2	6.1	3191	Self-heating solid, toxic, inorganic, n.o.s.*
4.2	6.1	3128	Self-heating solid, toxic, organic, n.o.s.*

Division 4.3

Specific entries

4.3	3+8	2988	Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.

General entries

4.3	6.1	3130	Water-reactive liquid, toxic, n.o.s.*
4.3	6.1	3134	Water-reactive solid, toxic, n.o.s.*

Division 5.1

General entries

5.1	6.1	3099	Oxidizing liquid, toxic, n.o.s.*
5.1	6.1	3087	Oxidizing solid, toxic, n.o.s.*

Division 6.1

Specific entries

6.1	8	3277	Chloroformates, toxic, corrosive, n.o.s.*
6.1	3+8	2742	Chloroformates, toxic, corrosive, flammable, n.o.s.
6.1		1588	Cyanides, inorganic, solid, n.o.s.*
6.1		1935	Cyanide solution, n.o.s.
6.1		3142	Disinfectant, liquid, toxic, n.o.s.*
6.1		1601	Disinfectant, solid, toxic, n.o.s.*
6.1		1602	Dye intermediate, liquid, toxic, n.o.s.* or Dye, liquid, toxic, n.o.s.*
6.1		3143	Dye intermediate, solid, toxic, n.o.s.* or Dye, solid, toxic, n.o.s.*
6.1		2206	Isocyanate solution, toxic, n.o.s.* or Isocyanates, toxic, n.o.s.*
6.1	3	3080	Isocyanate solution, toxic, flammable, n.o.s.* or Isocyanates, toxic, flammable, n.o.s.*
6.1		1851	Medicine, liquid, toxic, n.o.s.
6.1		3249	Medicine, solid, toxic, n.o.s.
6.1	3	3071	Mercaptan mixture, liquid, toxic, flammable, n.o.s.* or Mercaptans, liquid, toxic, flammable, n.o.s.*
6.1		3281	Metal carbonyls, n.o.s.*

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6.1		3276	Nitriles, toxic, n.o.s.*
6.1	3	3275	Nitriles, toxic, flammable, n.o.s.*
6.1		3280	Organoarsenic compound, toxic, n.o.s.*
6.1		3282	Organometallic compound, toxic, n.o.s.*
6.1		3278	Organophosphorus compound, toxic, n.o.s.*
6.1	3	3279	Organophosphorus compound, toxic, flammable, n.o.s.*
6.1		3283	Selenium compound, n.o.s.
6.1		3284	Tellurium compound, n.o.s.
6.1		3285	Vanadium compound, n.o.s.

General entries

6.1		3243	Solids containing toxic liquid, n.o.s.*
6.1	8	3289	Toxic liquid, corrosive, inorganic, n.o.s.*
6.1	8	2927	Toxic liquid, corrosive, organic, n.o.s.*
6.1	3	2929	Toxic liquid, flammable, organic, n.o.s.*
6.1		3287	Toxic liquid, inorganic, n.o.s.*
6.1		2810	Toxic liquid, organic, n.o.s.*
6.1	5.1	3122	Toxic liquid, oxidizing, n.o.s.*
6.1	4.3	3123	Toxic liquid, water-reactive, n.o.s.*
6.1	8	3290	Toxic solid, corrosive, inorganic, n.o.s.*
6.1	8	2928	Toxic solid, corrosive, organic, n.o.s.*
6.1	4.1	2930	Toxic solid, flammable, organic, n.o.s.*
6.1		3288	Toxic solid, inorganic, n.o.s.*
6.1		2811	Toxic solid, organic, n.o.s.*
6.1	5.1	3086	Toxic solid, oxidizing, n.o.s.*
6.1	4.2	3124	Toxic solid, self-heating, n.o.s.*
6.1	4.3	3125	Toxic solid, water-reactive, n.o.s.*

Division 6.2

Specific entries

6.2	3291	Biomedical waste, n.o.s.
6.2	3291	Clinical waste, unspecified, n.o.s.
6.2	3291	Medical waste, n.o.s.
6.2	3291	Regulated medical waste, n.o.s.

Class 8

Specific entries

8	3145	Alkylphenols, liquid, n.o.s. (including C_2-C_{12} homologues)
8	2430	Alkylphenols, solid, n.o.s. (including C_2-C_{12} homologues)
8	2735	Amines, liquid, corrosive, n.o.s.*
8 3	2734	Amines, liquid, corrosive, flammable, n.o.s.*
8	3259	Amines, solid, corrosive, n.o.s.*
8	2987	Chlorosilanes, corrosive, n.o.s.
8 3	2986	Chlorosilanes, corrosive, flammable, n.o.s.
8	1903	Disinfectant, liquid, corrosive, n.o.s.*
8	2801	Dye intermediate, liquid, corrosive, n.o.s.* or Dye, liquid, corrosive, n.o.s.*
8	3147	Dye intermediate, solid, corrosive, n.o.s.* or Dye, solid, corrosive, n.o.s.*
8	1740	Hydrogendifluorides, n.o.s.
8	2735	Polyamines, liquid, corrosive, n.o.s.*
8 3	2734	Polyamines, liquid, corrosive, flammable, n.o.s.*
8	3259	Polyamines, solid, corrosive, n.o.s.*

General entries

8	3264	Corrosive liquid, acidic, inorganic, n.o.s.*
8	3265	Corrosive liquid, acidic, organic, n.o.s.*
8	3266	Corrosive liquid, basic, inorganic, n.o.s.*

8		3267	Corrosive liquid, basic, organic, n.o.s.*
8	4.2	3301	Corrosive liquid, self-heating, n.o.s.*
8	6.1	2922	Corrosive liquid, toxic, n.o.s.*
8		3260	Corrosive solid, acidic, inorganic, n.o.s.*
8		3261	Corrosive solid, acidic, organic, n.o.s.*
8		3262	Corrosive solid, basic, inorganic, n.o.s.*
8		3263	Corrosive solid, basic, organic, n.o.s.*
8	6.1	2923	Corrosive solid, toxic, n.o.s.*

Class 9

General entries

9	3257	Elevated temperature liquid, n.o.s., at or above 100°C and below its flash point
9	3258	Elevated temperature solid, n.o.s., at or above 240°C

Term and explanation	UN Number(s) of relevant entries
ALUMINIUM DROSS The material, consisting of skimmings of virgin aluminium, rising to the surface of impure molten aluminium metal.	3170
ALUMINIUM POWDER The uncoated powder may evolve hydrogen in contact with water, and finely-divided dust may be ignited by naked lights or sparks. Coated aluminium powders which have been treated with oils or wax for printing or paint purposes are generally not dangerous.	1309, 1396
AMMUNITION Generic term related mainly to articles of military application consisting of all kinds of bombs, grenades, rockets, mines, projectiles and other similar devices or contrivances.	—
AMMUNITION, ILLUMINATING with or without burster, expelling charge or propelling charge Ammunition designed to produce a single source of intense light for lighting up an area. The term includes illuminating cartridges, grenades and projectiles; and illuminating and target identification bombs. The term excludes the following articles which are listed separately: CARTRIDGES, SIGNAL; SIGNAL DEVICES, HAND; SIGNALS, DISTRESS; FLARES, AERIAL AND FLARES, SURFACE.	0171, 0254, 0297
AMMUNITION, INCENDIARY Ammunition containing incendiary substance which may be a solid, liquid or gel including white phosphorus. Except when the composition is an explosive *per se*, it also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes: AMMUNITION, INCENDIARY, liquid or gel, with burster, expelling charge or propelling charge; AMMUNITION, INCENDIARY, with or without burster, expelling charge or propelling charge; AMMUNITION, INCENDIARY, WHITE PHOSPHORUS, with burster, expelling charge or propelling charge.	0009, 0010, 0243, 0244, 0247, 0300
AMMUNITION, PRACTICE Ammunition without a main bursting charge, containing a burster or expelling charge. Normally it also contains a fuze and a propelling charge. The term excludes the following articles which are listed separately: GRENADES, PRACTICE.	0362, 0488
AMMUNITION, PROOF Ammunition containing pyrotechnic substance used to test the performance or strength of new ammunition, weapon components or assemblies.	0363
AMMUNITION, SMOKE Ammunition containing smoke-producing substance such as chlorosulphonic acid mixture, titanium tetrachloride or white phosphorus; or smoke-producing pyrotechnic composition based on hexachloroethane or red phosphorus. Except when the substance is an explosive *per se*, the ammunition also contains one or more of the following: a propelling charge with primer and igniter charge; a fuze with burster or expelling charge. The term includes 'grenades, smoke' but excludes SIGNALS, SMOKE which are listed separately. The term includes: AMMUNITION, SMOKE, with or without burster, expelling charge or propelling charge; AMMUNITION, SMOKE, WHITE PHOSPHORUS, with burster, expelling charge or propelling charge.	0015, 0016, 0245, 0246, 0303
AMMUNITION, TEAR-PRODUCING with burster, expelling charge or propelling charge Ammunition containing tear-producing substance. It also contains one or more of the following: a pyrotechnic substance; a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.	0018, 0019, 0301
AMMUNITION, TOXIC, with burster, expelling charge or propelling charge Ammunition containing toxic agent. It also contains one or more of the following: a pyrotechnic substance; a propelling charge with primer and igniter charge; a fuze with burster or expelling charge.	0020, 0021
ARSENICAL DUST Smelter dust which contains large proportions of arsenic. These dusts are hazardous due to their ~~poisonous~~ toxic characteristics.	1562

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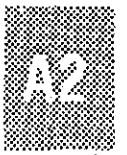

A2-2

Term and explanation	UN Number(s) of relevant entries
ARTICLES, EXPLOSIVE, EXTREMELY INSENSITIVE (ARTICLES, EEI) Articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation (under normal conditions of transport). *Note.— An extremely insensitive detonating substance is a substance which although capable of sustaining a detonation has demonstrated through tests that it is so insensitive that there is very little probability of accidental initiation.*	0486
ARTICLES, PYROPHORIC Articles which contain a pyrophoric substance capable of spontaneous ignition when exposed to air and an explosive substance or component. The term excludes articles containing white phosphorus.	0380
ARTICLES, PYROTECHNIC for technical purposes Articles which contain pyrotechnic substances and are used for technical purposes such as heat generation, gas generation, theatrical effects, etc. The term excludes the following articles which are listed separately: all ammunition; CARTRIDGES, SIGNAL; CUTTERS, CABLE, EXPLOSIVE; FIREWORKS; FLARES, AERIAL; FLARES, SURFACE; RELEASE DEVICES, EXPLOSIVE; RIVETS, EXPLOSIVE; SIGNAL DEVICES, HAND; SIGNALS, DISTRESS; SIGNALS, RAILWAY TRACK, EXPLOSIVE; SIGNALS, SMOKE.	0428, 0429, 0430, 0431, 0432
ASBESTOS Asbestos is a generic name for naturally occurring mineral silicate fibres of the Serpentine and Amphibole series. In the Serpentine series is Chrysotile, commonly known as white asbestos. In the Amphibole series are Actinolite, Amosite or Mysorite (commonly known as brown asbestos), Anthophyllite, Crocidolite (commonly known as blue asbestos) and Tremolite. All types of asbestos can be hazardous to health, blue and brown asbestos being the more dangerous types.	2212, 2590
BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE, SOLID Storage batteries filled with potassium hydroxide, solid which are shipped from the factory in their original dry state and filled with the dry alkali. Water would be added to the battery before first being used.	3028
BATTERIES, WET, FILLED WITH ACID OR ALKALI A series of metal plates immersed in an electrolyte, which is usually dilute sulphuric acid, but for a certain type of battery the electrolyte is a solution of potassium hydroxide. Both of these electrolytes are corrosive liquids. The casing for the acid containing batteries is commonly plastic. Storage batteries of either of these types, when containing electrolyte, are classed as corrosive liquids. Storage batteries in transit may cause damage by leakage of the electrolyte or may produce fire by accidental short-circuiting of the terminals.	2794, 2795
BLACK POWDER (GUNPOWDER) Substance consisting of an intimate mixture of charcoal or other carbon and either potassium nitrate or sodium nitrate, with or without sulphur. It may be meal, granular, compressed or pelletized.	0027, 0028
BOMBS Explosive articles which are dropped from aircraft. They may contain a flammable liquid with bursting charge, a photo-flash composition or a bursting charge. The term excludes torpedoes (aerial) and includes: BOMBS, PHOTO-FLASH; BOMBS with bursting charge; BOMBS WITH FLAMMABLE LIQUID, with bursting charge.	0033, 0034, 0035, 0037, 0038, 0039, 0291, 0299, 0399, 0400
BOOSTERS Articles consisting of a charge of detonating explosive with or without means of initiation. They are used to increase the initiating power of detonators or detonating cord.	0042, 0225, 0268, 0283
BURSTERS, explosive Articles consisting of a small charge of explosive used to open projectiles, or other ammunition in order to disperse their contents.	*0043*
CAPS, TOY (AMORCES) Articles consisting of a small quantity of an explosive substance between two strips or discs of paper or contained in a plastic cup or covered by varnishing or other means.	—
CARTRIDGES ACTUATING FOR FIRE EXTINGUISHER Contrivances containing a small explosive charge with a primer, the functioning of which ruptures a metal piece (for example, a bursting disc) and thereby actuates a fire extinguisher.	—

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BATTERIES, CONTAINING SODIUM 3292

Articles consisting of a series of CELLS, CONTAINING SODIUM that are secured within, and fully enclosed by a metal casing so constructed and closed as to prevent the release of dangerous goods under normal conditions of transport. Although designed and intended to provide a source of electrical energy, these batteries are electrically inert at any temperature at which the sodium contained in the battery is in a solid state.

Term and explanation	*UN Number(s) of relevant entries*
CARTRIDGES FOR WEAPONS, BLANK Articles which consist of a cartridge case with a centre or rim fire primer and a confined charge of smokeless or black-powder but no projectile. Used for training, saluting or in starter pistols, etc.	0014, 0326, 0327, 0338, 0413
CARTRIDGES, FLASH Articles consisting of a casing, a primer and flash powder, all assembled in one piece ready for firing.	0049, 0050
CARTRIDGES FOR WEAPONS 1) Fixed (assembled) or semi-fixed (partially-assembled) ammunition designed to be fired from weapons. Each cartridge includes all the components necessary to function the weapon once. The name and description should be used for small arms cartridges that cannot be described as 'cartridges, small arms'. Separate loading ammunition is included under this name and description when the propelling charge and projectile are packed together (see also 'Cartridges, blank'). 2) Incendiary, smoke, toxic and tear-producing cartridges are described in this Attachment under 'ammunition, incendiary' etc.	0005, 0006, 0007, 0014, 0321, 0326, 0327, 0338, 0348, 0412, 0413
CARTRIDGES FOR WEAPONS, INERT PROJECTILE Ammunition consisting of a projectile without bursting charge but with a propelling charge. The presence of a tracer can be disregarded for classification purposes provided that the predominant hazard is that of the propelling charge.	0012, 0328, 0339, 0417
CARTRIDGES, OIL WELL Articles consisting of a casing of thin fibre, metal or other material containing only propellant which projects a hardened projectile. The term excludes the following articles which are listed separately: CHARGES, SHAPED, COMMERCIAL.	0277, 0278
CARTRIDGES, POWER-DEVICE Articles designed to accomplish mechanical actions. They consist of a casing with a charge of deflagrating explosive and a means of ignition. The gaseous products of the deflagration produce inflation, linear or rotary motion or activate diaphragms, valves or switches or project fastening devices or extinguishing agents.	0275, 0276, 0323, 0381
CARTRIDGES, SIGNAL Articles designed to fire coloured flares or other signals from signal pistols, etc.	0054, 0312, 0405
CARTRIDGES, SMALL ARMS Ammunition consisting of a cartridge case fitted with a centre or rim fire primer and containing both a propelling charge and solid projectile(s). They are designed to be fired in weapons of calibre not larger than 19.1 mm. Shot-gun cartridges of any calibre are included in this definition. The term excludes: CARTRIDGES, SMALL ARMS, BLANK listed separately; and some small arms cartridges which are listed under CARTRIDGES FOR WEAPONS, INERT PROJECTILE.	0012, 0328, 0339, 0417
CASES, CARTRIDGE, EMPTY, WITH PRIMER Articles consisting of a cartridge case made from metal, plastics or other non-flammable material, in which the only explosive component is the primer.	0055, 0379
CASES, COMBUSTIBLE, EMPTY, WITHOUT PRIMER Articles consisting of cartridge cases made partly or entirely from nitrocellulose.	0446, 0447
CHARGES, DEMOLITION Articles containing a charge of a detonating explosive in a casing of fibreboard, plastic, metal or other material. The term excludes the following articles which are listed separately: bombs, mines, etc.	0048
CHARGES, DEPTH Articles consisting of a charge of detonating explosive contained in a drum or projectile. They are designed to detonate under water.	0056
CHARGES, EXPLOSIVE, COMMERCIAL without detonator Articles consisting of a charge of detonating explosive without means of initiation, used for explosive welding, jointing, forming and other metallurgical processes.	0442, 0443, 0444, 0445
CHARGES, PROPELLING Articles consisting of a propellant charge in any physical form, with or without a casing, for use as a component of rocket motors or for reducing the drag of projectiles.	0271, 0272, 0415, 0491

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CELLS, CONTAINING SODIUM 3292

Articles consisting of hermetically sealed, metal casings which fully enclose the dangerous goods and which are so constructed and closed as to prevent the release of the dangerous goods under normal conditions of transport. In addition to sodium, cells covered by this entry may also contain sulphur, but no other dangerous goods. Although designed and intended to provide a source of electrical energy, these cells are electrically inert at any temperature at which the sodium contained in the cell is in a solid state.

Term and explanation	UN Number(s) of relevant entries
CHARGES, PROPELLING FOR CANNON Articles consisting of a propellant charge in any physical form, with or without a casing, for use in a cannon.	0242, 0279, 0414
CHARGES, SHAPED, COMMERCIAL without detonator Articles consisting of a casing containing a charge of detonating explosive with a cavity lined with rigid material, without means of initiation. They are designed to produce a powerful, penetrating jet effect.	0059, 0439, 0440, 0441
CHARGES, SHAPED, FLEXIBLE, LINEAR Articles consisting of a V-shaped core of a detonating explosive clad by a flexible metal sheath.	0237, 0288
CHARGES, SUPPLEMENTARY, EXPLOSIVE Articles consisting of a small removable booster used in the cavity of a projectile between the fuze and the bursting charge.	0060
COAL GAS The gas obtained by the destructive distillation of bituminous coal.	1023
COATING SOLUTION Material such as automobile undercoating, drum or barrel lining material, etc., which cannot properly be described as cement, but presents similar hazards during transport. It usually contains flammable solvents.	1139
COMPONENTS, EXPLOSIVE TRAIN, N.O.S. Articles containing an explosive designed to transmit the detonation or deflagration within an explosive train.	0382, 0383, 0384 0461
CONTRIVANCES, WATER-ACTIVATED with burster, expelling charge or propelling charge Articles whose functioning depends upon physico-chemical reaction of their contents with water.	0248, 0249
COPRA The dried meat of coconuts used to produce coconut oil. Copra contains up to 67% oil and may be subject to spontaneous combustion.	1363
CORD, DETONATING, flexible Articles consisting of a core of detonating explosive enclosed in spun fabric with plastic or other covering unless the spun fabric is sift-proof.	0065, 0289
CORD (FUSE), DETONATING, metal clad Articles consisting of a core of detonating explosive clad by a soft metal tube with or without protective covering. When the core contains a sufficiently small quantity of explosive, the words '*mild effect*' are added.	0102, 0104, 0290
CORD, IGNITER Article consisting of textile yarns covered with black powder or another fast burning pyrotechnic composition and of a flexible protective covering; or it consists of a core of black powder surrounded by a flexible woven fabric. It burns progressively along its length with an external flame and is used to transmit ignition from a device to a charge or primer.	0066
CUTTERS, CABLE, EXPLOSIVE Articles consisting of a knife-edged device which is driven by a small charge of deflagrating explosive into an anvil.	0070
DETONATOR ASSEMBLIES, NON-ELECTRIC, for blasting Non-electric detonators assembled with and activated by such means as safety fuse, shock tube, flash tube or detonating cord. They may be of instantaneous design or incorporate delay elements. Detonating relays incorporating detonating cord are included. Other detonating relays are included in 'Detonators, non-electric'.	0360, 0361
DETONATORS Articles consisting of a small metal or plastic tube containing explosives such as lead azide, PETN or combinations of explosives. They are designed to start a detonation train. They may be constructed to detonate instantaneously, or may contain a delay element. The term includes: DETONATORS FOR AMMUNITION and Detonators for blasting both electric and non-electric; Detonating relays without flexible detonating cord are included.	0029, 0030, 0073, 0255, 0267, 0364, 0365, 0366, 0455 0456

CONSUMER COMMODITY

A Consumer Commodity is defined as a material which is packed and distributed in a form intended or suitable for retail sales for the purposes of personal care or household use.

Term and explanation	UN Number(s) of relevant entries
DRESSING, LEATHER A preparation which usually contains a solvent or other liquid with a low flash point.	
DYE INTERMEDIATES, N.O.S. A cyclic compound, containing an amino, hydroxy, sulfonic acid, or quinone group or a combination of these groups used in the manufacture of dyes.	1602, 2801
ELECTROLYTE The term commonly applied to the dilute sulphuric acid used in ordinary lead plate storage batteries. The solution of potassium hydroxide used in some storage batteries is also called electrolyte.	
EXPLOSIVE, BLASTING Detonating explosive substances used in mining, construction and similar tasks. Blasting explosives are assigned to one of five types. In addition to the ingredients listed, blasting explosives may also contain inert components such as kieselguhr, and minor ingredients such as colouring agents and stabilizers.	0081, 0082, 0083, 0084, 0241, 0331, 0332
EXPLOSIVE, BLASTING, TYPE A Substances consisting of liquid organic nitrates such as nitroglycerin or a mixture of such ingredients with one or more of the following: nitrocellulose, ammonium nitrate or other inorganic nitrates, aromatic nitro derivatives or combustible materials such as wood-meal and aluminium powder. Such explosives must be in powdery, gelatinous or elastic form. The term includes dynamite, gelatine, blasting and gelatine dynamites.	0081
EXPLOSIVE, BLASTING, TYPE B Substances consisting of a) a mixture of ammonium nitrate or other inorganic nitrates with an explosive such as trinitrotoluene, with or without other substances such as wood-meal and aluminium powder, or b) a mixture of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. Such explosives must not contain nitroglycerin, similar liquid organic nitrates, or chlorates.	0082, 0331
EXPLOSIVE, BLASTING, TYPE C Substances consisting of a mixture of either potassium or sodium chlorate or potassium, sodium or ammonium perchlorate with organic nitro derivatives or combustible materials such as wood-meal or aluminium powder or a hydrocarbon. Such explosives must not contain nitroglycerin or similar liquid organic nitrates.	0083
EXPLOSIVE, BLASTING, TYPE D Substances consisting of a mixture of organic nitrated compounds and combustible materials such as hydrocarbons and aluminium powder. Such explosives must not contain nitroglycerin, similar liquid organic nitrates, chlorates or ammonium nitrate. The term generally includes plastic explosives.	0084
EXPLOSIVE, BLASTING, TYPE E Substances consisting of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizers, some or all of which are in solution. The other constituents may include nitro-derivatives such as trinitrotoluene, hydrocarbons or aluminium powder. The term includes explosives, emulsion; explosives, slurry and explosives, water gel.	0241, 0332
EXTRACTS, AROMATIC OR EXTRACTS, FLAVOURING Substances used for fragrances or for flavouring foods or beverages. Where they contain a solvent or other liquid with a sufficiently low flash point they are classified as flammable liquids. However, where they contain a liquid which has corrosive or ~~poisonous~~ toxic properties they must be classified according to that criteria. They may have obnoxious properties such that in the event of a leakage from the package they may cause extreme discomfort to the crew or passengers.	1169, 1197
FILMS, NITROCELLULOSE BASE A type of film which consists mainly of nitrocellulose. As such the material has a low ignition temperature and burns rapidly when ignited, evolving gases which are toxic. When new and in good condition the film is reasonably stable and free from liability to spontaneous heating and combustion. Film that has deteriorated badly becomes very unstable and may be liable to spontaneous heating unless kept under water.	1324
FIRE EXTINGUISHER CHARGES These commonly consist of packages containing sodium bicarbonate (a dry powder) which is non-hazardous, and bottles containing concentrated sulphuric acid, a corrosive liquid.	1774
FIRELIGHTERS These are usually made from peat, wood shavings, or sawdust and a flammable liquid.	2623

Term and explanation	UN Number(s) of relevant entries
FIREWORKS Pyrotechnic articles designed for entertainment.	0333, 0334, 0335 0336, 0337
FLARES Articles containing pyrotechnic substances which are designed for use to illuminate, identify, signal or warn. The term includes: FLARES, AERIAL; FLARES, SURFACE.	0092, 0093, 0403, 0404, 0418, 0419, 0420, 0421
FLASH POWDER Pyrotechnic substance which, when ignited, produces an intense light.	0094, 0305
FRACTURING DEVICES, EXPLOSIVE, for oil wells, without detonator Articles consisting of a charge of detonating explosive contained in a casing without means of initiation. They are used to fracture the rock around a drill shaft to assist the flow of crude oil from the rock.	0099
FUSE/FUZE Although these two words have a common origin (French *fusée, fusil*) and are sometimes considered to be different spellings of the same word, it is useful to maintain the convention that FUSE refers to a cord-like igniting device whereas FUZE refers to a device used in ammunition which incorporates mechanical, electrical, chemical or hydrostatic components to initiate a train by deflagration or detonation.	—
FUSE, IGNITER, tubular, metal clad Article consisting of a metal tube with a core of deflagrating explosive.	0103
FUSE, INSTANTANEOUS, NON-DETONATING (QUICKMATCH) Article consisting of cotton yarns impregnated with fine black powder (quickmatch). It burns with an external flame and is used in ignition trains for fireworks, etc.	0101
FUSE, SAFETY Article consisting of a core of fine-grained black powder surrounded by a flexible woven fabric with one or more protective outer coverings. When ignited it burns at a predetermined rate without any external explosive effect.	0105
FUZES Articles designed to start a detonation or a deflagration in ammunition. They incorporate mechanical, electrical, chemical or hydrostatic components and generally protective features. The term includes: FUZES, DETONATING; FUZES, DETONATING with protective features; FUZES, IGNITING.	0106, 0107, 0257, 0316, 0317, 0367, 0368, 0408, 0409, 0410
GALLIUM A silvery-white metal with a melting point of 30°C; it may be under-cooled to almost 0°C without solidifying. It has the property of very rapidly penetrating the grain boundaries of aluminium alloys and other metals and causing embrittlement.	2803
A **GAS DRIPS, Hydrocarbon** The liquid that condenses on compression of Pintsch Gas or the condensate from gas mains. It consists principally of a mixture of benzene and unsaturated hydrocarbons.	~~1864~~ 3295
GAS GENERATOR ASSEMBLIES FOR AIRCRAFT ESCAPE SLIDES A steel cylinder containing a charge of liquefied chlorodifluoromethane (R22) under pressure and a slow-burning solid propellant cartridge (safety type) in a specially designed breech block. The assembly is installed in certain types of aircraft to provide a means of generating a supply of high-pressure, low-temperature gas to the aspirators that inflate emergency escape slides.	—
GRENADES, hand or rifle *Articles which are designed to be thrown by hand or to be projected by a rifle. The term includes:* GRENADES, hand or rifle, with bursting charge. GRENADES, PRACTICE, hand or rifle. The term excludes 'grenades, smoke' which are listed under AMMUNITION, SMOKE.	0110, 0284, 0285, 0292, 0293, 0318, 0372, 0452
HYDROCARBON GAS, COMPRESSED Hydrocarbon gas under high pressure, but not in the liquid condition.	1964

Term and explanation	UN Number(s) of relevant entries
HYDROCARBON GAS, LIQUEFIED Hydrocarbon gas from natural gas or from distillation of petroleum which are liquefied by pressure.	1965
HYPOCHLORITE SOLUTIONS Water solutions containing a soluble hypochlorite varying over a wide range in concentration. The solutions are alkaline and corrosive but are not flammable. If the hypochlorite solution contact strong acids, a decomposition takes place to produce the noxious chlorine-type gases.	1791
IGNITERS Articles containing one or more explosive substances used to start deflagration in an explosive train. They may be actuated chemically, electrically or mechanically. This term excludes the following articles which are listed separately: CORD, IGNITER; FUSE, IGNITER; FUSE, INSTANTANEOUS, NON-DETONATING; FUZES, IGNITING; LIGHTERS, FUSE; PRIMERS, CAP TYPE; PRIMERS, TUBULAR.	0121, 0314, 0315, 0325, 0454
IRON OXIDE, SPENT OR IRON SPONGE, SPENT A mixture of wood shavings with iron oxide and possibly lime or other material, which has been obtained from coal gas purification after saturation with sulphur. This spent material is very liable to spontaneous heating and ignition.	1376
ISOCYANATES, N.O.S. OR ISOCYANATE SOLUTIONS, N.O.S. These include a number of chemical products used in the manufacture of plastic foams, synthetic rubber, etc. Some are sufficiently toxic or lachrymatory to need classification as ~~poisonous~~ substances, particularly isocyanates in pure form. Others may need to be classified as flammable liquids, depending on their characteristics, and a number may ~~be considered non-dangerous~~ not be subject to these Instructions.	2206, ~~2207~~, 2478 3080
JET PERFORATING GUNS, CHARGED, oil well, without detonator Articles consisting of a steel tube or metallic strip into which are inserted shaped charges connected by detonating cord, without means of initiation.	0124, 0494
LACQUER BASE OR LACQUER CHIPS, NITROCELLULOSE, DRY It may consist of a colloided solid mixture of nitrocellulose, pigment, gums, and a plasticizer.	—
LIGHTERS, FUSE Articles of various design actuated by friction, percussion or electricity and used to ignite safety fuse.	0131
LITHIUM SILICON A so-called alloy of metallic lithium and silicon used for industrial purposes.	1417
MAGNESIUM SCRAP Borings, clippings, scalpings, shavings, sheets or turnings from machining operations or cuttings from thin magnesium metal sheets. The scrap can be ignited by external flame and burns intensely and persistently. It does not heat spontaneously. The scrap may have a bright metal lustre or may be dull and sometimes have a painted surface.	—
MATCHES, SAFETY Matches, contained in a book, card or box, which are only ignited when struck on a prepared surface.	1944
MATCHES, 'STRIKE ANYWHERE' OR FUSEE They usually contain phosphorus sesquisulphide, potassium chlorate and other ingredients. The 'strike-anywhere' matches are readily ignited by friction on almost any dry surface.	1331, 2254
METHYL ACETYLENE AND PROPADIENE MIXTURES, STABILIZED A flammable gas mixture that is reasonably stable at ordinary temperatures. Although this is an acetylene derivative, the gas is not shipped dissolved in liquid and cylinders do not require an absorbent filler.	1060
MINES Articles consisting normally of metal or composition receptacles and a bursting charge. They are designed to be operated by the passage of ships, vehicles or personnel. The term includes 'Bangalore torpedoes'.	0136, 0137, 0138, 0294
MOTOR FUEL ANTI-KNOCK MIXTURES Mixtures of one or more organic lead components such as tetraethyl lead, triethylmethyl lead, diethyldimethyl lead, ethyltrimethyl lead, and tetramethyl lead, with one or more halogen compounds such as ethylene dibromide and ethylene dichloride.	1649
LITHIUM BATTERY OR LITHIUM CELLS A Battery is two or more cells which are electrically connected together by a permanent means. A cell is a single encased electromechanical unit which exhibits a voltage differential across its two terminals.	3090, 3091

A2-8

Term and explanation	UN Number(s) of relevant entries
NITRATING ACID MIXTURES Mixtures of nitric and sulphuric acids used for the nitration of glycerin, cellulose or other organic substances. This acid mixture coming in contact with organic matter commonly causes fire, unless the mixture contains much water.	1796, 1826
OIL GAS A flammable gas derived from petroleum. The gas from oil refinery cracking processes is also known as oil gas.	1071
PLASTIC SOLVENT, N.O.S. A name commonly used for mixtures of liquids employed for dissolving plastics or for thinning plastic cements. In general, they may contain flammable liquids, such as acetone, amyl acetate, or some of the alcohols or ketones. The classification is determined by the flash point.	—
POLYESTER RESIN KITS The proper shipping name 'Polyester resin kit' covers different kits such as filler, bonding and sealing compounds, chemical anchors and fibreglass repair kits. Polyester resin kits commonly consist of an unsaturated polyester resin mixed with styrene and a separate hardener (usually a phlegmatized organic peroxide) as a minor component. The main component (viscous liquid or paste) is inherently flammable due to the styrene content (flash point 29°C - 32°C).	—
POLYMERIC BEADS, EXPANDABLE Semi-processed products used to manufacture polymeric articles, and which have been impregnated with a flammable gas or liquid as a blowing agent. They may evolve small quantities of flammable gas during transport.	2211
POTASSIUM METAL, LIQUID ALLOY A metal mixture or alloy of potassium and another metal, existing as a liquid at ordinary temperatures and which flows more or less readily depending upon composition. Avoid contact with moisture since such contact may cause the mixture to become ignited and burn.	—
POTASSIUM SODIUM ALLOYS Mixtures of metallic sodium and potassium that are solid at ordinary temperatures. All mixtures, regardless of physical state, will react vigorously with water and may be self-igniting. The mixtures are all combustible.	1422
POTASSIUM SULPHIDE, ANHYDROUS A reddish-coloured solid having a strong odour. It is hygroscopic and oxidizes spontaneously on contact with air. Spontaneous ignition may occur in material improperly packed.	1382
POWDER CAKE (POWDER PASTE) Substance consisting of nitrocellulose impregnated with not more than 60 per cent of nitroglycerin or other liquid organic nitrates or a mixture of these.	0159, 0433
POWDER, SMOKELESS Substance ~~generally~~ based on nitrocellulose used as propellant. The term includes propellants with a single base (nitrocellulose (NC) alone), those with a double base (such as NC and nitroglycerin (NG)) and those with a triple base (such as NC/NG/nitroguanidine). Cast, pressed or bag-charges of smokeless powder are listed under CHARGES, PROPELLING or CHARGES, PROPELLING FOR CANNON.	0160, 0161
PRIMERS, CAP TYPE Articles consisting of a metal or plastic cap containing a small amount of primary explosive mixture that is readily ignited by impact. They serve as igniting elements in small arms cartridges, and in percussion primers for propelling charges.	0044, 0377, 0378
PRIMERS, TUBULAR Articles consisting of a primer for ignition and an auxiliary charge of deflagrating explosive such as black powder used to ignite the propelling charge in a cartridge case for cannon, etc.	0319, 0320, 0376
PROJECTILES Articles such as a shell or bullet which are projected from a cannon or other artillery gun, rifle or other small arm. They may be inert, with or without tracer, or may contain a burster or expelling charge or a bursting charge. The term includes: PROJECTILES, inert, with tracer; PROJECTILES, with burster or expelling charge; PROJECTILES, with bursting charge.	0167, 0168, 0169, 0324, 0344, 0345, 0346, 0347, 0424, 0425, 0426, 0427, 0434, 0435

PROPELLANT, LIQUID A substance consisting of a deflagrating liquid explosive, used for propulsion	0495, 0497
PROPELLANT, SOLID A substance consisting of a deflagrating solid explosive, used for propulsion	0498, 0499

Term and explanation	UN Number(s) of relevant entries
SULPHURIC ACID, FUMING Sulphuric acid in which an excess of sulphur trioxide has been dissolved. It evolves toxic fumes whilst ordinary sulphuric acid does not.	1831
SULPHURIC ACID, SPENT Sulphuric acid usually of high concentration, which has been used for chemical processes and contains residual organic matter.	1832
TORPEDOES Articles containing an explosive or non-explosive propulsion system and designed to be propelled through water. They contain an inert head or a warhead. The term includes: TORPEDOES, LIQUID FUELLED, with inert head; TORPEDOES, LIQUID FUELLED, with or without bursting charge; TORPEDOES, with bursting charge.	0329, 0330, 0449, 0450, 0451
TRACERS FOR AMMUNITION Sealed articles containing pyrotechnic substances, designed to reveal the trajectory of a projectile.	0212, 0306
TURPENTINE SUBSTITUTE A petroleum distillate which might contain some aromatic components and which usually has a flash point of approximately 40°C. White spirit is a synonym for turpentine substitute.	1300
WARHEADS Articles consisting of detonating explosives. They are designed to be fitted to a rocket, guided missile or torpedo. They may contain a burster or expelling charge or bursting charge. The term includes: WARHEADS, ROCKET, with burster or expelling charge; WARHEADS, ROCKET, with bursting charge; WARHEADS, TORPEDO, with bursting charge.	0221, 0286, 0287, 0369, 0370, 0371
ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID Very finely divided metallic zirconium which is usually suspended in some highly volatile and flammable liquid. If spilled, the material is liable to self-ignition.	1308

Chapter 4

DIVISION 4.1 – FLAMMABLE SOLIDS

4.1 GENERAL

The information provided in this chapter is based on the Recommendations of the UN Committee of Experts and relates to certain substances of Division 4.1 which are not normally permitted for transport by air. The purpose of including such information in these Instructions is to provide guidance for States in those cases when consideration is being given to granting exemptions in accordance with Part 1;1.1.1 of the Technical Instructions. In this chapter, where the terms 'deflagrate' and 'thermal explosion' are used, they have the meaning indicated:

Deflagrate. The verb used to indicate *deflagration* which is the subsonic transmission of a decomposition front through a substance without the necessary participation of oxygen from the air.

Thermal explosion. An explosive effect (heat and pressure build-up) caused by the preponderantly homogeneous, self-accelerating decomposition of the substance.

4.2 FLAMMABLE SOLIDS WITH EXPLOSIVE PROPERTIES

Where Special Provision A215 appears in column 7 of Table S-2-6, it indicates that the substance as tested exhibits explosive properties. Packages containing these substances must bear the 'explosives' label (Figure 4-1 in the Technical Instructions). However, this characteristic may be modified by the use of appropriate packaging and, if the appropriate national authority is satisfied on the basis of the results of testing that the substance as packaged will not exhibit explosive properties under normal conditions of transport, the 'explosives' label need not be affixed to the package.

In these circumstances a statement to this effect must be included in the dangerous goods transport document.

4.3 SELF-REACTIVE AND RELATED SUBSTANCES

4.3.1 Classification

4.3.1.1 A self-reactive substance must be regarded as possessing explosive properties when, in laboratory testing, the formulation is liable to detonate, to deflagrate rapidly or to show a violent effect when heated under confinement.

4.3.1.2 The following principles must be applied to the classification of new self-reactive substances:

a) any substance which can detonate or deflagrate rapidly, as packaged for transport, is considered a self-reactive substance type A and must be prohibited from transport in that packaging under Division 4.1;

b) any substance possessing explosive properties and which, as packaged for transport, does not detonate or deflagrate rapidly, but which is liable to undergo a thermal explosion in that package, is considered a self-reactive substance type B and must bear an 'explosive' subsidiary risk label;

c) any substance possessing explosive properties but which, as packaged for transport (maximum 50 kg), cannot detonate or deflagrate rapidly or undergo a thermal explosion is considered a self-reactive substance type C and may be transported without the 'explosive' subsidiary risk label;

d) any self-reactive substance which in laboratory testing:

- detonates partially, does not deflagrate rapidly and shows no violent effect when heated under confinement; or
- does not detonate, deflagrates slowly and shows no violent effect when heated under confinement; or
- does not detonate or deflagrate and shows medium effect when heated under confinement;

is considered a self-reactive substance type D;

5.5 ORGANIC PEROXIDES WITH EXPLOSIVE PROPERTIES

Where Special Provision A215 appears in column 7 of Table S-2-6, it indicates that the substance may exhibit explosive properties under certain conditions. Packages containing these organic peroxides must bear the 'explosives' label (Figure 4-1 in the Technical Instructions) to indicate a subsidiary risk. However, this characteristic may be modified by the use of appropriate packaging and, if the appropriate national authority is satisfied on the basis of the results of testing that the substance as packaged will not exhibit explosive properties under normal conditions of transport, the 'explosives' label need not be affixed to the package.

In these circumstances a statement to this effect must be included in the dangerous goods transport document.

5.6 DESENSITIZATION OF ORGANIC PEROXIDES

5.6.1 In order to ensure safety during transport and handling, organic peroxides are in many cases desensitized by organic liquids or solids, inorganic solids or water. Table 11.3 of the current edition of the Recommendations of the UN Committee of Experts on the Transport of Dangerous Goods (ST/SG/AC.10/1) specifies when a desensitizing agent must be used, together with the percentage required. This table is reproduced at the end of Part 2, Chapter 5 of the Technical Instructions. Where for organic peroxide formulations a percentage of a substance is stipulated this refers to the percentage by mass. In general, desensitization should be such that in case of spillage the organic peroxide may not concentrate dangerously.

5.6.2 Unless otherwise stated for the individual organic peroxide formulation, the following definitions apply for diluents used for desensitization:

Diluents type A are organic liquids which are compatible with the organic peroxide and which have a boiling point of not less than 150°C. Type A diluents may be used for desensitizing all organic peroxides;

Diluents type B are organic liquids which are compatible with the organic peroxide and which have a boiling point of less than 150°C but not less than 60°C and a flash point of not less than 5°C. Type B diluents may only be used with the approval of the appropriate authority of the State of manufacture and only for desensitization of organic peroxides for which temperature control is required. The boiling point of the liquid must be at least 50°C higher than the control temperature of the organic peroxide.

5.6.3 Diluents, other than type A or type B, may be added to organic peroxide formulations provided that they are compatible. However, replacement of all or part of a type A or type B diluent by another diluent with differing properties requires that the organic peroxide formulation be re-assessed in accordance with the normal acceptance procedure for Division 5.2 as provided in 2;5.3.1.2.1 of the Technical Instructions.

5.6.4 Organic and inorganic solids may be used for desensitization of organic peroxides provided that they are compatible.

5.6.5 Water may only be used for the desensitization of organic peroxides with the approval of the appropriate authority of the State of manufacture or when the organic peroxide formulation is specified as being with water or as a stable dispersion in water under the allocation procedure provided in 2;5.3.1.2.2 of the Technical Instructions.

5.6.6 Compatible liquids and solids are those which have no detrimental influence on the thermal stability and classification of the organic peroxide formulation.

Chapter 11
DANGEROUS GOODS LIST

11.1 SUPPLEMENTARY DANGEROUS GOODS LIST

11.1.1 Certain dangerous goods, which are normally forbidden, may be specifically authorized for air transport by approval of the appropriate national authority; these are identified in Table 2-14 of the Technical Instructions by Special Provision A1 or A2 appearing in column 7. Such dangerous goods are also listed in Table S-2-6, together with additional information for use with appropriate national authority approvals.

11.1.2 Other dangerous goods shown as forbidden in columns 9 to 12 of Table 2-14, but without Special Provision A1 or A2, can only be transported under exemption as provided for in Part 1;2.2 of the Technical Instructions. Such dangerous goods are listed in Table S-2-6 in those cases where additional information can be provided for use with an exemption. The exclusion of articles or substances from Table S-2-6 or the absence of complete information in that Table, apart from the word 'Forbidden' appearing in the same column(s) as in Table 2-14, does not preclude the issue of an exemption by all the States concerned; in such case, the conditions of the exemption are to be developed by the appropriate national authority based on the principle that the level of safety in transport should be equivalent to the level of safety provided by the Technical Instructions. Where an entry in Table S-2-6 has a number in parenthesis after the word 'Forbidden', this refers to a Packing Instruction which contains the method of packing that should be specified when issuing an exemption.

11.1.3 For entries in the Supplementary Dangerous Goods List (Table S-2-6) the applicable special provisions, if any, are shown in column 7; where these are additional to the special provisions used in Table 2-14 (i.e. those numbered from A200 onwards) they are listed, with an explanation, in Table S-2-9.

11.2 QUANTITY LIMITATIONS AND PACKING REQUIREMENTS

11.2.1 Where States grant exemptions for the transport of dangerous goods which are shown as 'Forbidden' in columns 9 to 12 of Table 2-14 of the Technical Instructions, other than in accordance with 11.2.2 and 11.2.3 below, the suggested maximum quantity limitations to be permitted are indicated in Tables S-2-7 or S-2-8 for some classes and divisions. As far as possible appropriate packing instruction numbers are indicated in columns 9 to 12 of Table S-2-6 and the associated detailed requirements appear in Part S-3, where these are additional to those given in the Technical Instructions.

11.2.2 In the case of Special Provision A1, dangerous goods may be transported on passenger aircraft with the prior approval of the appropriate authority of the State of origin provided that the quantity per package does not exceed the quantity shown in Table S-2-6 and the packing is in accordance with the packing instruction indicated by Table S-2-6. The detailed requirements of the packing instruction are given in Part S-3, unless they already appear in the Technical Instructions. A copy of the document of approval showing the quantity limitations and packing requirements must accompany the consignment. Approval is not required for transport on cargo aircraft in these cases.

11.2.3 In the case of Special Provision A2, dangerous goods may be transported on passenger and cargo aircraft with the prior approval of the appropriate authority of the State of origin provided that the quantity per package does not exceed the quantity shown in Table S-2-6 and the packing is in accordance with the packing instruction indicated by Table S-2-6. The detailed requirements of the packing instruction are given in Part S-3, unless they already appear in the Technical Instructions. The consignment must be accompanied by a copy of the document(s) of approval showing the quantity limitations and packing and labelling requirements.

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11.3 ELEVATED TEMPERATURE, MOLTEN OR HOT SUBSTANCES

Substances which are transported or offered for transport in a liquid state at temperatures equal to or exceeding 100°C, or in a solid state at temperatures equal to or exceeding 240°C, are forbidden for transport unless exempted by all the States concerned - see 1; 2.2 (b) of the Technical Instructions. If such substances are to be transported and the proper shipping name does not convey the elevated temperature condition (for example, by using the term "Molten" or "Elevated Temperature" as part of the proper shipping name) the word "Hot" must immediately precede the proper shipping name on the dangerous goods transport document.

S-2-11-2

Table S-2-6. Supplementary dangerous goods list

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Acetaldehyde	1089	3		Liquid flammable		A1	I	306	(1 L)	304	30 L
Acetone cyanohydrin, stabilized	1541	6.1		Poison	US 1 US 34	A1	I	610	(1 L)	605	30 L
Acetylene, dissolved	1001	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	15 kg
Acrolein, inhibited	1092	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
Aerosols, flammable, n.o.s. containing substances in Class 8, Packing Group I or II	1950	2.1	8	Gas flammable & Corrosive				Forbidden		Forbidden	
Aerosols, flammable, n.o.s. containing substances in Division 6.1, Packing Group I or II (including tear gas devices)	1950	2.1	6.1	Gas flammable & Poison				Forbidden		Forbidden	
Aerosols, flammable, n.o.s. containing toxic gas	1950	2.3	2.1	Gas toxic & Flammable				Forbidden		Forbidden	
Aerosols, non-flammable, n.o.s. containing substances in Class 8, Packing Group I or II	1950	2.2	8	Gas non-flammable & Corrosive				Forbidden		Forbidden	
Aerosols, non-flammable, n.o.s. containing substances in Division 6.1, Packing Group I or II (other than tear gas devices)	1950	2.2	6.1	Gas non-flammable & Poison				Forbidden		Forbidden	
Aerosols, non-flammable, n.o.s. containing toxic gas	1950	2.3		Gas toxic				Forbidden		Forbidden	
Aerosols, non-flammable, n.o.s. (tear gas devices)	1950	2.2	6.1	Gas non-flammable & Poison		A1		212	(15 kg)	212	50 kg
Aircraft hydraulic power unit fuel tank (containing a mixture of anhydrous hydrazine and methyl hydrazine) (M86 fuel)	3165	3	6.1 8	Liquid flammable & Poison & Corrosive		A1 A48	I	301	(42 L)	301	42 L
Air, refrigerated liquid, low pressure or pressurized	1003	2.2	5.1	Gas non-flammable & Oxidizer		A1		202	(75 kg)	202	150 kg
Allyl alcohol	1098	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
Allylamine	2334	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
Allyl chloroformate	~~1722~~	~~6~~		~~Corrosive~~ See Amendment list	~~US 34~~	~~A1~~	~~I~~	~~807~~	~~(0.5 L)~~	~~809~~	~~2.5 L~~
Allyl isothiocyanate, inhibited	1545	6.1		Poison		A1	II	610	(5 L)	612	60 L
Allyltrichlorosilane, stabilized	1724	8	3	Corrosive & Liquid flammable		A1	II	809	(1 L)	813	30 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Aluminium alkyl halides	3052	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Aluminium alkyl hydrides	3076	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Aluminium alkyls	3051	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Aluminium borohydride	2870	4.2	4.3	Spontaneous combustion & Danger if wet			I	Forbidden		Forbidden	
Aluminium borohydride in devices	2870	4.2	4.3	Spontaneous combustion & Danger if wet			I	Forbidden		Forbidden	
Ammonia, anhydrous, liquefied	1005	2.3	8	Gas toxic & Corrosive	US 30	A1		See 213		200	25 kg
A **Ammonia, solutions**, relative density less than 0.880 at 15°C in water, with more than 50% ammonia	1005	2.3	8	Gas toxic & Corrosive	US 30	A1		See 213		200	25 kg
A **Ammonia solutions**, relative density less than 0.880 at 15°C in water, with more than 35% but not more than 50% ammonia	2073	2.2		Gas non-flammable		A1		200	(75 kg)	200	150 kg
Ammonium nitrate *with more than* 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	0222	1.1D		*Explosive*				*Forbidden (100)*		*Forbidden (100)*	
Ammonium nitrate fertilizer: which is more liable to explode than ammonium nitrate with 0,2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance	0223	1.1D		Explosive				Forbidden (100)		Forbidden (100)	
Ammonium perchlorate	0402	1.1D		Explosive		A22		Forbidden (101)		Forbidden (101)	
Ammonium picrate, dry or wetted with less than 10% water, by mass	0004	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Ammunition, illuminating with or without burster, expelling charge or propelling charge	0171	1.2G		Explosive				Forbidden (123)		Forbidden (123)	
Ammunition, illuminating with or without burster, expelling charge or propelling charge	0254	1.3G		Explosive				Forbidden (123)		Forbidden (123)	
Ammunition, illuminating with or without burster, expelling charge or propelling charge	0297	1.4G		Explosive 1.4				Forbidden (123)		123	75 kg
Ammunition, incendiary liquid or gel, with burster, expelling charge or propelling charge	0247	1.3J		Explosive				Forbidden (123)		Forbidden (123)	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ammunition, toxic* with burster, expelling charge or propelling charge	0020	1.2K	6.1	Explosive & Poison				Forbidden (123)		Forbidden (123)	
Ammunition, toxic* with burster, expelling charge or propelling charge	0021	1.3K	6.1	Explosive & Poison				Forbidden (123)		Forbidden (123)	
Ammunition, toxic, non-explosive without burster or expelling charge, non-fuzed	2016	6.1		Poison		A1	II	600	(25 kg)	600	100 kg
Amyltrichlorosilane	1728	8		Corrosive		A1	II	809	(1 L)	813	30 L
Antimony pentafluoride	1732	8	6.1	Corrosive & Poison		A1	II	809	(1 L)	813	30 L
Arsine	2188	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
Articles, EEI	0486	1.6N		Explosive 1.6				Forbidden (128)		Forbidden (128)	
Articles, explosive, n.o.s.*	0462	1.1C		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0463	1.1D		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0464	1.1E		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0465	1.1F		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0354	1.1L		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0466	1.2C		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0467	1.2D		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0468	1.2E		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0469	1.2F		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0355	1.2L		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0470	1.3C		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0356	1.3L		Explosive		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0350	1.4B		Explosive 1.4		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0351	1.4C		Explosive 1.4		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0352	1.4D		Explosive 1.4		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0471	1.4E		Explosive 1.4	JP 18	A62		Forbidden (124)		124	75 kg
Articles, explosive, n.o.s.*	0472	1.4F		Explosive 1.4		A62		Forbidden (124)		Forbidden (124)	
Articles, explosive, n.o.s.*	0353	1.4G		Explosive 1.4		A62		Forbidden (124)		Forbidden (124)	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Boosters without detonator	0042	1.1D		Explosive				Forbidden (129)		Forbidden (129)	
Boosters without detonator	0283	1.2D		Explosive				Forbidden (129)		Forbidden (129)	
Boosters with detonator	0225	1.1B		Explosive				Forbidden (130)		Forbidden (130)	
Boosters with detonator	0268	1.2B		Explosive				Forbidden (130)		Forbidden (130)	
Boron tribromide	2692	8		Corrosive		A1	I	807	(0.5 L)	809	2.5 L
Boron trichloride	1741	2.3	8	Gas toxic & Corrosive		A2		See 213		See 213	
A **Boron trifluoride**	1008	2.3	8	Gas toxic & Corrosive	US 30	A2		See 213		See 213	
Bromine	1744	8	6.1	Corrosive & Poison	US 34	A1	I	807	(0.5 L)	809	2.5 L
Bromine chloride	2901	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213		See 213	
Bromine pentafluoride	1745	5.1	6.1 8	Oxidizer & Poison & Corrosive	US 30	A2	I	522	(0.5 L)	501	(2.5 L)
A **Bromine solutions**	1744	8	6.1	Corrosive & Poison	US 34	A1	I	807	(0.5 L)	809	2.5 L
Bromine trifluoride	1746	5.1	6.1 8	Oxidizer & Poison & Corrosive	US 30	A2	I	522	(0.5 L)	501	(2.5 L)
Bromoacetone	1569	6.1		Poison	US 30	A2	II	610	(5 L)	612	(60 L)
Bromobenzyl cyanides	1694	6.1		Poison		A1 A29	I	610	(1 L)	605	30 L
Bromotrifluoroethylene	2419	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Brown asbestos (amosite, mysorite)	2212	9		Miscellaneous		A61	II	Forbidden		Forbidden	
Bursters, explosive	0043	1.1D		Explosive				Forbidden (131)		Forbidden (131)	
Butadienes, inhibited	1010	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Butane	1011	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
A **Butane mixtures**	1011	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Butylene	1012	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
2→ **n-Butyl isocyanate**	~~2485~~	~~6.1~~	~~3~~	~~Liquid flammable & Poison~~	~~US 34~~	~~A1~~	~~II~~	~~306~~	~~(1 L)~~	~~308~~	~~60 L~~
3→ A **Butyltrichlorosilane**	1747	8	3	Corrosive & Liquid flammable		A1	II	809	(1 L)	813	30 L
H **5-tert-Butyl-2,4,6-trinitro-m-xylene**	2956	4.1		Solid flammable		A200 A215 A20	III	Forbidden (423)		Forbidden (~~418~~) (423)	

See Amendment list

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Calcium alloys, pyrophoric	1855	4.2		Spontaneous combustion	US 30		I	Forbidden		Forbidden	
Calcium, pyrophoric	1855	4.2		Spontaneous combustion	US 30		I	Forbidden		Forbidden	
Carbon, animal or vegetable origin	1361	4.2		Spontaneous combustion		A51	II III	Forbidden Forbidden		Forbidden Forbidden	
~~**Carbon dioxide and ethylene oxide mixtures with more than 6% ethylene oxide**~~	~~1041~~	~~2.3~~	~~2.1~~	~~Gas toxic & Gas flammable~~	~~US 30~~	~~A1~~		~~See 213~~		~~209~~	~~25 kg~~
Carbon disulphide	1131	3	6.1	Liquid flammable & Poison			I	Forbidden		Forbidden	
Carbon monoxide	1016	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		See 213		200	25 kg
Carbon monoxide and hydrogen mixture	2600	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
Carbonyl fluoride	2417	2.3	8	Gas toxic & Corrosive	US 30	A2		See 213		See 213	
Carbonyl sulphide	2204	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		See 213		200	25 kg
Cartridges, flash	0049	1.1G		Explosive				Forbidden (135)		Forbidden (135)	
Cartridges, flash	0050	1.3G		Explosive				Forbidden (135)		135	75 kg
Cartridges for weapons with bursting charge	0006	1.1E		Explosive		A218		Forbidden (132)		Forbidden (132)	
Cartridges for weapons with bursting charge	0005	1.1F		Explosive		A218		Forbidden (132)		Forbidden (132)	
Cartridges for weapons with bursting charge	0321	1.2E		Explosive		A218		Forbidden (132)		Forbidden (132)	
Cartridges for weapons with bursting charge	0007	1.2F		Explosive		A218		Forbidden (132)		Forbidden (132)	
Cartridges for weapons with bursting charge	0412	1.4E		Explosive 1.4		A218		Forbidden (132)		132	75 kg
Cartridges for weapons with bursting charge	0348	1.4F		Explosive 1.4		A218		Forbidden (132)		Forbidden (132)	
Cartridges for weapons, blank	0326	1.1C		Explosive				Forbidden (132)		Forbidden (132)	
Cartridges for weapons, blank	0413	1.2C		Explosive		A218		Forbidden (132)		Forbidden (132)	
Cartridges for weapons, blank	0327	1.3C		Explosive		A218		Forbidden (132)		Forbidden (132)	
Cartridges for weapons, blank	0338	1.4C		Explosive 1.4		A218		Forbidden (132)		132	75 kg

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Charges, propelling	0272	1.3C		Explosive				Forbidden (172)		Forbidden (172)	
Charges, propelling	0491	1.4C		Explosive 1.4				Forbidden (172)		172	75 kg
Charges, propelling, for cannon	0279	1.1C		Explosive				Forbidden (139)		Forbidden (139)	
Charges, propelling, for cannon	0414	1.2C		Explosive				Forbidden (139)		Forbidden (139)	
Charges, propelling, for cannon	0242	1.3C		Explosive				Forbidden (139)		Forbidden (139)	
Charges, shaped, commercial without detonator	0059	1.1D		Explosive	US 6 US 28	A2		140	(25 kg)	140	(75 kg)
Charges, shaped, commercial without detonator	0439	1.2D		Explosive				Forbidden (140)		Forbidden (140)	
Charges, shaped, commercial without detonator	0440	1.4D		Explosive 1.4	US 6 US 26	A1		140	(25 kg)	140	75 kg
Charges, shaped, flexible, linear	0288	1.1D		Explosive				Forbidden (141)		Forbidden (141)	
Charges, shaped, flexible, linear	0237	1.4D		Explosive 1.4				Forbidden (141)		141	75 kg
Charges, supplementary, explosive	0060	1.1D		Explosive				Forbidden (142)		Forbidden (142)	
F Chemical sample, toxic, liquid or solid	-	6.1		Poison		A105	II	See 623		See 623	
Chloric acid, aqueous solution, with not more than 10% chloric acid	2626	5.1		Oxidizer	US 30	A2	II	501	(1 L)	506	(5 L)
A Chlorine	1017	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213		See 213	
Chlorine pentafluoride	2548	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213		See 213	
Chlorine trifluoride	1749	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213		See 213	
Chloroacetic acid, molten	3250	6.1	8	Poison & Corrosive			II	Forbidden		Forbidden	
Chloroacetone, stabilized	1695	6.1		Poison	US 30	A2	II	610	(5 L)	612	(60 L)
A Chloroacetonitrile	2668	6.1	3	Poison & Liquid flammable	US 34	A1	II	609	(5 L)	611	60 L
Chloroacetophenone, liquid	1697	6.1		Poison		A1	II	610	(5 L)	612	60 L
Chloroacetophenone, solid	1697	6.1		Poison		A1	II	614	(25 kg)	616	100 kg
Chloroacetyl chloride	~~1752~~	~~8~~		~~Corrosive~~	~~US 30~~	~~A2~~	~~II~~	~~809~~	~~(1 L)~~	~~813~~	~~(30 L)~~
A ~~Chlorodifluoroethanes~~ 1-Chloro-1,1-difluoroethane	2517	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Chlorophenyltrichlorosilane	1753	8		Corrosive		A1	II	809	(1 L)	813	30 L
Chloropicrin	1580	6.1		Poison			I	Forbidden		Forbidden	
A Chloropicrin and methyl bromide mixtures	1581	2.3		Gas toxic	US 30	A2		See 213		See 213	

See Amendment List

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Chloropicrin and methyl chloride mixtures	1582	2.3		Gas toxic	US 30	A2		See 213		See 213	
Chloropicrin mixtures, n.o.s.	1583	6.1		Poison ~~(Gr. I & II) Keep away from food (Gr. III)~~	US 30	A2	I	Forbidden		Forbidden	
						A3	II	609	(5 L)	611	(60 L)
							III	611	(60 L)	618	(220 L)
Coal gas	1023	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		See 213		200	25 kg
Components, explosive train, n.o.s.*	0461	1.1B		Explosive		A62		Forbidden (124)		Forbidden (124)	
Components, explosive train, n.o.s.*	0382	1.2B		Explosive		A62		Forbidden (124)		Forbidden (124)	
Components, explosive train, n.o.s.*	0383	1.4B		Explosive 1.4	JP 18	A62		Forbidden (124)		124	75 kg
Compressed gas, flammable, n.o.s.*	1954	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Compressed gas, toxic, n.o.s.*	1955	2.3		Gas toxic	US 30	A2		See 213		See 213	
Compressed gas, toxic, flammable, n.o.s.*	1953	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
Contrivances, water-activated* with burster, expelling charge or propelling charge	0248	1.2L		Explosive				Forbidden (143)		Forbidden (143)	
Contrivances, water-activated* with burster, expelling charge or propelling charge	0249	1.3L		Explosive				Forbidden (143)		Forbidden (143)	
Copra	1363	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Cord, detonating, flexible	0065	1.1D		Explosive	US 28	A2		144	(25 kg)	144	(75 kg)
Cord, detonating, flexible	0289	1.4D		Explosive 1.4	US 28	A1		144	(25 kg)	144	75 kg
Cord, detonating, metal clad	0290	1.1D		Explosive				Forbidden (145)		Forbidden (145)	
Cord, detonating, metal clad	0102	1.2D		Explosive				Forbidden (145)		Forbidden (145)	
Cord, detonating, mild effect, metal clad	0104	1.4D		Explosive 1.4				Forbidden (145)		145	75 kg
Cord, igniter	0066	1.4 G		Explosive 1.4	US 28	A1		146	(25 kg)	146	75 kg
Cotton waste, oily	1364	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Cotton, wet	1365	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Crotonaldehyde, stabilized	~~1143~~	~~3~~		~~Liquid flammable~~	~~US 1 US 34~~	~~A1~~	~~II~~	~~305~~	~~(5 L)~~	~~307~~	~~60 L~~

See Amendment list

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Cyanogen bromide	1889	6.1	8	Poison & Corrosive	US 34	~~A1~~ A2	I	608	(1 kg)	608	~~25 kg~~ (15kg)
Cyanogen chloride, inhibited	1589	2.3	8	Gas toxic & Corrosive	US 30	A2		See 213		See 213	
Cyanogen, liquefied	1026	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
Cyclobutane	2601	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Cyclohexenyltrichlorosilane	1762	8		Corrosive		A1	II	809	(1 L)	613	30 L
Cyclohexyltrichlorosilane	1763	8		Corrosive		A1	II	809	(1 L)	813	30 L
Cyclopropane, liquefied	1027	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Cyclotetramethylenetetranitramine, desensitized	0484	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Cyclotetramethylenetetranitramine, wetted with not less than 15% water, by mass	0226	1.1D		Explosive				Forbidden (105 a))		Forbidden (105 a))	
Cyclotrimethylenetrinitramine and cyclotetramethylenetetranitramine mixtures, desensitized with not less than 10% phlegmatizer, by mass	0391	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Cyclotrimethylenetrinitramine and cyclotetramethylenetetranitramine mixtures, wetted with not less than 15% water, by mass	0391	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Cyclotrimethylenetrinitramine, desensitized	0483	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Cyclotrimethylenetrinitramine, wetted with not less than 15% water, by mass	0072	1.1D		Explosive				Forbidden (105 a))		Forbidden (105 a))	
Decaborane	1868	4.1	6.1	Solid flammable & Poison		A1	II	416	(15 kg)	418	50 kg
Deflagrating metal salts of aromatic nitro-derivatives, n.o.s.	0132	1.3C		Explosive				Forbidden (101)		Forbidden (101)	
Detonator assemblies, non-electric, for blasting	0360	1.1B		Explosive				Forbidden (127)		Forbidden (127)	
Detonator assemblies, non-electric, for blasting	0361	1.4B		Explosive 1.4				Forbidden (127)		127	75 kg
Detonators, electric for blasting	0030	1.1B		Explosive				Forbidden (125)		Forbidden (125)	
Detonators, electric for blasting	0255	1.4B		Explosive 1.4				Forbidden (125)		125	75 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Detonators for ammunition	0073	1.1B		Explosive				Forbidden (148)		Forbidden (148)	
Detonators for ammunition	0364	1.2B		Explosive				Forbidden (148)		Forbidden (148)	
Detonators for ammunition	0365	1.4B		Explosive 1.4				Forbidden (148)		148	75 kg
Detonators, non-electric for blasting	0029	1.1B		Explosive				Forbidden (126)		Forbidden (126)	
Detonators, non-electric for blasting	0267	1.4B		Explosive 1.4				Forbidden (126)		126	75 kg
Deuterium	1957	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Diazodinitrophenol, wetted with not less than 40% water, or mixture of alcohol and water, by mass	0074	1.1A		Explosive				Forbidden (102)		Forbidden (102)	
Diborane	1911	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
~~**Dichlorodifluoromethane and ethylene oxide mixtures with not more than 12% ethylene oxide**~~	~~3070~~	~~2.2~~		~~Gas toxic~~		~~A1~~		~~See 213~~		~~209~~	~~25 kg~~
Dichlorodimethyl ether, symmetrical	2249	6.1		Poison			I	Forbidden		Forbidden	
Dichlorophenyltrichlorosilane	1766	8		Corrosive		A1	II	809	(1 L)	813	30 L
Dichlorosilane	2189	2.3	2.1 8	Gas toxic & Gas flammable & Corrosive	US 30	A2		See 213		See 213	
Diethyldichlorosilane	1767	8	3	Corrosive & Liquid flammable		A1	II	809	(1 L)	813	30 L
Diethyleneglycol dinitrate, desensitized with not less than 25% non-volatile water-insoluble phlegmatizer, by mass	0075	1.1D		Explosive				Forbidden (124)		Forbidden (124)	
Diethylzinc	1366	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
1,1-Difluoroethane	1030	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
1,1-Difluoroethylene	1959	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Dimethylamine, anhydrous	1032	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
~~**Dimethyldichlorosilane**~~	~~1162~~	~~3~~	~~8~~	~~Liquid flammable & Corrosive~~	~~US 34~~	~~A1~~	~~I~~	~~302~~	~~(0.5 L)~~	~~303~~	~~2.5 L~~
Dimethyl ether	1033	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Dimethylhydrazine, unsymmetrical	1163	6.1	3 8	Poison & Liquid flammable & Corrosive	US 34		I	Forbidden		Forbidden	
2,2-Dimethylpropane other than pentane or isopentane	2044	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
K **Dimethyl sulphate**	1595	6.1	8	Poison & Corrosive		~~A6~~	I	Forbidden ~~603~~	~~(0.5 L)~~	Forbidden ~~604~~	~~2.5 L~~
Dimethylzinc	1370	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
A **Dinitrogen tetroxide, liquefied**	1067	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213		See 213	
Dinitroglycoluril	0489	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Dinitrophenol, dry or wetted with less than 15% water, by mass	0076	1.1D	6.1	Explosive & Poison				Forbidden (101)		Forbidden (101)	
Dinitrophenolates, alkali metals, dry or wetted with less than 15% water, by mass	0077	1.3C	6.1	Explosive & Poison				Forbidden (101)		Forbidden (101)	
Dinitroresorcinol, dry or wetted with less than 15% water, by mass	0078	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Dinitrosobenzene	0406	1.3C		Explosive				Forbidden (121)		Forbidden (121)	
Dinitrotoluenes, molten	1600	6.1		Poison			II	Forbidden		Forbidden	
Diphenylamine chloroarsine	1698	6.1		Poison			I	Forbidden		Forbidden	
Diphenyldichlorosilane	1769	8		Corrosive		A1	II	809	(1 L)	813	30 L
Dipicryl sulphide, dry or wetted with less than 10% water, by mass	0401	1.1D		Explosive		A208		Forbidden (101)		Forbidden (101)	
Dodecyltrichlorosilane	1771	8		Corrosive		A1	II	809	(1 L)	813	30 L
9 10 11 →											
Engine starting fluid with flammable gas	1960	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Epibromohydrin	2558	6.1		Poison			I	Forbidden		Forbidden	
Ethane, compressed	1035	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
H **Ethylacetylene, inhibited**	2452	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Ethylamine	1036	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Ethyl bromoacetate	1603	6.1		Poison	US 30	A2	II	610	(5 L)	612	(60 L)
Ethyl chloride	1037	2.1		Gas flammable	US 1 US 30	A1		200	(5 kg)	200 or 214	150 kg 0.3 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing Instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Ethyl chloroformate	1182	6.1	3 8	Poison & Liquid flammable & Corrosive			I	Forbidden		Forbidden	
12 →											
Ethyldichloroarsine	1892	6.1		Poison	See Amendment List		I	Forbidden		Forbidden	
~~Ethylene chlorohydrin~~	~~1135~~	~~6.1~~		~~Poison~~	~~US 34~~	~~A1~~	~~II~~	~~609~~	~~(5 L)~~	~~611~~	~~60 L~~
Ethylene, compressed	1962	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
13 →											
Ethyleneimine, inhibited	1185	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
HA Ethylene oxide, ~~pure or with nitrogen~~	1040	2.3	2.1	Gas toxic & Gas flammable	US 1 US 30	A1		See 213		209	25 kg
14 15 → 16											
Ethyl fluoride	2453	2.1		Gas flammable		A1		200	(5 kg)	200	150 kg
Ethyl mercaptan	2363	3		Liquid flammable		A1	I	306	(1 L)	308	30 L
Ethyl methyl ether	1039	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
A Ethyl nitrite solution	1194	3	6.1	Liquid flammable & Poison	US 30	A2	I	306	(1 L)	304	(5 L)
Ethylphenyldichlorosilane	2435	8		Corrosive		A1	II	809	(1 L)	813	30 L
A ~~Ethyltrichlorosilane~~	~~1196~~	~~3~~	~~8~~	~~Liquid flammable & Corrosive~~		~~A1~~	~~I~~	~~306~~	~~(0.5 L)~~	~~304~~	~~2.5 L~~
Explosive, blasting, type A	0081	1.1D		Explosive				Forbidden (106)		Forbidden (106)	
Explosive, blasting, type B	0082	1.1D		Explosive				Forbidden (106)		Forbidden (106)	
Explosive, blasting, type B	0331	1.5D		Explosive 1.5		A207		Forbidden (106 or 107)		Forbidden (106 or 107)	
Explosive, blasting, type C	0083	1.1D		Explosive				Forbidden (108)		Forbidden (108)	
Explosive, blasting, type D	0084	1.1D		Explosive				Forbidden (109)		Forbidden (109)	
Explosive, blasting, type E	0241	1.1D		Explosive				Forbidden (106)		Forbidden (106)	
Explosive, blasting, type E	0332	1.5D		Explosive 1.5		A207		Forbidden (110)		Forbidden (110)	
Fabrics, animal, n.o.s., with oil	1373	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Fabrics, synthetic, n.o.s., with oil	1373	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Fabrics, vegetable, n.o.s., with oil	1373	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)

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Name	UN No.	Class or division	Sub-sidiary risk	Labels	State varia-tions	Special provi-sions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Fertilizer ammoniating solution with free ammonia	1043	2.2		Gas non-flammable		A1		200	(75 kg)	200	150 kg
Fibres, animal, n.o.s., with oil	1373	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Fibres, synthetic, n.o.s., with oil	1373	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Fibres, vegetable, n.o.s., with oil	1373	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Fireworks	0333	1.1G		Explosive				Forbidden (149)		Forbidden (149)	
Fireworks	0334	1.2G		Explosive				Forbidden (150)		Forbidden (150)	
Fireworks	0335	1.3G		Explosive				Forbidden (150)		Forbidden (150)	
Fireworks	0336	1.4G		Explosive 1.4				Forbidden (150)		150	75 kg
Flammable solid, organic, molten, n.o.s.*	3176	4.1		Solid flammable		A3	II III	Forbidden Forbidden		Forbidden Forbidden	
Flammable solid, oxidizing, n.o.s.*	3097	4.1	5.1	Solid flammable & Oxidizer		A3	II III	Forbidden Forbidden		Forbidden Forbidden	
Flares, aerial	0420	1.1G		Explosive				Forbidden (151)		Forbidden (151)	
Flares, aerial	0421	1.2G		Explosive				Forbidden (151)		Forbidden (151)	
Flares, aerial	0093	1.3G		Explosive				Forbidden (151)		151	75 kg
Flares, aerial	0403	1.4G		Explosive 1.4				Forbidden (151)		151	75 kg
Flares, surface	0418	1.1G		Explosive				Forbidden (151)		Forbidden (151)	
Flares, surface	0419	1.2G		Explosive				Forbidden (151)		Forbidden (151)	
Flares, surface	0092	1.3G		Explosive				Forbidden (151)		151	75 kg
Flash powder	0094	1.1G		Explosive				Forbidden (117)		Forbidden (117)	
Flash powder	0305	1.3G		Explosive				Forbidden (117)		Forbidden (117)	
Fluorine, compressed	1045	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213		See 213	
Fracturing devices, explosive for oil wells, without detonator	0099	1.1D		Explosive	US 28	A2		152	(25 kg)	152	(75 kg)
Fuse, igniter, tubular, metal clad	0103	1.4G		Explosive 1.4				Forbidden (153)		153	75 kg
Fuse, instantaneous, non-detonating	0101	1.3G		Explosive				Forbidden (153)		Forbidden (153)	
Fuzes, detonating	0106	1.1B		Explosive				Forbidden (155)		Forbidden (155)	
Fuzes, detonating	0107	1.2B		Explosive				Forbidden (155)		Forbidden (155)	
Fuzes, detonating	0257	1.4B		Explosive 1.4				Forbidden (155)		155	75 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Fuzes, detonating with protective features	0408	1.1D		Explosive				Forbidden (155)		Forbidden (155)	
Fuzes, detonating with protective features	0409	1.2D		Explosive				Forbidden (155)		Forbidden (155)	
Fuzes, detonating with protective features	0410	1.4D		Explosive 1.4				Forbidden (155)		155	75 kg
Fuzes, igniting	0316	1.3G		Explosive				Forbidden (155)		Forbidden (155)	
Fuzes, igniting	0317	1.4G		Explosive 1.4				Forbidden (155)		155	75 kg
Gas sample, non-pressurized, toxic, n.o.s., not ~~deeply~~ refrigerated liquid	3169	2.3		Gas toxic	US 30	A1		206	(1 L)	206	1 L
Gas sample, non-pressurized, toxic, flammable, n.o.s., not ~~deeply~~ refrigerated liquid	3168	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		206	(1 L)	206	1 L
Germane	2192	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
Grenades, hand or rifle, with bursting charge	0284	1.1D		Explosive				Forbidden (156)		Forbidden (156)	
Grenades, hand or rifle, with bursting charge	0292	1.1F		Explosive				Forbidden (156)		Forbidden (156)	
Grenades, hand or rifle, with bursting charge	0285	1.2D		Explosive				Forbidden (156)		Forbidden (156)	
Grenades, hand or rifle, with bursting charge	0293	1.2F		Explosive				Forbidden (156)		Forbidden (156)	
Grenades, practice, hand or rifle	0372	1.2G		Explosive				Forbidden (156)		Forbidden (156)	
Grenades, practice, hand or rifle	0318	1.3G		Explosive				Forbidden (156)		Forbidden (156)	
Grenades, practice, hand or rifle	0452	1.4G		Explosive 1.4				Forbidden (156)		156	75 kg
Guanyl nitrosaminoguanylidene hydrazine, wetted with not less than 30% water, by mass	0113	1.1A		Explosive				Forbidden (102)		Forbidden (102)	
Guanyl nitrosaminoguanyltetrazene, wetted with not less than 30% water, or mixture of alcohol and water, by mass	0114	1.1A		Explosive				Forbidden (102)		Forbidden (102)	
Gunpowder, compressed	0028	1.1D		Explosive				Forbidden (104)		Forbidden (104)	
Gunpowder in pellets	0028	1.1D		Explosive				Forbidden (104)		Forbidden (104)	

	Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
	1	2	3	4	5	6	7	8	9	10	11	12
	Hexachlorocyclopentadiene	2646	6.1		Poison	US 1		I	Forbidden		Forbidden	
	Hexadecyltrichlorosilane	1781	8		Corrosive		A1	II	609	(1 L)	813	30 L
A	**Hexaethyl tetraphosphate and compressed gas mixture**	1612	2.3		Gas toxic	US 30	A2		See 213		See 213	
A	**Hexafluoroacetone**	2420	2.3	8	Gas toxic & Corrosive	US 30	A1		See 213		200	25 kg
	Hexanitrodiphenylamine	0079	1.1D		Explosive	US 6			Forbidden (109)		Forbidden (109)	
	Hexanitrostilbene	0392	1.1D		Explosive				Forbidden (109)		Forbidden (109)	
A	~~Hexotonal~~, ~~Hexotonol~~, cast	0393	1.1D		Explosive				Forbidden (111)		Forbidden (111)	
	Hexolite, dry or wetted with less than 15% water, by mass	0118	1.1D		Explosive				Forbidden (111)		Forbidden (111)	
	Hexyltrichlorosilane	1784	8		Corrosive		A1	II	809	(1 L)	813	30 L
A	**Hydrazine, aqueous solutions** with not more than 64% hydrazine, by mass	2030	8	6.1	Corrosive & Poison		A1	II	808	(1 L)	812	30 L
	Hydrazine hydrate	2030	8	6.1	Corrosive & Poison		A1	II	808	(1 L)	812	30 L
	Hydrobromic acid solution, more than 49% strength	1788	8		Corrosive	US 30	A2	II	809	(1 L)	813	(30 L)
	Hydrocarbon gas, compressed, n.o.s.*	1964	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
	Hydrocarbon gas, liquefied, n.o.s.*	1965	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
A	**Hydrocarbon gas mixture, compressed, n.o.s.***	1964	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
A	**Hydrocarbon gas mixture, liquefied, n.o.s.***	1965	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
A	**Hydrocyanic acid, aqueous solutions** with not more than 20% ~~hydrocyanic acid~~ hydrogen cyanide	1613	6.1		Poison			I	Forbidden		Forbidden	
A	**Hydrofluoric acid and sulphuric acid mixtures**	1786	8	6.1	Corrosive & Poison		A1	I	807	(0.5 L)	809	2.5 L
A	**Hydrogen and methane mixture, compressed**	2034	2.1		Gas flammable		A1		200	(5 kg)	200	150 kg
	Hydrogen bromide, anhydrous	1048	2.3	8	Gas toxic & Corrosive	US 30	A1		See 213		200	25 kg
	Hydrogen chloride, anhydrous	1050	2.3	8	Gas toxic & Corrosive		A2		See 213		See 213	
	Hydrogen, compressed	1049	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Hydrogen cyanide, ~~anhydrous~~, stabilized, containing less than 3% water	1051	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
Hydrogen cyanide, ~~anhydrous~~ stabilized absorbed in a porous inert material containing less than 3% water and	1614	6.1		Poison			I	Forbidden		Forbidden	
Hydrogen fluoride, anhydrous	1052	8	6.1	Corrosive & Poison	US 30	A2	I	807	(0.5 L)	809	(2.5 L)
Hydrogen iodide, anhydrous	2197	2.3	8	Gas toxic & Corrosive		A2		See 213		See 213	
Hydrogen peroxide, aqueous solution with more than 40% but not more than 60% hydrogen peroxide (stabilized as necessary)	2014	5.1	6	Oxidizer & Corrosive	US 30	A2	II	501	(1 L)	506	(5 L)
Hydrogen peroxide, aqueous solution, stabilized with more than 60% hydrogen peroxide	2015	5.1	8	Oxidizer & Corrosive			I	Forbidden		Forbidden	
Hydrogen peroxide, stabilized	2015	5.1	8	Oxidizer & Corrosive			I	Forbidden		Forbidden	
Hydrogen selenide, anhydrous	2202	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
Hydrogen sulphide, liquefied	1053	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
Igniters	0121	1.1G		Explosive				Forbidden (157)		Forbidden (157)	
Igniters	0314	1.2G		Explosive				Forbidden (157)		Forbidden (157)	
Igniters	0315	1.3G		Explosive				Forbidden (157)		Forbidden (157)	
Igniters	0325	1.4G		Explosive 1.4				Forbidden (159)		159	75 kg
Insecticide gas, toxic, n.o.s.*	1967	2.3		Gas toxic	US 30	A2		See 213		See 213	
Iodine monochloride	1792	8		Corrosive		A1	II	815	(15 kg)	817	50 kg
Iron oxide, spent (obtained from coal gas purification)	1376	4.2		Spontaneous combustion	US 30	A2 A3	III	422	(25 kg)	421	(100 kg)
Iron pentacarbonyl	1994	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
Iron sponge, spent (obtained from coal gas purification)	1376	4.2		Spontaneous combustion	US 30	A2 A3	III	422	(25 kg)	421	(100 kg)

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Isobutane	1969	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
A **Isobutane mixture**	1969	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Isobutylene	1055	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Isopropyl chloroformate	~~2407~~	~~8~~	~~8~~	See Amendment list ~~Liquid flammable & Corrosive~~	~~US 24~~	~~A1~~	~~II~~	~~305~~	~~(1 L)~~	~~307~~	~~5 L~~
19 → **Jet perforating guns, charged**, oil well, without detonator	0124	1.1D		Explosive				Forbidden (158)		Forbidden (158)	
Jet perforating guns, charged, oil well, without detonator	0494	1.4D		Explosive 1.4		A24		Forbidden (158)		158	300 kg
Lead azide, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0129	1.1A		Explosive				Forbidden (102)		Forbidden (102)	
Lead styphnate, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0130	1.1A		Explosive				Forbidden (102)		Forbidden (102)	
Liquefied gas, flammable, n.o.s.*	3161	2.1		Gas flammable		A1		200	(5 kg)	200	150 kg
Liquefied gas, toxic, n.o.s.*	3162	2.3		Gas toxic		A2		See 213		See 213	
Liquefied gas, toxic, flammable, n.o.s.*	3160	2.3	2.1	Gas toxic & Gas flammable		A2		See 213		See 213	
Lithium	1415	4.3		Danger if wet		A1	II	416	(15 kg)	418	50 kg
A **Lithium alkyls**	2445	4.2	4.3	Spontaneous combustion & Danger if wet			I	Forbidden		Forbidden	
Lithium batteries, liquid cathode	3090	9		Miscellaneous	US 25	A1 A45	II	903	(5 kg G)	903	35 kg G
Magnesium alkyls	3053	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Magnesium diphenyl	2005	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Mannitol hexanitrate, wetted with not less than 40% water, or mixture of alcohol and water, by mass	0133	1.1D		Explosive				Forbidden (112)		Forbidden (112)	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Matches, fusee	2254	4.1		Solid flammable	US 30	A2	III	402	(25 kg)	402	(100 kg)
Matches, 'strike anywhere'	1331	4.1		Solid flammable	US 30	A2	III	402	(25 kg)	402	(100 kg)
Mercaptan mixtures, liquid, n.o.s.* flammable, toxic, ~~flash point less than 23°C~~	1228	3	6.1	Liquid flammable & Poison		A1 ~~A75~~ A36	II	306	(1 L)	308	60 L
Mercaptans, liquid, n.o.s.* flammable, toxic,	1228	3	6.1	Liquid flammable & Poison		A1 ~~A75~~ A36	II	306	(1 L)	308	60 L
5-Mercaptotetrazol-1-acetic acid	0448	1.4C		Explosive 1.4				Forbidden (121)		121	75 kg
Mercury fulminate, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0135	1.1A		Explosive				Forbidden (102)		Forbidden (102)	
Metal alkyl halides, n.o.s.*	3049	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Metal alkyl hydrides, n.o.s.*	3050	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Metal alkyls, n.o.s.*	2003	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Metal aryl halides, n.o.s.*	3049	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Metal aryl hydrides, n.o.s.*	3050	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Metal aryls, n.o.s.*	2003	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Metal catalyst, dry	2881	4.2		Spontaneous combustion		A36 ~~A94~~	I II	Forbidden 418	(15 kg)	Forbidden 416	50 kg
Metal catalyst, wetted with a visible excess of liquid	1378	4.2		Spontaneous combustion		A1 ~~A94~~	II	418	(15 kg)	416	50 kg
Methane, compressed	1971	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Methyl acetylene and propadiene mixtures, stabilized	1060	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Methylamine, anhydrous	1061	2.1		Gas flammable	US 1 US 30	A1		200	(5 kg)	200	150 kg
Methyl bromide	1062	2.3		Gas toxic	US 30	A2		See 213		207	(25 kg)
Methyl bromide and ethylene dibromide mixtures, liquid	1647	6.1		Poison		A1	I	610	(1 L)	605	30 L
Methacrylic acid, inhibited	2531	8		Corrosive		A2 A202	III	818	(5L)	820	(60L)

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Methyl chloride	1063	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	100 kg
A **Methyl chloride and methylene chloride mixture**	1912	~~2.2~~ 2.1		Gas ~~non~~ flammable		A1 A52		200	5 (~~75~~ kg)	200	150 kg
Methyl chloroformate	1238	6.1	3 8	Poison & Liquid flammable & Corrosive			I	Forbidden		Forbidden	
Methyl chloromethyl ether	1239	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
Methylchlorosilane	2534	2.3	2.1 8	Gas toxic & Gas flammable & Corrosive		A2		See 213		See 213	
Methyl fluoride	2454	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Methylhydrazine	1244	6.1	3	Poison & Liquid flammable & Corrosive			I	Forbidden		Forbidden	
31 →											
Methyl isocyanate	2480	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
Methyl isothiocyanate	2477	3	6.1	Liquid flammable & Poison	US 34	A1	II	305	(1 L)	307	60 L
Methyl mercaptan	1064	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		See 213		200	25 kg
Methyltrichlorosilane	1250	3	8	Liquid flammable & Corrosive	US 34	A1	I	306	(0.5 L)	304	2.5 L
Mines with bursting charge	0137	1.1D		Explosive				Forbidden (128)		Forbidden (128)	
Mines with bursting charge	0138	1.2D		Explosive				Forbidden (128)		Forbidden (128)	
Mines with bursting charge	0136	1.1F		Explosive				Forbidden (128)		Forbidden (128)	
Mines with bursting charge	0294	1.2F		Explosive				Forbidden (128)		Forbidden (128)	
A **Motor fuel anti-knock mixture**	1649	6.1	3	Poison & Liquid flammable		A1 A60	I	610	(1 L)	605	30 L

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Naphthalene, molten	2304	4.1		Solid flammable			III	Forbidden		Forbidden	
Natural gas, compressed with high methane content	1971	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Nickel carbonyl	1259	6.1	3	Poison & Liquid flammable			I	Forbidden		Forbidden	
Nitrating acid mixtures with not more than 50% nitric acid	1796	8		Corrosive		A1	II	809	(1 L)	813	30 L
Nitrating acid mixtures, spent with not more than 50% nitric acid	1826	8		Corrosive		A1 A34	II	809	(1 L)	813	30 L
Nitric acid, other than red fuming, with not more than 70% nitric acid	2031	8		Corrosive		A1	II	807	(1 L)	813	30 L
Nitric acid, red fuming	2032	8	5.1 6.1	Corrosive & Oxidizer & Poison			I	Forbidden		Forbidden	
Nitric oxide	~~1660~~	~~2.3~~		~~Gas toxic~~	~~US 30~~	~~A2~~		~~See 213~~		~~See 213~~	
Nitric oxide and dinitrogen tetroxide mixtures	~~1975~~	~~2.3~~		~~Gas toxic~~	~~US 30~~	~~A2~~		~~See 213~~		~~See 213~~	
5-Nitrobenzotriazol	0385	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Nitrocellulose, dry or wetted with less than 25% water (or alcohol), by mass	0340	1.1D		Explosive				Forbidden (124)		Forbidden (124)	
Nitrocellulose, unmodified or plasticized with less than 18% plasticizing substance, by mass	0341	1.1D		Explosive				Forbidden (124)		Forbidden (124)	
Nitrocellulose, plasticized with not less than 18% plasticizing substance, by mass	0343	1.3C		Explosive		A213		Forbidden (113)		Forbidden (113)	
Nitrocellulose, wetted with not less than 25% alcohol, by mass	0342	1.3C		Explosive		A213		Forbidden (113)		Forbidden (113)	
Nitrogen trifluoride	2451	2.3	5.1	Gas toxic & Oxidizer	US 30	A1		See 213		200	25 kg
Nitrogen trioxide	2421	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213		See 213	
Nitroglycerin, desensitized with not less than 40% non-volatile water-insoluble phlegmatizer, by mass	0143	1.1D	6.1	Explosive & Poison				Forbidden (124)		Forbidden (124)	
Nitroglycerin, solution in alcohol with more than 1% but not more than 10% nitroglycerin	0144	1.1D		Explosive		~~A42~~		Forbidden (114)		Forbidden (114)	
Nitroguanidine, dry or wetted with less than 20% water, by mass	0282	1.1D		Explosive				Forbidden (115)		Forbidden (115)	
Nitrohydrochloric acid	1798	8		Corrosive		A1	I	807	(0.5 L)	809	2.5 L

See Amendment list

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Nitromethane	1261	3		Liquid flammable		A1 A39	II	305	(5 L)	307	60 L
Nitrostarch, dry or wetted with less than 20% water, by mass	0146	1.1D		Explosive				Forbidden (116)		Forbidden (116)	
Nitrosyl chloride	1069	2.3	8	Gas toxic & Corrosive		A2		See 213		See 213	
Nitrotriazolone	0490	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Nitro urea	0147	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Nitrous oxide, refrigerated liquid	2201	2.2	5.1	Gas non-flammable & Oxidizer		A2		202	(75 kg)	202	(150 kg)
Nonyltrichlorosilane	1799	8		Corrosive		A1	II	809	(1 L)	813	30 L
Octadecyltrichlorosilane	1800	8		Corrosive		A1	II	809	(1 L)	813	30 L
Octolite, dry or wetted with less than 15% water, by mass	0266	1.1D		Explosive				Forbidden (111)		Forbidden (111)	
20 → **tert-Octyl mercaptan**	3023	6.1	3	Poison & Liquid flammable	US 34	A1	II	610	(5 L)	612	60 L
Octyltrichlorosilane	1801	8		Corrosive		A1	II	809	(1 L)	813	30 L
Oil gas	~~1071~~	~~2.1~~		See Amendment List ~~Gas flammable~~	~~US 20~~	~~A1~~		~~200~~	~~(5 kg)~~	~~200~~	~~150 kg~~
Organic peroxide type B, liquid*	3101	5.2		Organic peroxide	US 3	A215		Forbidden		Forbidden	
Organic peroxide type B, liquid, temperature controlled*	3111	5.2		Organic peroxide	US 3	A203 A215		Forbidden		Forbidden	
Organic peroxide type B, solid*	3102	5.2		Organic peroxide	US 3	A215		Forbidden		Forbidden	
Organic peroxide type B, solid, temperature controlled*	3112	5.2		Organic peroxide	US 3	A203 A215		Forbidden		Forbidden	
Organic peroxide type C, liquid, temperature controlled*	3113	5.2		Organic peroxide	US 3	A203		Forbidden		Forbidden	
Organic peroxide type C, solid, *temperature controlled**	3114	5.2		Organic peroxide	US 3	A203		Forbidden		Forbidden	
Organic peroxide type D, liquid, temperature controlled*	3115	5.2		Organic peroxide	US 3	A203		Forbidden		Forbidden	
Organic peroxide type D, solid, temperature controlled*	3116	5.2		Organic peroxide	US 3	A203		Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Organic peroxide type E, liquid, temperature controlled*	3117	5.2		Organic peroxide	US 3	A203		Forbidden		Forbidden	
Organic peroxide type E, solid, temperature controlled*	3118	5.2		Organic peroxide	US 3	A203		Forbidden		Forbidden	
Organic peroxide type F, liquid, temperature controlled*	3119	5.2		Organic peroxide	US 3	A203		Forbidden		Forbidden	
Organic peroxide type F, solid, temperature controlled*	3120	5.2		Organic peroxide	US 3	A203		Forbidden		Forbidden	
Oxidizing solid, flammable, n.o.s.*	3137	5.1	4.1	Oxidizer & Solid flammable			I	Forbidden		Forbidden	
Oxidizing solid, self-heating, n.o.s.*	3100	5.1	4.2	Oxidizer & Spontaneous combustion			I II	Forbidden Forbidden		Forbidden Forbidden	
Oxidizing solid, water-reactive, n.o.s.*	3121	5.1	4.3	Oxidizer & Danger if wet			I II	Forbidden Forbidden		Forbidden Forbidden	
Oxygen difluoride	2190	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213		See 213	
Oxygen, refrigerated liquid	1073	2.2	5.1	Gas non-flammable & Oxidizer	US 30	A2		202	(75 kg)	202	(150 kg)
Paper, unsaturated oil treated, incompletely dried (includes carbon paper)	1379	4.2		Spontaneous combustion	US 30	A2 A48	III	407	(25 kg)	407	(100 kg)
Pentaborane	1380	4.2	6.1	Spontaneous combustion & Poison			I	Forbidden		Forbidden	
Pentaerythrite tetranitrate with not less than 7% wax by mass	0411	1.1D		Explosive		A210		Forbidden (119 a))		Forbidden (119 a))	
Pentaerythrite tetranitrate, desensitized with not less than 15% phlegmatizer, by mass	0150	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Pentaerythrite tetranitrate, wetted with not less than 25% water, by mass	0150	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Pentolite, dry or wetted with less than 15% water, by mass	0151	1.1D		Explosive				Forbidden (111)		Forbidden (111)	
Perchloric acid with not more than 50% acid, by mass	1802	8	5.1	Corrosive & Oxidizer		A1	II	809	(1 L)	813	30 L
Perchloromethyl mercaptan	1670	6.1		Poison	US 1 US 34	A1	I	Forbidden 610	(1 L)	Forbidden 605	30 L
Perchloryl fluoride	3083	2.3	5.1	Gas toxic & Oxidizer		A2		See 213		See 213	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Perfluoroethylvinyl ether	3154	2.1		Gas flammable		A1		200	(5 kg)	200	150 kg
Perfluoromethylvinyl ether	3153	2.1		Gas flammable		A1		200	(5 kg)	200	150 kg
Petroleum gases, liquefied	1075	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Phenol, molten	2312	6.1		Poison			II	Forbidden		Forbidden	
Phenylcarbylamine chloride	1672	6.1		Poison			I	Forbidden		Forbidden	
Phenyl phosphorus dichloride	2798	8		Corrosive		A1	II	808	(1 L)	812	30 L
Phenyl phosphorus thiodichloride	2799	8		Corrosive		A1	II	808	(1 L)	812	30 L
Phenyltrichlorosilane	1804	8		Corrosive	US 34	A1	II	809	(1 L)	813	30 L
Phosgene	1076	2.3	8	Gas toxic & Corrosive	US 30	A2		See 213		See 213	
Phosphine	2199	2.3	2.1	Gas toxic & Gas flammable	US 30	A2		See 213		See 213	
Phosphorus oxybromide	1939	8		Corrosive		A1	II	815	(15 kg)	817	50 kg
Phosphorus oxybromide, molten	2576	8		Corrosive			II	Forbidden		Forbidden	
Phosphorus oxychloride	1810	8		Corrosive	US 34	A1	II	809	(1 L)	813	30 L
Phosphorus pentabromide	2691	8		Corrosive		A1	II	815	(15 kg)	817	50 kg
Phosphorus pentachloride	1806	8		Corrosive		A1	II	815	(15 kg)	817	50 kg
Phosphorus pentafluoride	2198	2.3	8	Gas toxic & Corrosive	US 30	A2		See 213		See 213	
Phosphorus tribromide	1808	8		Corrosive		A1	II	809	(1 L)	813	30 L
Phosphorus trichloride	1809	8	6.1	Corrosive & Poison	US 34	A1	II	809	(1 L) (0.5 L)	813	30 L 2.5
Phosphorus, white, dry	1381	4.2	6.1	Spontaneous combustion & Poison			I	Forbidden		Forbidden	
Phosphorus, white, in solution	1381	4.2	6.1	Spontaneous combustion & Poison			I	Forbidden		Forbidden	
Phosphorus white, molten	2447	4.2	6.1	Spontaneous combustion & Poison			I	Forbidden		Forbidden	
Phosphorus, white, under water	1381	4.2	6.1	Spontaneous combustion & Poison			I	Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing Instruction	Max. net quantity per package	Packing Instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Phosphorus, yellow, dry	1381	4.2	6.1	Spontaneous combustion & Poison			I	Forbidden		Forbidden	
Phosphorus, yellow, in solution	1381	4.2	6.1	Spontaneous combustion & Poison			I	Forbidden		Forbidden	
Phosphorus, yellow, under water	1381	4.2	6.1	Spontaneous combustion & Poison			I	Forbidden		Forbidden	
Plastics, nitrocellulose-based, self-heating, n.o.s.*	2006	4.2		Spontaneous combustion	US 30	A2	III	422	(25 kg)	421	(100 kg)
Potassium	2257	4.3		Danger if wet		A1	I	416	(1 kg)	412	15 kg
Potassium/metal alloys	1420	4.3		Danger if wet		A1	I	416	(1 kg)	412	15 kg
Potassium peroxide	1491	5.1		Oxidizer		A1	I	509	(1 kg)	512	15 kg
Potassium salts of aromatic nitro-derivatives, explosive	0158	1.3C		Explosive				Forbidden (118)		Forbidden (118)	
Potassium superoxide	2466	5.1		Oxidizer		A1	I	509	(1 kg)	512	15 kg
Powder cake, wetted with not less than 25% water, by mass	0159	1.3C		Explosive				Forbidden (116)		Forbidden (116)	
Powder cake, wetted with not less than 17% alcohol by mass	0433	1.1C		Explosive				Forbidden (124)		Forbidden (124)	
Powder, smokeless	0160	1.1C		Explosive				Forbidden (119)		Forbidden (119)	
Powder, smokeless	0161	1.3C		Explosive				Forbidden (119)		Forbidden (119)	
Primers, cap type	0377	1.1B		Explosive				Forbidden (160)		Forbidden (160)	
Primers, cap type	0378	1.4B		Explosive 1.4				Forbidden (160)		160	75 kg
Primers, tubular	0319	1.3G		Explosive				Forbidden (161)		Forbidden (161)	
Primers, tubular	0320	1.4G		Explosive 1.4				Forbidden (161)		161	75 kg
Projectiles, inert with tracer	0424	1.3G		Explosive				Forbidden (128)		Forbidden (128)	
Projectiles, inert, with tracer	0425	1.4G		Explosive 1.4				Forbidden (128)		128	75 kg
Projectiles with burster or expelling charge	0346	1.2D		Explosive				Forbidden (128)		Forbidden (128)	
Projectiles with burster or expelling charge	0426	1.2F		Explosive				Forbidden (128)		Forbidden (128)	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Projectiles with burster or expelling charge	0434	1.2G		Explosive				Forbidden (128)		Forbidden (128)	
Projectiles with burster or expelling charge	0347	1.4D		Explosive 1.4				Forbidden (128)		128	75 kg
Projectiles with burster or expelling charge	0427	1.4F		Explosive 1.4				Forbidden (128)		Forbidden (128)	
Projectiles with burster or expelling charge	0435	1.4G		Explosive 1.4				Forbidden (128)		128	75 kg
Projectiles with bursting charge	0168	1.1D		Explosive				Forbidden (128)		Forbidden (128)	
Projectiles with bursting charge	0167	1.1F		Explosive				Forbidden (128)		Forbidden (128)	
Projectiles with bursting charge	0169	1.2D		Explosive				Forbidden (128)		Forbidden (128)	
Projectiles with bursting charge	0324	1.2F		Explosive				Forbidden (128)		Forbidden (128)	
Projectiles with bursting charge	0344	1.4D		Explosive 1.4				Forbidden (128)		128	75 kg
Propadiene, inhibited	2200	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Propane	1978	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Propane mixture	1978	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Propionitrile	2404	3	6.1	Liquid flammable & Poison		A1	II	305	(1 L)	307	60 L
Propyl chloride	1278	3		Liquid flammable		A1	II	306	(5 L)	308	60 L
Propylene	1077	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Propyltrichlorosilane	1816	8	3	Corrosive & Liquid flammable		A1	II	809	(1 L)	813	30 L
Pyrophoric alloy, n.o.s.*	1383	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Pyrophoric liquid, inorganic, n.o.s.*	3194	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Pyrophoric liquid, organic, n.o.s.*	2845	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Pyrophoric metal, n.o.s.*	1383	4.2		Spontaneous combustion			I	Forbidden		Forbidden	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Pyrophoric organometallic compounds, n.o.s.*	3203	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Pyrophoric solid, inorganic, n.o.s.*	3200	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Pyrophoric solid, organic, n.o.s.*	2846	4.2		Spontaneous combustion			I	Forbidden		Forbidden	
Rocket motors	0280	1.1C		Explosive				Forbidden (163)		Forbidden (163)	
Rocket motors	0281	1.2C		Explosive				Forbidden (163)		Forbidden (163)	
Rocket motors	0186	1.3C		Explosive				Forbidden (163)		163	220 kg
Rocket motors, liquid fuelled	0395	1.2J		Explosive				Forbidden (124)		Forbidden (124)	
Rocket motors, liquid fuelled	0396	1.3J		Explosive				Forbidden (124)		Forbidden (124)	
Rocket motors with hypergolic liquids with or without expelling charge	0322	1.2L		Explosive				Forbidden (165)		Forbidden (165)	
Rocket motors with hypergolic liquids with or without expelling charge	0250	1.3L		Explosive				Forbidden (165)		Forbidden (165)	
Rockets with bursting charge	0181	1.1E		Explosive				Forbidden (163)		Forbidden (163)	
Rockets with bursting charge	0180	1.1F		Explosive				Forbidden (163)		Forbidden (163)	
Rockets with bursting charge	0182	1.2E		Explosive				Forbidden (163)		Forbidden (163)	
Rockets with bursting charge	0295	1.2F		Explosive				Forbidden (163)		Forbidden (163)	
Rockets with expelling charge	0436	1.2C		Explosive				Forbidden (163)		Forbidden (163)	
Rockets with expelling charge	0437	1.3C		Explosive				Forbidden (163)		Forbidden (163)	
Rockets with expelling charge	0438	1.4C		Explosive 1.4				Forbidden (163)		163	75 kg
Rockets with inert head	0183	1.3C		Explosive				Forbidden (163)		Forbidden (163)	
Rockets, line-throwing	0238	1.2G		Explosive				Forbidden (164)		Forbidden (164)	
Rockets, line-throwing	0240	1.3G		Explosive				Forbidden (164)		164	75 kg
Rockets, line-throwing	0453	1.4G		Explosive 1.4				Forbidden (164)		164	75 kg
Rockets, liquid fuelled with bursting charge	0397	1.1J		Explosive				Forbidden (124)		Forbidden (124)	
Rockets, liquid fuelled with bursting charge	0398	1.2J		Explosive				Forbidden (124)		Forbidden (124)	
Refrigerating machines containing flammable, non-toxic, liquefied gas		2.1		Gas - flammable	US30					Forbidden	Forbidden

Name	UN No.	Class or division	Sub-sidiary risk	Labels	State varia-tions	Special provi-sions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Samples, explosive*, other than initiating explosive	0190	1		Explosive		A222		Forbidden (124)		Forbidden (124)	
Seed cake with more than 1.5% oil and not more than 11% moisture	1386	4.2		Spontaneous combustion	US 30	A2 A48 A216	III	407	(25 kg)	407	(100 kg)
Seed cake *with not more than 1.5%* oil and not more than 11% moisture	2217	4.2		*Spontaneous* combustion	US 30	A2 A55	III	419	(25 kg)	420	(100 kg)
Selenic acid	1905	8		Corrosive		A1	I	810	(1 kg)	811	25 kg
A **Selenium hexafluoride**	2194	2.3	8	Gas toxic & Corrosive	US 30	A2		See 213		See 213	
Self-heating solid, oxidizing, n.o.s.*	3127	4.2	5.1	Spontaneous combustion & Oxidizer		A3	II III	Forbidden Forbidden		Forbidden Forbidden	
Self-reactive liquid type B*	3221	4.1		Solid flammable		A215	II	Forbidden		Forbidden	
Self-reactive liquid type B, temperature controlled*	3231	4.1		Solid flammable		A214 A215	II	Forbidden		Forbidden	
Self-reactive liquid type C,* temperature controlled	3233	4.1		Solid flammable		A214	II	Forbidden		Forbidden	
Self-reactive liquid type D, temperature controlled*	3235	4.1		Solid flammable		A214	II	Forbidden		Forbidden	
Self-reactive liquid type E, temperature controlled*	3237	4.1		Solid flammable		A214	II	Forbidden		Forbidden	
Self-reactive liquid type F, temperature controlled*	3239	4.1		Solid flammable		A214	II	Forbidden		Forbidden	
Self-reactive solid type B*	3222	4.1		Solid flammable		A215	II	Forbidden		Forbidden	
Self-reactive solid type B, temperature controlled*	3232	4.1		Solid flammable		A214 A215	II	Forbidden		Forbidden	
Self-reactive solid type C, temperature controlled*	3234	4.1		Solid flammable		A214	II	Forbidden		Forbidden	
Self-reactive solid type D, temperature controlled*	3236	4.1		Solid flammable		A214	II	Forbidden		Forbidden	
Self-reactive solid type E, temperature controlled*	3238	4.1		Solid flammable		A214	II	Forbidden		Forbidden	
Self-reactive solid type F, temperature controlled*	3240	4.1		Solid flammable		A214	II	Forbidden		Forbidden	
Signal devices, hand	0191	1.4G		Explosive 1.4				Forbidden (166)		166	75 kg
Signals, distress, ship	0194	1.1G		Explosive				Forbidden (166)		Forbidden (166)	
Signals, distress, ship	0195	1.3G		Explosive				Forbidden (166)		166	75 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Substances, EVI, n.o.s.*	0482	1.5D		Explosive 1.5		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0473	1.1A		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0474	1.1C		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0475	1.1D		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0476	1.1G		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0357	1.1L		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0358	1.2L		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0477	1.3C		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0478	1.3G		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0359	1.3L		Explosive		A62		Forbidden (124)		Forbidden (124)	
Substances, explosive, n.o.s.*	0479	1.4C		Explosive 1.4	JP 18	A62		Forbidden (124)		124	75 kg
Substances, explosive, n.o.s.*	0480	1.4D		Explosive 1.4	JP 18	A62		Forbidden (124)		124	75 kg
Substances, explosive, n.o.s.*	0485	1.4G		Explosive 1.4	JP 18	A62		Forbidden (124)		124	75 kg
Substances, explosive, very insensitive, n.o.s*	0482	1.5D		Explosive 1.5		A62		Forbidden (124)		Forbidden (124)	
Sulphur chlorides	1828	8		Corrosive	US 34	A1	I	807	(0.5 L)	809	2.5 L
A Sulphur dioxide, liquefied	1079	2.3	8	Gas toxic & Corrosive	US 30	A1		See 213		200	25 kg
K Sulphuric acid, fuming	1831	8	6.1	Corrosive & Poison		~~A1~~ A2	I	807	(0.5 L)	809	(2.5 L)
Sulphuric acid, spent	1832	8		Corrosive		A1 A34	II	809	(1 L)	813	30 L
Sulphur, molten	2448	4.1		Solid flammable			III	Forbidden		Forbidden	
A Sulphur tetrafluoride	2418	2.3	8	Gas toxic & Corrosive	US 30	A1		See 213		200	25 kg
Sulphur trioxide, inhibited	1829	8		Corrosive	US 34	A1	I	824	(1 kg)	817	25 kg
27→ Sulphuryl fluoride	2191	2.3		Gas toxic	US 30	A1		See 213		200	25 kg
Tear gas candles	1700	6.1	4.1	Poison & Solid flammable		A1	II	601	(15 kg)	601	50 kg
4 Tear gas substances, liquid, n.o.s.*	1693	6.1		Poison		A1 A36	II	609	(2.5 L)	611	5 L
4 Tear gas substances, solid, n.o.s.*	1693	6.1		Poison		A1 A36	II	613	(5 kg)	615	25 kg

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
A Tellurium hexafluoride	2195	2.3	8	Gas toxic & Corrosive	US 30	A2		See 213		See 213	
~~A Tetraethyl dithiopyrophosphate and gases, in solution~~	~~1703~~	~~2.3~~		~~Gas toxic~~	~~US 30~~	~~A2~~		~~See 213~~		~~See 213~~	
~~A Tetraethyl dithiopyrophosphate and gases, mixtures~~	~~1703~~	~~2.3~~		~~Gas toxic~~	~~US 30~~	~~A2~~		~~See 213~~		~~See 213~~	
~~A Tetraethyl pyrophosphate and compressed gas mixtures~~	~~1705~~	~~2.3~~		~~Gas toxic~~	~~US 30~~	~~A2~~		~~See 213~~		~~See 213~~	
Tetrafluoroethylene, inhibited	1081	2.1		Gas flammable		A1		200	(5 kg)	200	150 kg
Tetramethylsilane	2749	3		Liquid flammable		A1	I	306	(1 L)	304	30 L
Tetranitroaniline	0207	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Tetranitromethane	1510	5.1	6.1	Oxidizer & Poison			I	Forbidden		Forbidden	
Tetrazol-1-acetic acid	0407	1.4C		Explosive 1.4				Forbidden (121)		121	75 kg
K Thionyl chloride	1836	8		Corrosive	US 34	A2	I	807	(0.5 L)	809	(2.5 L)
Thiophosgene	2474	6.1		Poison	US 34	A1	II	610	(5 L)	612	60 L
Thiophosphoryl chloride	1837	8		Corrosive		A1	II	809	(1 L)	813	30 L
Titanium tetrachloride	1838	8		Corrosive	US 34	A1	II	809	(1 L)	813	30 L
A Titanium trichloride mixtures, pyrophoric	2441	4.2	8	Spontaneous combustion & Corrosive			I	Forbidden		Forbidden	
Titanium trichloride, pyrophoric	2441	4.2	8	Spontaneous combustion & Corrosive			I	Forbidden		Forbidden	
Torpedoes with bursting charge	0451	1.1D		Explosive				Forbidden (163)		Forbidden (163)	
Torpedoes with bursting charge	0329	1.1E		Explosive				Forbidden (163)		Forbidden (163)	
Torpedoes with bursting charge	0330	1.1F		Explosive				Forbidden (163)		Forbidden (163)	
Torpedoes, liquid fuelled with inert head	0450	1.3J		Explosive				Forbidden (163)		Forbidden (163)	
Torpedoes, liquid fuelled with or without bursting charge	0449	1.1J		Explosive				Forbidden (163)		Forbidden (163)	
Tracers for ammunition	0212	1.3G		Explosive				Forbidden (169)		Forbidden (169)	
Tracers for ammunition	0306	1.4G		Explosive 1.4				Forbidden (169)		169	75 kg
28→ Trichloroacetyl chloride	2442	8		Corrosive	US 30	A2	II	809	(1 L)	813	(30 L)

S-2-11-34

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft: Packing Instruction	Passenger aircraft: Max. net quantity per package	Cargo aircraft: Packing Instruction	Cargo aircraft: Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Trichlorosilane	1295	4.3	3 8	Danger if wet & Liquid flammable & Corrosive			I	Forbidden		Forbidden	
Trifluoroacetyl chloride	3057	2.3	8	Gas toxic & Corrosive		A2		See 213		See 213	
Trifluorochloroethylene, inhibited	1082	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Trifluoroethane, compressed	2035	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Trimethylamine, anhydrous	1083	2.1		Gas flammable	US 1 US 30	A1		200	(5 kg)	200	150 kg
~~**Trimethylchlorosilane**~~	~~1298~~	~~3~~	~~8~~	~~Liquid flammable & Corrosive~~	~~US 24~~	~~A1~~	~~I~~	~~Forbidden~~	~~(0.5 L)~~	~~Forbidden~~	~~2.5 L~~
Trinitroaniline	0153	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Trinitroanisole	0213	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Trinitrobenzene, dry or wetted with less than 30% water, by mass	0214	1.1D		Explosive		A208		Forbidden (101)		Forbidden (101)	
Trinitrobenzenesulphonic acid	0386	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Trinitrobenzoic acid, dry or wetted with less than 30% water, by mass	0215	1.1D		Explosive		A208		Forbidden (109)		Forbidden (109)	
Trinitrochlorobenzene	0155	1.1D		Explosive		A208		Forbidden (101)		Forbidden (101)	
Trinitro-m-cresol	0216	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Trinitrofluorenone	0387	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Trinitronaphthalene	0217	1.1D		Explosive	US 6			Forbidden (101)		Forbidden (101)	
Trinitrophenetole	0218	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Trinitrophenol, dry or wetted with less than 30% water, by mass	0154	1.1D		Explosive		A208		Forbidden (101)		Forbidden (101)	
Trinitrophenylmethylnitramine	0208	1.1D		Explosive				Forbidden (109)		Forbidden (109)	
Trinitroresorcinol, dry or wetted with less than 20% water, or mixture of alcohol and water, by mass	0219	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Trinitroresorcinol, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0394	1.1D		Explosive				Forbidden (120)		Forbidden (120)	
Trinitrotoluene, dry or wetted with less than 30% water, by mass	0209	1.1D		Explosive		A208		Forbidden (122)		Forbidden (122)	
Trinitrotoluene and hexanitrostilbene mixtures	0388	1.1D		Explosive				Forbidden (101)		Forbidden (101)	

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Trinitrotoluene and trinitrobenzene mixture	0388	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Trinitrotoluene mixture containing trinitrobenzene and hexanitrostilbene	0389	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Tritonal	0390	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Tungsten hexafluoride	2196	2.3	8	Gas toxic & Corrosive	US 30	A2		See 213		See 213	
Urea nitrate, dry or wetted with less than 20% water, by mass	0220	1.1D		Explosive		A209		Forbidden (101)		Forbidden (101)	
Vanadium oxytrichloride	2443	8		Corrosive		A1	II	809	(1 L)	813	30 L
Vanadium tetrachloride	2444	8		Corrosive		A1	I	807	(0.5 L)	809	2.5 L
Vinyl bromide, inhibited	1085	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Vinyl chloride, inhibited	1086	2.1		Gas flammable	US 1 US 30	A1		200	(5 kg)	200	150 kg
Vinyl fluoride, inhibited	1860	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Vinyl methyl ether, inhibited	1087	2.1		Gas flammable	US 30	A1		200	(5 kg)	200	150 kg
Vinyltrichlorosilane	1305	3	8	Liquid flammable & Corrosive		A1	I	306	(0.5 L)	304	2.5 L
Warheads, rocket with burster or expelling charge	0370	1.4D		Explosive 1.4	JP 18			Forbidden (128)		128	75 kg
Warheads, rocket with burster or *expelling charge*	0371	1.4F		Explosive 1.4				Forbidden (128)		Forbidden (128)	
Warheads, rocket with bursting charge	0286	1.1D		Explosive				Forbidden (128)		Forbidden (128)	
Warheads, rocket with bursting charge	0369	1.1F		Explosive				Forbidden (128)		Forbidden (128)	
Warheads, rocket with bursting charge	0287	1.2D		Explosive				Forbidden (128)		Forbidden (128)	
Warheads, torpedo with bursting charge	0221	1.1D		Explosive				Forbidden (128)		Forbidden (128)	
Water-reactive solid, oxidizing, n.o.s.*	3133	4.3	5.1	Danger if wet & Oxidizer		A3	II III	Forbidden Forbidden		Forbidden Forbidden	

S-2-11-36

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max. net quantity per package	Packing instruction	Max. net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Xylyl bromide	1701	6.1		Poison	US 34	A1	II	610	(5 L)	612	60 L
Zirconium picramate, dry or wetted with less than 20% water, by mass	0236	1.3C		Explosive				Forbidden (101)		Forbidden (101)	
Zirconium scrap	1932	4.2		Spontaneous combustion	US 30	A2 A3	III	422	(25 kg)	421	(100 kg)
Zirconium suspended in a liquid	~~1308~~	~~3~~		~~Liquid flammable~~		~~A1~~	~~II~~	~~305~~	~~(5 L)~~	~~307~~	~~60 L~~

See Amendment list

ADDITIONS TO TABLE S-2-6

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
K 1	Arsenic trichloride	1560	6.1		Poison	US 1 US 34		I	Forbidden	Forbidden
A 2	tert-Butyl hypochlorite	3255	4.2	8	Spontaneous combustion & Corrosive			I	Forbidden	Forbidden
K 3	tert-Butyl isocyanate	~~2485~~ 2484	6.1	3	Poison & Liquid flammable			I	Forbidden	Forbidden
K 4	2-Chloroethanal	2232	6.1		Poison			I	Forbidden	Forbidden
K 5	Chlorosulphonic acid (with or without sulphur trioxide)	1754	8		Corrosive		~~A2~~	I	Forbidden ~~807 (0.5 L)~~	Forbidden ~~808 (2.5 L)~~
A 6	Difluoromethane	3252	2.1		Gas flammable		A1		200 (5 kg)	200 150 kg
K 7	Diketene, inhibited	2521	6.1	3	Poison & Liquid flammable	US 34		I	Forbidden	Forbidden
K 8	Dimethylhydrazine, symmetrical	2382	6.1	3	Poison & Liquid flammable	US 1 US 34		I	Forbidden	Forbidden
A 9	Elevated temperature liquid, n.o.s., at or above 100°C and below its flash point	3257	9		Miscellaneous		A205	III	Forbidden	Forbidden
A 10	Elevated temperature liquid, flammable, n.o.s., with flash point above 60.5°C, at or above its flash point	3256	3		Liquid flammable			III	Forbidden	Forbidden
A 11	Elevated temperature solid, n.o.s., at or above 240°C	3258	9		Miscellaneous		A205	III	Forbidden	Forbidden
K 12	Etnyl chlo. thioformate	2826	8	3	Corrosive & Liquid flammable	US 34	~~A2~~	II	Forbidden ~~808 (1 L)~~	Forbidden ~~812 (30 L)~~
K 13	Ethylene dibromide	1605	6.1		Poison	US 1 US 34		I	Forbidden	Forbidden
A 14	Ethylene oxide and carbon dioxide mixtures, with more than 9% but not more than 87% ethylene oxide	1041	2.1		Gas flammable	US 30	A1		200 (5 kg)	200 25 kg

ADDITIONS TO TABLE S-2-6

		1	2	3	4	5	6	7	8	9 & 10	11 & 12
A	15	Ethylene oxide and carbon dioxide mixtures, with ~~not~~ more than 87% ethylene oxide	3300	2.3	2.1	Gas toxic & Gas flammable	US 1 US 30	A1		See 213	209 25 kg
A	16	Ethylene oxide with nitrogen up to a total pressure of 1 MPa at 50°C	1040	2.3	2.1	Gas toxic & Gas flammable	US 1	A1		See 213	209 25 kg
A	17	Hydrogen cyanide, aqueous solutions with not more than 20% hydrogen cyanide	1613	6.1		Poison			I	Forbidden	Forbidden
A	18	Hydrogen cyanide, solution in alcohol with not more than 45% hydrogen cyanide	3294	6.1	3	Poison & Liquid flammable			I	Forbidden	Forbidden
A	19	Isosorbide-5-mononitrate	3251	4.1		Solid flammable		A20 A204	III	Forb.(423)	Forb.(423) ~~(418)~~
A	20	Octonal	0496	1.1D		Explosive				Forb.(111)	Forb.(111)
K	21	Phenyl mercaptan	2337	6.1	3	Poison & Liquid flammable	US 1 US 34		I	Forbidden	Forbidden
A	22	Propellant, liquid	0497	1.1C		Explosive		A206		Forb.(170)	Forb.(170)
A	23	Propellant, liquid	0495	1.3C		Explosive		A206		Forb.(170)	Forb.(170)
A	24	Propellant, solid	0498	1.1C		Explosive				Forb.(119)	Forb.(119)
A	25	Propellant, solid	0499	1.3C		Explosive				Forb.(119)	Forb.(119)
K	26	n-Propyl isocyanate	2482	6.1	3	Poison & Liquid flammable			I	Forbidden	Forbidden
K	27	Sulphuryl chloride	1834	8		Corrosive	US 34	~~A2~~	I	Forbidden ~~800 (0.5 L)~~	Forbidden ~~800 (2.5 L)~~
	28	Tributylphosphane	3254	4.2		Spontaneous combustion			I	Forbidden	Forbidden
K	29	Trimethylacetyl chloride	2438	6.1	3 8	Poison & Liquid flammable & Corrosive			I	Forbidden	Forbidden
A	30	Vinyl chloride, stabilized	1086	2.1		Gas flammable	US 1 US 30	A1		200 (5 kg)	200 150 kg
K	31	Methyl iodide	2644	6.1		Poison	US 1	~~A2~~	II	Forbidden ~~800 (5L)~~	Forbidden ~~800 (60L)~~

AMENDMENTS TO TABLE S-2-6

	1	2	3	4	5	6	7	8	9 & 10	11 & 12
K	Allyl chloroformate	1722	6.1	3 8	Poison & Liquid flammable & Corrosive	US 34		I	Forbidden	Forbidden
A	n-Butyl isocyanate	2485	6.1	3	Poison & Liquid flammable	US 34	A1	~~I~~ I	610 (1 L)	605 30 L
A	Chloroacetyl chloride	1752	6.1	8	Poison & Corrosive	US 30	A2	I	610 ~~309~~ (0.5 L)	612 ~~313~~ (2.5 L)
A	Crotonaldehyde, stabilized	1143	6.1	3	Poison & Liquid flammable	US 1	A1	I	603 (1 L)	604 30 L
K	Ethylene chlorohydrin	1135	6.1	3	Poison & Liquid flammable	US 34		I	Forbidden	Forbidden
A	Isopropyl chloroformate	2407	6.1	3 8	Poison & Liquid flammable & Corrosive	US 34	A1	I	603 (0.5 L)	604 2.5 L
A	Nitric oxide	1660	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213	See 213
A	Nitric oxide and dinitrogen tetroxide mixture	1975	2.3	5.1 8	Gas toxic & Oxidizer & Corrosive	US 30	A2		See 213	See 213
A	Oil gas	1071	2.3	2.1	Gas toxic & Gas flammable	US 30	A1		See 213	200 25 kg
A	Zirconium suspended in a flammable liquid	1308	3		Liquid flammable		~~A3~~ A1 A108	I ~~II~~ ~~III~~	302 (1 L) ~~305 5 L~~ ~~X305 1 L~~ ~~309 5 L~~ ~~X309 10 L~~	303 30 L ~~307 60 L~~ ~~310 220 L~~

ADDITIONS TO TABLE S-2-6

Editorial Note.– Please insert the following entries in alphabetical order.

Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special Provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max net quantity per package	Packing instruction	Max net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Cartidges, small arms	0417	1.3C		Explosive		A218		Forbidden (132)		Forbidden (132)	
Cartridges, small arms	0339	1.4C		Explosive 1.4		A218		Forbidden (132)		132	75 kg
Cartridges, small arms, blank	0327	1.3C		Explosive		A218		Forbidden (132)		Forbidden (132)	
Cartridges, small arms, blank	0338	1.4C		Explosive 1.4		A218		Forbidden (132)		132	75 kg
Cyclonite and cyclotetramethylene-tetranitramine mixtures, desensitized with not less than 10% phlegmatizer, by mass	0391	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Cyclonite and cyclotetramethylene-tetranitramine mixtures, wetted with not less than 15% water, by mass	0391	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Cyclonite, desensitized	0483	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Cyclonite, wetted with not less than 15% water, by mass	0072	1.1D		Explosive				Forbidden (105 a))		Forbidden (105 a))	
DINGU	0489	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Dipicrylamine	0079	1.1D		Explosive	US 6			Forbidden (109)		Forbidden (109)	
Fuse, detonating, metal clad	0290	1.1D		Explosive				Forbidden (145)		Forbidden (145)	
Fuse, detonating, metal clad	0102	1.2D		Explosive				Forbidden (145)		Forbidden (145)	
Fuse, detonating, mild effect, metal clad	0104	1.4D		Explosive 1.4				Forbidden (145)		145	75 kg
Gunpowder, granular or as a meal	0027	1.1D		Explosive				Forbidden (103)		Forbidden (103)	
Hexogen and cylotetramethylene-tetranitramine mixtures, desensitized, with not less than 10% phlegmatizer, by mass	0391	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Hexogen and cylotetramethylene-tetranitramine mixtures, wetted, with not less than 15% water, by mass	0391	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Hexogen, desensitized	0483	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Hexogen, wetted with not less than 15% water, by mass	0072	1.1D		Explosive				Forbidden (105 a))		Forbidden (105 a))	
Hexyl	0079	1.1D		Explosive	US 6			Forbidden (109)		Forbidden (109)	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special Provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max net quantity per package	Packing instruction	Max net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
HMX, desensitized	0484	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
HMX, wetted with not less than 15% water, by mass	0226	1.1D		Explosive				Forbidden (105 a))		Forbidden (105 a))	
Lead trinitroresorcinate, wetted with not less than 20% water, or mixture of alcohol and water, by mass	0130	1.1A		Explosive				Forbidden (102)		Forbidden (102)	
Musk xylene	2956	4.1		Solid Flammable		A20 A200 A215	III	Forbidden (423)		Forbidden (423)	
Nitric oxide and nitrogen dioxide mixture	1975	2.3	5.1 8	Gas toxic and oxidizer and corrosive	US 30	A2		See 213		See 213	
Nitrogen dioxide, liquefied	1067	2.3	5.1 8	Gas toxic and oxidizer and corrosive	US 30	A2		See 213		See 213	
Nitromannite, wetted with not less than 40% water, or mixture of alcohol and water, by mass	0133	1.1D		Explosive				Forbidden (112)		Forbidden (112)	
NTO	0490	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Octogen, desensitized	0484	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Octogen, wetted with not less than 15% water, by mass	0226	1.1D		Explosive				Forbidden (105 a))		Forbidden (105 a))	
Octol dry or wetted with less than 15% water, by mass	0266	1.1D		Explosive				Forbidden (111)		Forbidden (111)	
Pentaerythritol tetranitrate with less than 7% wax, by mass	0411	1.1D		Explosive		A210		Forbidden (119 a))		Forbidden (119 a))	
Pentaerythritol tetranitrate, desensitized with not less than 15% phlegmatizer, by mass	0150	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
Pentaerythritol tetranitrate, wetted with not less than 25% water, by mass	0150	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
PETN with not less than 7% wax, by mass	0411	1.1D		Explosive		A210		Forbidden (119 a))		Forbidden (119 a))	
PETN, desensitized with not less than 15% phlegmatizer, by mass	0150	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
PETN, wetted with not less than 25% water, by mass	0150	1.1D		Explosvise				Forbidden (105)		Forbidden (105)	

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Name	UN No.	Class or division	Subsidiary risk	Labels	State variations	Special Provisions	UN packing group	Passenger aircraft		Cargo aircraft	
								Packing instruction	Max net quantity per package	Packing instruction	Max net quantity per package
1	2	3	4	5	6	7	8	9	10	11	12
Picramide	0153	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Picric acid dry or wetted with less than 30% water, by mass	0154	1.1D		Explosive		A208		Forbidden (101)		Forbidden (101)	
Picrite dry or wetted with less than 20% water, by mass	0282	1.1D		Explosive				Forbidden (115)		Forbidden (115)	
Picryl chloride	0155	1.1D		Explosive		A208		Forbidden (101)		Forbidden (101)	
Powder paste, wetted with not less than 25% water, by mass	0159	1.1C		Explosive				Forbidden (116)		Forbidden (116)	
Powder paste, wetted with not less than 17% alcohol, by mass	0433	1.1C		Explosive				Forbidden (124)		Forbidden (124)	
Quickmatch	0101	1.3C		Explosive				Forbidden (153)		Forbidden (153)	
RDX and cyclotetramethylene-tetranitramine mixtures, desensitized, with not less than 10% phlegmatizer, by mass	0391	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
RDX and cyclotetramethylene-tetranitramine mixtures, wetted with not less than 15% water, by mass	0391	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
RDX, desensitized	0483	1.1D		Explosive				Forbidden (105)		Forbidden (105)	
RDX, wetted with not less than 15% water, by mass	0072	1.1D		Explosive				Forbidden (105 a))		Forbidden (105 a))	
Styphnic acid dry or wetted with less than 20% water, or alcohol and water, by mass	0219	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
Styphnic acid with not less than 20% water, or mixture of alcohol and water, by mass	0394	1.1D		Explosive				Forbidden (120)		Forbidden (120)	
Tetrazene, wetted with not less than 30% water, or mixture of alcohol and water, by mass	0114	1.1A		Explosive				Forbidden (102)		Forbidden (102)	
Tetryl	0208	1.1D		Explosive				Forbidden (109)		Forbidden (109)	
TNT dry or wetted with less than 30% water, by mass	0209	1.1D		Explosive		A208		Forbidden (122)		Forbidden (122)	
TNT and hexanitrostilbene mixture	0388	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
TNT and trinitrobenzene mixture	0388	1.1D		Explosive				Forbidden (101)		Forbidden (101)	
TNT mixture containing trinitrobenzene and hexanitrostilbene	0389	1.1D		Explosive				Forbidden (101)		Forbidden (101)	

Table S-2-8. Quantity limitations (with subsidiary risks)

Class/ division	Packing group	Physical state	Subsidiary risk					
			2.1	3	4.1	4.2	4.3	5.1
			Maximum quantity per package on passenger/cargo aircraft					
2.1				X	X	X	X	X
2.2*			X	X	X	X	X	75 kg/150
2.3			see 213	X	X	X	X	see 213
3	I		X		X	—	†	†
	II		X		X	—	†	†
	III		X		X	X	†	†
4.1	I		X	X		†	†	†
	II		X	X		—	—	forbidden/for
	III		X	X		—	—	forbidden/for
4.2	I	liquid	X	forbidden/forbidden	X		forbidden/forbidden	forbidden/for
		solid	X	X	forbidden/forbidden		forbidden/forbidden	forbidden/for
	II	liquid	X	forbidden/forbidden	X		forbidden/forbidden	forbidden/for
		solid	X	X	5 kg/15 kg		—	forbidden/for
	III	liquid	X	X	X		forbidden/forbidden	forbidden/for
		solid	X	X	15 kg/50 kg		—	forbidden/for
4.3	I	liquid	X	†	X	—		†
		solid	X	X	forbidden/15 kg	forbidden/15 kg		forbidden/for
	II	liquid	X	†	X	—		†
		solid	X	X	15 kg/50 kg	15 kg/50 kg		forbidden/for
	III	liquid	X	†	X	—		†
		solid	X	X	25 kg/100 kg	25 kg/100 kg		forbidden/for
5.1	I	liquid	X	†	X	—	†	
		solid	X	X	forbidden/forbidden	forbidden/forbidden	forbidden/forbidden	
	II	liquid	X	†	X	—	†	
		solid	X	X	—	forbidden/forbidden	forbidden/forbidden	
	III	liquid	X	†	X	—	†	
		solid	X	X	—	—	—	
6.1 (i)	I	liquid	X	forbidden/forbidden	X	forbidden/forbidden	forbidden/forbidden	forbidden/for
		solid	X	X	forbidden/15 kg	forbidden/15 kg	forbidden/15 kg	forbidden/1
6.1 (d and o)	I	liquid	X	1 L/30 L	X	—	forbidden/1 L	forbidden/2
		solid	X	X	1 kg/15 kg	5 kg/15 kg	5 kg/15 kg	1 kg/15 k
6.1	II	liquid	X	5 L/60 L	X	—	1 L/5 L	1 L/5 L
		solid	X	X	15 kg/50 kg	15 kg/50 kg	15 kg/50 kg	5 kg/25 k
8	I	liquid	X	0.5 L/2.5 L	X	0.5 L/2.5 L	forbidden/1 L	forbidden/2
		solid	X	X	1 kg/25 kg	1 kg/25 kg	1 kg/25 kg	1 kg/15 k
	II	liquid	X	1 L/30 L	X	1 L/30 L	1 L/5 L	1 L/30 L
		solid	X	X	15 kg/50 kg	15 kg/50 kg	15 kg/50 kg	15 kg/50 l
	III	liquid	X	—	X	—	—	—
		solid	X	X	—	—	—	—

* Does not apply to refrigerated liquefied gases.
-- Indicates an incorrect combination according to Table 2-12 of the Technical Instructions.
X Indicates a physically impossible combination.
† Substances or articles with this combination of hazards must be treated individually.

(i) inhalation
(d) dermal
(o) oral

Chapter 12
SPECIAL PROVISIONS

Against the entries in the Supplementary Dangerous Goods List (Table S-2-6) column 7 shows any special provisions that are applicable. Where these special provisions have not been listed in Table 2-15 of the Technical Instructions, they are listed in Table S-2-9 below.

Table S-2-9. Special Provisions

Supplementary Special Provisions

A200	The 'explosives' label (Figure 4-1) may be dispensed with providing the substance is packed in a fibre drum (1G), which may be lined, the maximum contents of which do not exceed 50 kg. However, if the substance is so packed that the 'explosives' label is required it is totally forbidden for transport under Part 1;2.1.
A201	When the SADT is higher than 75°C, the technically pure substance and formulations derived from it should not be regarded as self-reactive substances. The requirements of Special Provision A215 should be applied to formulations showing a violent effect in laboratory tests involving heating under confinement.
A202	~~Not used.~~ Maintain temperature between 18°c and 40°c.
A203	The control and emergency temperatures for the specific organic peroxides and organic peroxide formulations that were previously listed by name in these Instructions and that are now covered by this entry are given in Table 11.3 of the Recommendations of the UN Committee of Experts on the Transport of Dangerous Goods (UN Document ST/SG/AC.10/1). This table is reproduced in the Technical Instructions at the end of Part 2, Chapter 5.
A207	The word *agent* may be used instead of *explosive* when approved by the appropriate authorities of all the States concerned.
A208	This substance may be classified in Division 4.1 provided it is with not less than 10 per cent water by mass and the quantity per package does not exceed 500 g.
A209	This substance may be classified in Division 4.1 provided it is with not less than 10 per cent water by mass and the quantity per package does not exceed 11.5 kg.
A210	The phlegmatized substance must be significantly less sensitive than dry PETN.
A213	Nitrocellulose with not less than 25 per cent alcohol by mass or with not less than 18 per cent plasticizing substance by mass and not more than 12.6 per cent nitrogen by dry mass, packed in receptacles so constructed that explosion by reason of increased internal pressure is not possible, may be appropriately classified in Division 4.1 — UN number 2556 or 2557.
A214	This substance requires temperature control. See S-2;4.3.2.
A215	In certain circumstances this substance may exhibit explosive behaviour which may be suppressed by the use of appropriate packagings. Packages containing this substance should bear the explosives subsidiary risk label unless the appropriate national authority is satisfied on the basis of test results that the substance as packaged does not exhibit this explosive behaviour under normal conditions of transport. This, together with the appropriate packaging and the quantity limitation, must be certified by the appropriate authority of the State of origin.
A216	This substance is to be classified under UN number 1373 if it contains more than 5 per cent animal or vegetable oil.
A218	Pending the review of classification in accordance with the recommended scheme of testing, the appropriate national authority may wish to take account of the conventional calibre 19.1 mm as one factor in the hazard assessment. It should be noted, however, that calibre itself is not a sufficient criterion. Certain small arms blank cartridges much less than 19.1 mm calibre have been shown to present the risk of mass explosion and thus warrant the classification 1.1C.

S-2-12-2

A222 Samples of new or existing explosive substances or articles may be carried only under the conditions specifically designated by the appropriate authorities of all States concerned for purposes including testing, classification, research and development, quality control or as a commercial sample. Explosive samples which are not wetted or desensitized must be limited to 10 kg in small packages as specified by the appropriate national authorities. Explosive samples which are wetted or desensitized must be limited to 25 kg.

J A211 Not used.

J A212 Not used.

J A217 Not used.

J A219 Not used.

J A220 Not used.

J A221 Not used.

Editorial note: Insert in numerical order

ADDITIONS TO TABLE S-2-9

A	A204	This substance or formulations of this substance which have been shown by the performance of test series 2 in the UN Recommendations on the Transport of Dangerous Goods, Tests and Criteria, to be too insensitive for inclusion in Class 1 may be regarded as being excepted from Division 4.1 requirements.
A	A205	This designation must only be used when the substance does not meet the criteria of any other class.
A	A206	Unless it can be demonstrated by testing that the sensitivity of the substance in its frozen state is no greater than in its liquid state, the substance must remain liquid during normal transport conditions. It must not freeze at temperatures above -15°C.

100

PACKING INSTRUCTION 100

100

(UN packing method E 1)

a) Inner packagings: Not necessary

Outer packagings:
- Bags
  - paper, multiwall, water resistant (5M2)
  - plastic film (5H4)
  - textile, sift-proof (5L2)
  - textile, water resistant (5L3)
  - woven plastic (5H2 and 5H3)

b) Inner packagings:
- Bags
  - paper, kraft
  - plastic
- Sheets
  - plastic

Outer packagings:
- Barrels, wooden
  - removable head (2C2)
- Boxes
  - natural wood, ordinary (4C1)
  - plywood (4D)
  - reconstituted wood (4F)
- Drums
  - steel, removable head (1A2)

101

PACKING INSTRUCTION 101

101

(UN packing method E 2)

Inner packagings:
- ~~Receptacles~~
  - metal
  - paper
  - plastic
- Sheets
  - plastic

~~Bags~~ paper, multiwall, water-resistant; woven plastic

Outer packagings:
- Barrels, wooden
  - removable head (2C2)
- Boxes
  - fibreboard (4G)
  - natural wood, ordinary (4C1)
  - plywood (4D)
  - reconstituted wood (4F)
- Drums
  - ~~fibre (1G)~~ steel, removable head (1A2)

In addition, for 0219 – trinitroresorcinol – plastic drums, removable head (1H2)

Particular packing requirements or exceptions:
- Water-soluble substances must be packed in waterproof receptacles.
- For UN 0004, 0076, 0077, 0078, 0132, 0154, 0216, 0219, 0234, 0235, 0236, 0386 and 0394 packages must be lead free.

102 PACKING INSTRUCTION 102 102

(UN packing method E 3)

Inner packagings:	Bags plastic rubber textile textile rubberized
Intermediate packagings:	Bags plastic rubber textile textile rubberized Receptables plastic Barrels wooden
Outer packagings:	Barrels, wooden removable head (2C2) Drums plastic, removable head (1H2) steel, removable head (1A2)
Particular packing requirements or exceptions:	- The barrels and drums must have a watertight seal. - The intermediate and outer packagings must be filled with water or an appropriate water-saturated material when the intermediate packaging is a rubber or rubberized textile bag.

103 PACKING INSTRUCTION 103 103

(UN packing method E 4)

a)	Inner packagings:	Receptacles fibreboard metal paper plastic textile rubberized
	Outer packagings:	Barrels, wooden removable head (2C2) Boxes fibreboard (4G) natural wood, sift-proof walls (4C2) → natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) ~~Drums~~ ~~fibre (1G)~~ → steel (4A)
b)	Inner packagings:	Not necessary
	Outer packagings:	Drums Aluminium, removable head (1B2) fibre (1G) steel, removable head, (1A2), dust tight

104 PACKING INSTRUCTION 104 104

(UN packing method E 5)

Inner packagings:	Bags plastic Sheets paper, kraft paper, waxed
Outer packagings:	Boxes fibreboard (4G) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F)

105 PACKING INSTRUCTION 105 105

(UN packing method E 6)

a) Wetted:

1. Inner packagings:	Bags plastic textile, rubberized
Outer packagings:	Barrels, wooden removable head (2C2) Boxes fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) Drums fibre (1G) steel, removable head (1A2)
2. *Inner packagings:*	Bags rubber textile textile, rubberized
Intermediate packagings:	Bags ~~rubber~~ plastic textile, rubberized
Outer packagings:	Barrels, wooden removable head (2C2) Drums fibre (1G) steel, removable head (1A2)

b) Desensitized:

Same as for wetted substances except that any fibreboard boxes may be used as inner packaging and any textile bags as intermediate packaging.

106 PACKING INSTRUCTION 106 106

(UN packing method E 8)

Inner packagings:

Receptacles
waterproof material
Sheets
waterproof

Outer packagings:

Barrels, wooden
removable head (2C2)
Boxes
fibreboard (4G) — aluminium (4B)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F) — solid plastic (4H2), steel (4A)
Drums
fibre (1G) — aluminium, removable head (1B2)
steel, removable head (1A2)

107 PACKING INSTRUCTION 107 107

(UN packing method E 9)

Inner packagings:

Bags
oil-resistant
Sheets
plastic
Cans
metal

Outer packagings:

Bags
paper, multiwall, water resistant (5M2)
plastic film (5H4)
textile, sift-proof (5L2)
textile, water resistant (5L3)
woven plastic (5H1, 5H2, 5H3)
(if bags 5H2, 5H3 or 5H4 are used no inner packaging is necessary)
Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
Drums
fibre (1G)
steel, removable head (1A2)

108 PACKING INSTRUCTION 108 108

(UN packing method E 10)

Inner packagings:

Bags
paper, waxed
plastic
textile, rubberized
Sheets
paper, waxed
plastic
textile, rubberized

Outer packagings:

Barrels, wooden
removable head (2C2)
Boxes
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)

104 PACKING INSTRUCTION 104 104

(UN packing method E 5)

Inner packagings:
- Bags
  - plastic
- Sheets
  - paper, kraft
  - paper, waxed

Outer packagings:
- Boxes
  - fibreboard (4G)
  - natural wood, sift-proof walls (4C2)
  - plywood (4D)
  - reconstituted wood (4F)

105 PACKING INSTRUCTION 105 105

(UN packing method E 6)

a) Wetted:

1. Inner packagings:
   - Bags
     - plastic
     - textile, rubberized

   Outer packagings:
   - Barrels, wooden
     - removable head (2C2)
   - Boxes
     - fibreboard (4G)
     - natural wood, ordinary (4C1)
     - plywood (4D)
     - reconstituted wood (4F)
   - Drums
     - fibre (1G)
     - steel, removable head (1A2)

2. Inner packagings:
   - Bags
     - rubber
     - textile
     - textile, rubberized

   Intermediate packagings:
   - Bags
     - ~~rubber~~ plastic
     - textile, rubberized

   Outer packagings:
   - Barrels, wooden
     - removable head (2C2)
   - Drums
     - fibre (1G)
     - steel, removable head (1A2)

b) Desensitized:

Same as for wetted substances except that any fibreboard boxes may be used as inner packaging and any textile bags as intermediate packaging.

106 PACKING INSTRUCTION 106 106

(UN packing method E 8)

Inner packagings:

Receptacles
waterproof material
Sheets
waterproof

Outer packagings:

Barrels, wooden
removable head (2C2)
Boxes
fibreboard (4G) — aluminium (4B)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F) — Solid plastic (4H2), steel (4A)
Drums
fibre (1G) — aluminium, removable head (1B2)
steel, removable head (1A2)

107 PACKING INSTRUCTION 107 107

(UN packing method E 9)

Inner packagings:

Bags
oil-resistant
Sheets
plastic
Cans
metal

Outer packagings:

Bags
paper, multiwall, water resistant (5M2)
plastic film (5H4)
textile, sift-proof (5L2)
textile, water resistant (5L3)
woven plastic (5H1, 5H2, 5H3)
(if bags 5H2, 5H3 or 5H4 are used
no inner packaging is necessary)
Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
Drums
fibre (1G)
steel, removable head (1A2)

108 PACKING INSTRUCTION 108 108

(UN packing method E 10)

Inner packagings:

Bags
paper, waxed
plastic
textile, rubberized
Sheets
paper, waxed
plastic
textile, rubberized

Outer packagings:

Barrels, wooden
removable head (2C2)
Boxes
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)

104 PACKING INSTRUCTION 104 104

(UN packing method E 5)

Inner packagings:	Bags plastic Sheets paper, kraft paper, waxed
Outer packagings:	Boxes fibreboard (4G) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F)

105 PACKING INSTRUCTION 105 105

(UN packing method E 6)

a) Wetted:

1. Inner packagings:	Bags plastic textile, rubberized
Outer packagings:	Barrels, wooden removable head (2C2) Boxes fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) Drums fibre (1G) steel, removable head (1A2)
2. Inner packagings:	Bags rubber textile textile, rubberized
Intermediate packagings:	Bags ~~rubber~~ plastic textile, rubberized
Outer packagings:	Barrels, wooden removable head (2C2) Drums fibre (1G) steel, removable head (1A2)

b) Desensitized:

Same as for wetted substances except that any fibreboard boxes may be used as inner packaging and any textile bags as intermediate packaging.

106 PACKING INSTRUCTION 106 106

(UN packing method E 8)

Inner packagings:

Receptacles
waterproof material
Sheets
waterproof

Outer packagings:

Barrels, wooden
removable head (2C2)
Boxes
fibreboard (4G) — aluminium (4B)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F) — Solid plastic (4H2); steel (4A)
Drums
fibre (1G) — aluminium, removable head (1B2)
steel, removable head (1A2)

107 PACKING INSTRUCTION 107 107

(UN packing method E 9)

Inner packagings:

Bags
oil-resistant
Sheets
plastic
Cans
metal

Outer packagings:

Bags
paper, multiwall, water resistant (5M2)
plastic film (5H4)
textile, sift-proof (5L2)
textile, water resistant (5L3)
woven plastic (5H1, 5H2, 5H3)
(if bags 5H2, 5H3 or 5H4 are used no inner packaging is necessary)
Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
Drums
fibre (1G)
steel, removable head (1A2)

108 PACKING INSTRUCTION 108 108

(UN packing method E 10)

Inner packagings:

Bags
paper, waxed
plastic
textile, rubberized
Sheets
paper, waxed
plastic
textile, rubberized

Outer packagings:

Barrels, wooden
removable head (2C2)
Boxes
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)

104 PACKING INSTRUCTION 104 104

(UN packing method E 5)

Inner packagings:	Bags plastic Sheets paper, kraft paper, waxed
Outer packagings:	Boxes fibreboard (4G) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F)

105 PACKING INSTRUCTION 105 105

(UN packing method E 6)

a) Wetted:

1. Inner packagings:	Bags plastic textile, rubberized
Outer packagings:	Barrels, wooden removable head (2C2) Boxes fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) Drums fibre (1G) steel, removable head (1A2)
2. Inner packagings:	Bags rubber textile textile, rubberized
Intermediate packagings:	Bags ~~rubber~~ plastic textile, rubberized
Outer packagings:	Barrels, wooden removable head (2C2) Drums fibre (1G) steel, removable head (1A2)

b) Desensitized:

Same as for wetted substances except that any fibreboard boxes may be used as inner packaging and any textile bags as intermediate packaging.

106

PACKING INSTRUCTION 106

106

(UN packing method E 8)

Inner packagings:

Receptacles
- waterproof material

Sheets
- waterproof

Outer packagings:

Barrels, wooden
- removable head (2C2)

Boxes
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

Drums
- fibre (1G)

A

A
A
A

aluminium (4B)

Solid plastic (4H2)
Steel (4A)

aluminium, removable head (1B2)

steel, removable head (1A2)

107

PACKING INSTRUCTION 107

107

(UN packing method E 9)

Inner packagings:

Bags
- oil-resistant

Sheets
- plastic

Cans
- metal

Outer packagings:

Bags
- paper, multiwall, water resistant (5M2)
- plastic film (5H4)
- textile, sift-proof (5L2)
- textile, water resistant (5L3)
- woven plastic (5H1, 5H2, 5H3)
- (if bags 5H2, 5H3 or 5H4 are used no inner packaging is necessary)

Boxes
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

Drums
- fibre (1G)
- steel, removable head (1A2)

108

PACKING INSTRUCTION 108

108

(UN packing method E 10)

Inner packagings:

Bags
- paper, waxed
- plastic
- textile, rubberized

Sheets
- paper, waxed
- plastic
- textile, rubberized

Outer packagings:

Barrels, wooden
- removable head (2C2)

Boxes
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

104 PACKING INSTRUCTION 104 104

(UN packing method E 5)

Inner packagings:	Bags plastic Sheets paper, kraft paper, waxed
Outer packagings:	Boxes fibreboard (4G) natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F)

105 PACKING INSTRUCTION 105 105

(UN packing method E 6)

a) Wetted:

1. Inner packagings:	Bags plastic textile, rubberized
Outer packagings:	Barrels, wooden removable head (2C2) Boxes fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) Drums fibre (1G) steel, removable head (1A2)
2. Inner *packagings:*	Bags rubber textile textile, rubberized
Intermediate packagings:	Bags ~~rubber~~ plastic textile, rubberized
Outer packagings:	Barrels, wooden removable head (2C2) Drums fibre (1G) steel, removable head (1A2)

b) Desensitized:

Same as for wetted substances except that any fibreboard boxes may be used as inner packaging and any textile bags as intermediate packaging.

106 PACKING INSTRUCTION 106 106

(UN packing method E 8)

Inner packagings:

Receptacles
waterproof material
Sheets
waterproof

Outer packagings:

Barrels, wooden
removable head (2C2)
Boxes
fibreboard (4G) — aluminium (4B)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F) — solid plastic (4H2) / steel (4A)
Drums
fibre (1G) — aluminium, removable head (1B2)
steel, removable head (1A2)

107 PACKING INSTRUCTION 107 107

(UN packing method E 9)

Inner packagings:

Bags
oil-resistant
Sheets
plastic
Cans
metal

Outer packagings:

Bags
paper, multiwall, water resistant (5M2)
plastic film (5H4)
textile, sift-proof (5L2)
textile, water resistant (5L3)
woven plastic (5H1, 5H2, 5H3)
(if bags 5H2, 5H3 or 5H4 are used no inner packaging is necessary)
Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
Drums
fibre (1G)
steel, removable head (1A2)

108 PACKING INSTRUCTION 108 108

(UN packing method E 10)

Inner packagings:

Bags
paper, waxed
plastic
textile, rubberized
Sheets
paper, waxed
plastic
textile, rubberized

Outer packagings:

Barrels, wooden
removable head (2C2)
Boxes
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)

109 PACKING INSTRUCTION 109 109

(UN packing method E 11)

Inner packagings:

Bags
- paper, waxed
- plastic
- textile
- textile, rubberized

Sheets
- paper, waxed
- plastic
- textile
- textile, rubberized

Outer packagings:

Barrels, wooden
- removable head (2C2)

Boxes
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

Drums
- fibre (1G)

110 PACKING INSTRUCTION 110 110

(UN packing method E 12)

Inner packagings:

Bags
- oil-resistant

Sheets
- plastic

Outer packagings:

Bags
- paper, multiwall, water resistant (5M2)
- plastic film (5H4)
- textile, sift-proof (5L2)
- textile, water resistant (5L3)
- woven plastic (5H1, 5H2, 5H3)
- (if bags 5H2 or 5H3 are used no inner packaging is necessary)

Boxes
- fibreboard (4G) — aluminium (4B)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F) — solid plastic (4H2), steel (4A)

Drums
- fibre (1G)
- steel, removable head (1A2) — aluminium, removable head (1B2)

111 PACKING INSTRUCTION 111 111

(UN packing method E 13)

a) Wetted:

Inner packagings:

Bags
- paper, multiwall, water-resistant
- plastic, woven plastic

Sheets
- plastic

Outer packagings:

Barrels, wooden
- removable head (2C2)

Boxes
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

Drums
- fibre (1G)

b) Dry:

Inner packagings:

Bags
- paper, multiwall, water-resistant
- plastic, woven plastic

Boxes
- fibreboard

Sheets
- plastic

Outer packagings:

Barrels, wooden
- removable head (2C2)

Boxes
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)

Drums
- fibre (1G)

112 PACKING INSTRUCTION 112 112

(UN packing method E 14)

Inner packagings:

Bags
- rubber
- textile
- textile, rubberized

Intermediate packagings:

Bags
- rubber
- textile, rubberized

Outer packagings:

Barrels, wooden
- removable head (2C2)

Drums
- steel, removable head (1A2)

116 PACKING INSTRUCTION 116 116

(UN packing method E 19)

a)	Inner packagings:	Not necessary
	Outer packagings:	Drums aluminium, removable head (1B2) plastic, removable head (1H2) steel, removable head (1A2)
	Particular packing requirements or exceptions:	Metal drums used for powder paste must be so constructed that explosion is not possible by reason of increase in internal pressure from internal or external causes.
b)	Inner packagings:	Bags plastic Sheets plastic
	Outer packagings:	Barrels, wooden removable head (2C2) Boxes natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) Drums fibre (1G)

118 PACKING INSTRUCTION 118 118

(UN packing method E 21)

Inner packagings:	Boxes fibreboard Cans metal Receptacles paper, waterproof plastic, not liable to generate static electricity by contained substances
Outer packagings:	Boxes natural wood, sift-proof walls (4C2) plywood (4D) reconstituted wood (4F)
Particular packing requirements or exceptions:	Packages must be lead free.

117 PACKING INSTRUCTION 117 117

(UN packing method E 20)

Inner packagings:	Receptacles ~~metal~~ fibreboard plastic wooden
Outer packagings:	Boxes ~~aluminium~~ (4B) fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) ~~solid plastic (4H2)~~ ~~steel, with inner liner or coating~~ (4A) Drums fibre (1G)
Particular packing requirements or exceptions:	No more than 50 g of substance may be packed in an inner packaging.

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119 PACKING INSTRUCTION 119 119

(UN packing method E 22)

a) Inner packagings:
- Bags
  - paper, kraft
  - plastic
  - textile
  - textile, rubberized

Outer packagings:
- Barrels, wooden
  - removable head (2C2)
- Boxes
  - fibreboard (4G)
  - natural wood, ordinary (4C1)
  - natural wood, sift-proof walls (4C2)
  - plywood (4D)
  - reconstituted wood (4F)
- Drums
  - fibre (1G)
  - plywood (1D)

A steel (4A)

b) Inner packagings:
- Receptacles
  - fibreboard
  - metal
  - plastic

Outer packagings:
- Boxes
  - fibreboard (4G)
  - natural wood, ordinary (4C1)
  - natural wood, sift-proof walls (4C2)
  - plywood (4D)
  - reconstituted wood (4F)

A steel (4A)

Particular packing requirements or exceptions: Metal receptacles must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is reduced.

c) Inner packagings: Not necessary

Outer packagings:
- Drums
  - fibre (1G)
  - plywood (1D)
  - steel, removable head (1A2)
- Jerricans
  - steel, non-removable head (3A1)
  - removable head (3A2)

Particular packing requirements or exceptions:
- The inside of metal packagings must be galvanized, painted or otherwise protected. Bare steel must not come into contact with the propellant.
- Drums or jerricans of steel must be constructed without pockets or crevices in which smokeless powder could be trapped or nipped.
- Metal receptacles must be so constructed that the risk of explosion, by reason of increase in internal pressure from internal or external causes, is reduced.

UN

A Particular packing requirements or exceptions: For 0411 only, the inner packagings must be sealed.

120 PACKING INSTRUCTION 120 120

(UN packing method E 24)

a)	Inner packagings:	Bags plastic rubber textile, rubberized
	Outer packagings:	Boxes fibreboard (4G)
b)	Inner packagings:	Bags plastic rubber textile, rubberized
	Intermediate packagings:	Bags plastic rubber textile, rubberized
	Outer packagings:	Drums steel, removable head (1A2)
	Particular packing requirements or exceptions:	Packages must be lead free.

122 PACKING INSTRUCTION 122 122

(UN packing method E 26)

Inner packagings:	Receptacles metal paper ~~— paper, multiwall, water resistant~~ plastic Sheets plastic Bags — paper plastic — paper, multiwall, water-resistant
Outer packagings:	Barrels, wooden removable head (2C2) Boxes fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) Drums fibre (1G) Bags sift-proof (5H2)
Particular packing requirements or exceptions:	Bags, sift-proof (5H2) are only permitted for flake or prilled TNT in a dry state and with a maximum net mass of 30 kg.

129 PACKING INSTRUCTION 129 129

(UN packing method E 107)

a) Boosters which are finished articles consisting of closed metal, plastic or fibreboard receptacles that contain a detonating explosive, or consisting of a plastic-bonded detonating explosive.

Inner packagings:	Not necessary
Outer packagings:	Boxes fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) aluminium (4B) steel (4A)

b) Cast or pressed boosters in tubes or capsules without end closures.

Inner packagings:	Receptacles fibreboard metal plastic Sheets paper plastic
Outer packagings:	Boxes fibreboard (4G) natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) steel (4A) aluminium (4B)

130 PACKING INSTRUCTION 130 130

(UN packing method E 108)

Inner packagings:	Dividing partitions in the outer packaging. Receptacles metal plastic wooden
Outer packagings:	Boxes natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) steel (4A) aluminium (4B)
Particular packing requirements or exceptions:	The inner packagings must be separated from the outer packaging by a gap of not less than 25 mm filled with cushioning material, e.g. sawdust, wood, wool.

131 PACKING INSTRUCTION 131 131

(UN packing method E 109)

Inner packagings:	Receptacles metal plastic wooden fibreboard paper
Outer packagings:	Boxes natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) steel, ~~with inner liner or coating~~ (4A) aluminium (4B)
Particular packing requirements or exceptions:	Metal inner packagings must be padded with cushioning material.
Particular packing requirements or exceptions:	Liner or inner coating required for metal outer packagings unless another means such as the use of an inner packaging or cushioning material protects the explosive substance from contact with the metal outer packaging during normal conditions of transport.

137

PACKING INSTRUCTION 137 **137**

(UN packing method E 117)

A Inner packagings:

~~Boxes~~ ← Not necessary
- ~~fibreboard~~
- ~~metal~~
- ~~plastic~~
- ~~wooden~~

~~Cans~~
- ~~metal~~

A Outer packagings:

Boxes ← aluminium (4B), fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)
- steel, ~~with inner liner or coating~~ (4A)

A Drums
- Steel, removable head (1A2)

A

139

PACKING INSTRUCTION 139 **139**

(UN packing method E 119)

Inner packagings: Not necessary

A Outer packagings:

Boxes ← aluminium (4B), fibreboard (4G)
- natural wood, ordinary (4C1) (for cased charges only)
- natural wood, sift-proof walls (4C2)
- plastic, solid (4H2)
- plywood (4D)
- reconstituted wood (4F)
- steel (4A)
- ~~steel, with inner liner or coating (4A)~~

Drums
- steel, removable head (1A2) ← aluminium, removable head (1B2)

A

142

PACKING INSTRUCTION 142 **142**

(UN packing method E 122)

Inner packagings:

Boxes
- fibreboard
- metal
- plastic
- wooden

A Outer packagings:

Boxes ← aluminium (4B)
- fibreboard (4G)
- natural wood, ordinary (4C1)
- plywood (4D)
- reconstituted wood (4F)
- steel, ~~with inner liner or coating~~ (4A)

A

Particular packing requirements or exceptions:	Liner or inner coating required for metal outer packagings unless another means such as the use of an inner packaging or cushioning material protects the explosive substance from contact with the metal outer packaging during normal conditions of transport.

A

143 PACKING INSTRUCTION 143 143

(UN packing method E 123)

Inner packagings:
Dividing partitions in the outer packaging
Receptacles
fibreboard
metal
plastic

Outer packagings:
Boxes
natural wood, ordinary (4C1), with metal liner
plywood (4D), with metal liner
reconstituted wood (4F), with metal liner
steel (4A)
aluminium (4B)
expanded plastic (4H1)

Particular packing requirements or exceptions:
~~The name of the particular article must be specified.~~
- Packagings must be sealed against the ingress of water.
- Large articles without their means of initiation may be carried unpacked.

149 PACKING INSTRUCTION 149 149

(UN packing method E 129)

Inner packagings:
Receptacles
fibreboard
plastic
Sheets
paper

Outer packagings:
Boxes
fibreboard (4G)
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
Drums
fibre (1G)

Particular packing requirements or exceptions:
Venturis of rockets (fireworks) must be plugged and means of ignition fully protected.

157 PACKING INSTRUCTION 157 157

(UN packing method E 139)

Inner packagings:
Receptacles
metal
plastic
wooden
fibreboard

Outer packagings:
Boxes
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)
steel ~~with inner liner or coating~~ (4A)
aluminium (4B)
Drums
steel, removable head (1A2)

Particular packing requirements or exceptions:
For 0121 only, metal inner packagings must be padded with cushioning material.

165 PACKING INSTRUCTION 165 165

(UN packing method E 149)

Inner packagings:	As specified by the appropriate national authority
A Outer packagings:	Boxes natural wood, ordinary (4C1) — aluminium (4B) plastic, solid (4H2) plywood (4D) A reconstituted wood (4F) steel (4A)
Particular packing requirements or exceptions:	– The outer plastic packagings must be reinforced with metal at corners and edge. – Large articles without their means of ignition may be carried unpacked.

168 PACKING INSTRUCTION 168 168

(UN packing method E 153)

Inner packagings:	Sheets fibreboard, corrugated Tubes fibreboard
Intermediate packagings:	Receptacles fibreboard metal plastic
A Outer packagings:	Boxes natural wood, ordinary (4C1) — aluminium (4B) plywood (4D) A reconstituted wood (4F) steel (4A)
Particular packing requirements or exceptions:	The sounding devices must be wrapped singly in corrugated fibreboard sheets or inserted in fibreboard tubes.

S-3-3-15A

A

(UN packing method E 159)

a) Inner packagings: Receptacles
plastic

Intermediate packagings: Bags
plastic, in metal cans

Outer packagings: Boxes
natural wood, ordinary (4C1)
plywood (4D)
reconstituted wood (4F)

Particular packing requirements or exceptions:
- Plastic receptacles must have taped screw cap closures and be of not more than 5 L capacity each. Each receptacle must be contained within an intermediate packaging. Each plastic bag must be surrounded on all sides with at least 50 mm of non-combustible absorbent cushioning material; metal cans in the outer box must also be cushioned from each other in all directions. Net mass of propellant must be limited to 30 kg for each package.

b) Inner packagings: Receptacles
plastic

Intermediate packagings: Drums
metal

Outer packagings: Drums
aluminium, removable head (1B2)
steel, removable head (1A2)

Particular packing requirements or exceptions:
- The intermediate drum must be surrounded on all sides with at least 50 mm of non-combustible absorbent cushioning material. A composite packaging consisting of a plastic receptacle in a metal drum may be used instead of the inner and intermediate packagings. The net volume of propellant in each package must not exceed 120 L.

306 PACKING INSTRUCTION 306 306

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Metal (not. aluminium) IP.3 (L)*	*Aluminium IP.3A (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
1089	0.5	No	1	1	0.5	13
1194	0.5	No	1	1	0.5	13
~~1196~~	~~0.5~~	~~0.5~~	~~0.5~~	~~No~~	~~0.5~~	~~5~~
~~1228~~	~~1~~	~~1~~	~~1~~	~~1~~	~~0.5~~	~~2,13~~
1250	0.5	0.5	0.5	No	0.5	5
1278	1	2.5	2.5	No	0.5	
~~1298~~	~~0.5~~	~~0.5~~	~~0.5~~	~~No~~	~~0.5~~	~~5,13~~
1305	0.5	0.5	0.5	No	0.5	5,13
2363	0.5	0.5	0.5	0.5	0.5	2,13
~~2485~~	~~1~~	~~1~~	~~1~~	~~1~~	~~0.5~~	~~5,13~~
2749	0.5	No	1	No	0.5	5,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

416 PACKING INSTRUCTION 416 416

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (kg)*	*Plastic IP.2 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Aluminium IP.3A (kg)*	*Plastic bag IP.5 (kg)*	*Glass ampoule IP.8 (kg)*	*Particular packing requirements*
1349	0.5	0.5	No	No	No	0.5	
1415	0.5	No	0.5	No	No	0.5	5,10,22
1420	0.5	No	0.5	No	No	0.5	5,22
1428	0.5	No	0.5	No	No	0.5	5,22
1868	1	No	2.5	2.5	No	0.5	
2257	0.5	No	0.5	No	No	0.5	5,22
2835	1	1	1	1	No	0.5	

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

10 Copper cartridges only are permitted when the substance is not in dispersion.

22 If the substance is in dispersion in organic liquid, the organic liquid must have a flash point above 50°C.

418 PACKING INSTRUCTION 418 418

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (kg)*	*Metal (not aluminium) IP.3 (kg)*	*Plastic bag IP.5 (kg)*	*Glass ampoule IP.8 (kg)*	*Particular packing requirements*
1378	0.5	0.5	No	0.5	9
2881	0.5	0.5	No	0.5	9
~~2956~~	~~No~~	~~No~~	~~2.5~~	~~No~~	~~1~~
~~3251~~	~~No~~	~~No~~	~~2.5~~	~~No~~	~~1~~

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

~~1 Fibre drums (1G) only are permitted as outer packagings.~~

9 Glass or earthenware inner packagings and glass ampoules must be packed with cushioning material in tightly closed metal receptacles before packing in outer packagings.

423 PACKING INSTRUCTION 423 423

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

A The maximum net quantity per package must not exceed 15 Kg.

Combination packagings:

Inner	Plastic bag – IP.5	1 kg
Outer	Fibre drum – 1G	

Single packagings:

Fibre drum – 1G sift-proof
Fibre drum – 1G coated internally or with inner plastic liner

>

Chapter 8

CLASS 6 – ~~POISONOUS~~ (TOXIC) AND INFECTIOUS SUBSTANCES

610 PACKING INSTRUCTION 610 610

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1541	0.5	0.5	0.5	No	0.5	6
1545	0.5	No	1	No	0.5	5
1569	0.5	0.5	1	No	0.5	2,13
1603	0.5	0.5	1	No	0.5	2,13
1647	0.5	0.5	0.5	No	0.25	6,8
1649	0.5	No	0.5	No	0.5	6,8
~~1670~~	~~0.5~~	~~No~~	~~1~~	~~No~~	~~0.5~~	~~5,13~~
1694	0.5	No	0.5	No	0.5	6,8
1695	0.5	No	1	No	0.5	13
1697	0.5	No	1	No	0.5	13
1701	0.5	0.5	1	No	0.5	2,5,13
2474	1	1	2.5	No	0.5	5
3023	1	1	2.5	2.5	0.5	2,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

6 Glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging.

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

1752	0.5	0.5	0.5	No	0.5	2,5,13
2485	1	1	1	1	0.5	5,13

Transferred from page S-3-10-2

612 PACKING INSTRUCTION 612 612

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1569	1	1	2.5	0.5	2,13
1603	1	1	2.5	0.5	2,13
1695	1	No	2.5	0.5	13
1752	2.5	2.5	2.5	0.5	2,5,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

Un No.	Steel drums 1A1 and cylinders*	Steel jerricans 3A1	Plastic drums 1H1, 1H2	Plastic jerricans 3H1, 3H2	Composites (plastic) – all
1603	Yes	Yes	Yes	Yes	Yes
1695	Yes	Yes	No	No	No
1752	yes	yes	yes	yes	yes

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

* Cylinders must be as permitted in Packing Instruction 200.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

614 PACKING INSTRUCTION 614 614

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Metal (not aluminium) IP.3 (kg)	Glass ampoule IP.8 (kg)
1697	1	2.5	0.5

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

F 623 PACKING INSTRUCTION 623 623

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Packagings must incorporate features such as security seals, coatings or wraps to provide an indication of tampering.

Consignments of Chemical samples, toxic, liquid or solid must be prepared in such a manner that they arrive at their destination in good condition and present no hazard to persons during shipment. They must be packed according to either (a) or (b) below and the construction of the packaging and its testing must be approved by the appropriate authority of the State of manufacturer.

a) The chemical samples must be contained in inner packagings, which are packed into an intermediate packaging. The intermediate packaging must be packed in an outer packaging.

i) The inner packaging must comprise primary receptacles, secondary packagings and activated granular charcoal, as follows:

1) primary receptacles which must be one of the following:

i) a vial containing pure material with maximum contents of 100 milligrams; or

ii) a vial for dilute material with maximum contents of 10 grams; or

iii) a vapour absorption tube with maximum contents of 10 milligrams;

2) watertight secondary packagings which must be in the intermediate packagings. The secondary packagings must not contain more than two primary receptacles;

3) activated granular charcoal, which must be placed between the primary receptacle and the secondary packaging. If there are two primary receptacles they must be wrapped individually to ensure contact between them is prevented. The quantity of activated granular charcoal must be sufficient to absorb the entire contents of all primary receptacles.

The primary receptacles or secondary packagings must be shown through testing to be capable of withstanding a 250 kPa hydrostatic pressure test.

ii) The intermediate packaging must be a steel drum (1A2) containing a maximum of four secondary packagings and sufficient quantity of activated granular charcoal to absorb the entire contents of all the primary receptacles. The activated granular charcoal must be placed between the secondary packagings and the intermediate packaging. If there is more than one secondary packaging in an intermediate packaging, each secondary packaging must be wrapped individually to ensure contact between them is prevented. The maximum quantity of sample material in an intermediate packaging must not exceed 80 grams.

iii) The outer packaging must comprise a wooden box in which is a metal box containing thermal insulation (compressed cork). The intermediate packaging must be held securely in place within the outer packaging. A maximum of two intermediate packagings may be placed in an outer packaging.

The design type of the intermediate packaging must be tested to demonstrate that it can withstand the free drop test and penetration test in Part 7;7.12.2 (a) and (b) and the thermal test in Part 7;7.12.3. There must be no external release of the contents as a result of the tests.

b) The chemical samples must be contained in a packaging consisting of an inner packaging, an intermediate packaging, and a steel drum (1A2) outer packaging. The packaging components must conform to the following:

1) the inner packaging must include impact resistant primary receptacles of glass or other material of at least equivalent strength contained in a secondary receptacle. Each primary receptacle may contain no more than 50 millilitres of sample.

2) each secondary receptacle must be shown through testing to be capable of withstanding a 250 kPa hydrostatic pressure test. The secondary packaging must contain sufficient absorbent material to absorb the entire contents of all primary receptacles. Not more than seven primary receptacles may be contained within the secondary container. Prior to each shipment, the secondary packaging must be leak tested by pressurizing the packaging to 100 kPa and testing for leakage with a device capable of detecting leak rates of 10^{-3} atm-cm^3/sec.

3) the intermediate packaging with the inner packaging in place must be capable, as demonstrated by testing, of withstanding the drop test in Part 7;7.12.2(a), the penetration test in Part 7;7.12.2(b) and the thermal test in Part 7;7.12.3. There must be no release of contents. After being subjected to the above tests, the inner packaging must be capable of successfully passing the leakproofness test prescribed in the ISO/TR 4826-1979(E) with a leakage rate not greater than 10^{-6} atm-cm^3/sec.

4) the steel drum (1A2) outer packaging must be capable of meeting the performance packaging requirements at the packing group I level for solids and must be capable of withstanding a 100 kPa internal air pressure test. The intermediate packaging must be firmly secured in the outer packaging.

Chapter 10
CLASS 8 – CORROSIVES

807 PACKING INSTRUCTION 807 807

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	*Glass or earthenware IP.1 (L)*	*Plastic IP.2 (L)*	*Metal (not aluminium) IP.3 (L)*	*Aluminium IP.3A (L)*	*Glass ampoule IP.8 (L)*	*Particular packing requirements*
1052	No	No	0.5	No	No	8
~~1722~~	~~0.5~~	~~0.5~~	~~No~~	~~No~~	~~0.25~~	~~6~~
1739	0.5	0.5	No	No	0.25	6
1744	0.5	0.5	No	No	0.25	2,13
1786	No	0.5	0.5	No	No	2,5
1798	0.5	No	No	No	0.25	13
1828	0.5	0.5	0.5	0.5	0.25	5,7
1831	0.5	0.5	0.5	No	0.25	2,5,13
1836	0.5	0.5	0.5	0.5	0.25	2,7,13
2444	0.5	0.5	0.5	No	0.25	5,13
2692	0.5	0.5	0.5	No	0.25	2,5,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

6 Glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging.

7 When aluminium or aluminium alloys are used they must be resistant to corrosion.

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

809 PACKING INSTRUCTION 809 809

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Aluminium IP.3A (L)	Glass ampoule IP.8 (L)	Particular packing requirements
1052	No	No	1	No	No	8
1724	1	1	1	No	0.5	5
1728	1	1	1	No	0.5	5
1732	1	1	1	1	0.5	2,5,7,13,21
1747	1	1	1	No	0.5	5
A Transfer to page S-3-8-1 1752	~~1~~ 0.5	~~1~~ 0.5	~~1~~ 0.5	No	0.5	2,5,13
1753	1	1	1	No	0.5	5
1762	1	1	1	No	0.5	5
1763	1	1	1	No	0.5	5
1766	1	1	1	No	0.5	5
1767	1	1	1	No	0.5	5
1769	1	1	1	No	0.5	5
1771	1	1	1	No	0.5	5
1781	1	1	1	No	0.5	5
1784	1	1	1	No	0.5	5
1799	1	1	1	No	0.5	5
1800	1	1	1	No	0.5	5
1801	1	1	1	No	0.5	5
1802	1	1	No	No	0.5	
1804	1	1	1	No	0.5	5
1808	1	1	1	No	0.5	
A 1809	~~1~~ 0.5	~~1~~ 0.5	~~1~~ 0.5	No	0.5	5,~~6~~ 13
1810	1	1	1	No	0.5	5
1831 → 1816	1	1	1	No	0.5	5
1832	1	1	1	No	0.5	5
1836 → 1837	1	1	1	No	0.5	5
1838	1	1	No	No	0.5	2,13
1906	1	1	1	No	0.5	5
2435	1	1	1	No	0.5	5
2442	1	1	1	No	0.5	2,5,13
2443	1	1	1	No	0.5	2,5,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

A ~~6. Glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packaging.~~

7 When aluminium or aluminium alloys are used they must be resistant to corrosion.

8 When metal inner packagings are permitted, only appropriate gas cylinders or other pressure vessels may be used.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

21 Glass or earthenware inner packagings and glass ampoules are permitted if this item is free from hydrofluoric acid.

A	1831	1	1	1	No	0.5	2,5,13
A	1836	1	1	1	1	0.5	2,7,13

813 PACKING INSTRUCTION 813 813

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Combination packagings:

Inner

	UN No.	Glass or earthenware IP.1 (L)	Plastic IP.2 (L)	Metal (not aluminium) IP.3 (L)	Glass ampoule IP.8 (L)	Particular packing requirements
A	~~1752~~	~~2.5~~	~~2.5~~	~~2.5~~	~~0.5~~	~~2,5,13~~
	2442	2.5	2.5	2.5	0.5	2,5,13

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Solid plastic box – 4H2

Single packagings:

	UN No.	Steel drums 1A1 and cylinders*	Steel jerricans 3A1	Plastic drums 1H1	Plastic jerricans 3H1	Composites (plastic) – all	Particular packing requirements
A	~~1752~~	~~Yes~~	~~Yes~~	~~Yes~~	~~Yes~~	~~Yes~~	~~5~~
	2442	Yes	Yes	Yes	Yes	Yes	5

Particular packing requirements:

2 Plastic inner packagings must be packed in tightly closed metal receptacles before packing in outer packagings.

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

13 Glass or earthenware inner packagings and glass ampoules must be packed with absorbent material in tightly closed metal receptacles before packing in outer packagings.

* Cylinders must be as permitted in Packing Instruction 200.

815 PACKING INSTRUCTION 815 815

The general packing requirements of Part 3, Chapter 1 of the Technical Instructions must be met.

Single packagings are not permitted.

Combination packagings:

Inner

UN No.	Glass or earthenware IP.1 (kg)	Plastic IP.2 (kg)	Metal (not aluminium) IP.3 (kg)	Glass ampoule IP.8 (kg)	Particular packing requirements
1792	1	2.5	No	0.5	
1806	1	2.5	2.5	0.5	5
1939	1	2.5	No	0.5	
2691	1	2.5	2.5	0.5	5

Outer

Steel drum – 1A2
Aluminium drum – 1B2
Steel jerrican – 3A2
Plywood drum – 1D
Fibre drum – 1G
Plastic drum – 1H2
Plastic jerrican – 3H2
Wooden box – 4C1, 4C2
Plywood box – 4D
Reconstituted wood box – 4F
Fibreboard box – 4G
Plastic box – 4H1, 4H2

Particular packing requirements:

5 Steel packagings must be corrosion-resistant or with protection against corrosion.

Agenda Item 2: Development of proposals, if necessary, for amendments to Annex 18.

2.1 ANNEX 18

2.1.1 A proposal was made to amend paragraph 2.4.3 of Annex 18. This was to remove a conflict which exists between Annex 18 and the Technical Instructions. In Annex 18, articles and substances excepted from the provisions of the Annex are given as being "intended for the personal use" of passengers and crew members. In the Technical Instructions, exceptions are made for items which are clearly not so intended. An example was given of the carriage of a mercurial barometer by a representative of a government weather bureau. If Annex 18 applied, it could only be carried if it was for the government representative's personal use. The proposal was accepted.

2.1.2 The following recommendation was consequently developed:

RSPP

RECOMMENDATION 2/1 – AMENDMENT TO ANNEX 18

That Annex 18 be amended as indicated in the Attachment to the report on this agenda item.

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INTERNATIONAL STANDARDS AND RECOMMENDED PRACTICES

THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR

ANNEX 18

TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

AMEND ANNEX 18, CHAPTER 2 AS FOLLOWS:

. . . . .

CHAPTER 2. APPLICABILITY

. . . . .

2.4.3 ~~Articles~~ Specific articles and substances ~~intended for the personal use of~~ carried by passengers ~~and~~ or crew members shall be excepted from the provisions of this Annex to the extent specified in the Technical Instructions.

. . . . .

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Agenda Item 3: Development of proposals for amendments to Annex 6.

3.1 **ANNEX 6**

3.1.1 At the Edinburgh Working Group meeting, a recommendation was made to align the definition for dangerous goods in Annex 6 with that in Annex 18 with additional text being added to direct the reader to Annex 18. The policy of maintaining only one definition per term was explained by the Secretariat. The proposal to add the additional information in the form of a note to the definition in Annex 6 was accepted.

3.1.2 The meeting consequently developed the following recommendation:

RSPP	**RECOMMENDATION 3/1 – AMENDMENT TO ANNEX 6, PART I** That Annex 6, Part I be amended as indicated in the Attachment to the report on this agenda item.

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INTERNATIONAL STANDARDS AND RECOMMENDED PRACTICES

OPERATION OF AIRCRAFT

ANNEX 6

TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

PART I

INTERNATIONAL COMMERCIAL AIR TRANSPORT – AEROPLANES

AMEND ANNEX 6, PART I, CHAPTER 1 AS FOLLOWS:

CHAPTER 1. DEFINITIONS

. . . . .

Dangerous goods. Articles or substances which are capable of posing significant risk to health, safety or property when transported by air.

Note. – Dangerous goods are classified in Annex 18, Chapter 3.

. . . . .

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Agenda Item 4: Resolution, where possible, of the non-recurrent work items identified by the Air Navigation Commission or the panel.

4.1 SEMINARS FOR GOVERNMENT AGENCIES

4.1.1 The desirability for ICAO to host a series of seminars in the Regional Offices to provide government agencies with information about the requirements of and compliance with Annex 18 and the Technical Instructions was agreed.

4.1.2 The panel consequently developed the following recommendation:

RECOMMENDATION 4/1 – SEMINARS FOR GOVERNMENT AGENCIES

That ICAO host seminars on the transport of dangerous goods by air in the Regional Offices to help facilitate States with the implementation of Annex 18 and the Technical Instructions.

4.2 DISTRIBUTION OF WORKING PAPERS

4.2.1 The problem of the late distribution of some working papers for DGP/14 was discussed. The panel unanimously reaffirmed their decision taken at DGP/10 when it was agreed that the Secretariat should not wait for the translations of working papers before distributing them. The report of DGP/10 on Agenda Item 4 reads as follows:

> "4.4 One problem with all the meetings of the panel was the inadequate time available between receiving working papers and the start of the meeting. Members usually needed to obtain the advice of experts and often needed to discuss the papers with national advisory groups. It would, of course, help if authors prepared their papers further in advance, but this was not always possible. The distribution of some of the main papers for the present meeting had been delayed by many weeks while waiting for translations to become available. The panel unanimously agreed that they would prefer to receive all working papers in the original language immediately, followed by translated versions as soon as possible."

4.2.2 The panel subsequently went on to develop the following recommendation:

RECOMMENDATION 4/2 – NON-SIMULTANEOUS DISTRIBUTION OF WORKING PAPERS

That the Secretariat distribute all working papers in the original language immediately, followed by the translated versions as soon as possible.

4.3 UNIVERSAL POSTAL UNION SECURITY ACTION GROUP

4.3.1 A suggestion that the Dangerous Goods Panel Secretary should participate in the Universal Postal Union Security Action Group was not agreed. It was suggested that the Secretary should monitor the activities of the Action Group and should attend only when items relevant to dangerous goods were being discussed.

4.4 FUTURE MEETINGS OF THE PANEL

4.4.1 The panel recommended that an eight-day panel meeting be held during October 1995 (DGP/15) taking into account the meeting of the Assembly in September and October 1995.

4.4.2 Discussion then centered on the optimum arrangements for working group meetings. Since the last panel meeting (October 1991) there had been two one-week working group meetings, one held in Edinburgh (October 1992) and one in Cairo (April 1993). One member believed that one one-week working group meeting would be sufficient now that the volume of changes arising from the UN Recommendations would start to decrease and that the panel had a full-time Secretary. This view was not supported. It was suggested that an eighteen-month gap between the panel meeting and a working group meeting was too long; a proposal to recommend two one-week working group meetings was accepted. It was agreed that all items not relevant to changes arising from the UN Recommendations should be submitted, if possible, to the Autumn 1994 meeting.

4.4.3 The member nominated by Japan stated that his country expected to be able to host the working group meeting suggested for October 1994 in Tokyo.

4.4.4 The member nominated by France stated that his country expected to be able to host the working group meeting suggested for April 1995 in Aix-en-Provence.

4.4.5 A member suggested that the Secretary explore the possibility of holding the meeting in the Regional Offices in Bangkok or in Paris if any difficulties arose with the proposed locations.

— END —