



Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods

Forty-second session

Geneva, 3–11 December 2012

Item 2 of the provisional agenda

**Recommendations made by the Sub-Committee at its
thirty-ninth, fortieth and forty-first sessions and
pending issues.**

Consolidated list of adopted texts

Note by the secretariat¹

This document contains a consolidated list of texts adopted by the Sub-Committee of Experts at its thirty-ninth, fortieth and forty-first sessions, as follows:

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¹ In accordance with the programme of work of the Sub-Committee for 2011-2012 approved by the Committee at its fifth session (refer to ST/SG/AC.10/C.3/76, para. 116 and ST/SG/AC.10/38, para. 16).

Part I. Draft amendments to the seventeenth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations

Chapter 1.2

1.2.1 In the definition of “Multiple-element gas container”, replace “and bundles” with “or bundles”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

1.2.1 Add the following new definition:

“*Large salvage packaging* means a special packaging which

(a) is designed for mechanical handling; and

(b) exceeds 400 kg net mass or 450 litres capacity but has a volume of not more than 3 m³;

into which damaged, defective or leaking dangerous goods packages, or dangerous goods that have spilled or leaked are placed for purposes of transport for recovery or disposal.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Chapter 2.1

Amend Note 2 in 2.1.3.5.5 to read as follows:

“NOTE 2: “Flash composition” in this table refers to pyrotechnic substances in powder form or as pyrotechnic units as presented in the firework that are used to produce an aural effect or used as a bursting charge, or propellant charge unless:

(a) The pyrotechnic substance gives a negative “-” result in the US Flash Composition Test in Appendix 7 of the Manual of Tests and Criteria; or

(b) The time taken for the pressure rise is demonstrated to be more than 6 ms for 0.5 g of pyrotechnic substance in the HSL Flash Composition Test in Appendix 7 of the Manual of Tests and Criteria.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 2.3

2.3.2.2 and 2.3.2.3 Amend to read as follows:

“2.3.2.2 Viscous flammable liquids such as paints, enamels, lacquers, varnishes, adhesives and polishes having a flash point of less than 23 °C may be placed in packing group III in conformity with the procedures prescribed in the Manual of Tests and Criteria, Part III, sub-section 32.3, provided that:

(a) The viscosity expressed as the flowtime in seconds and flash point are in accordance with the following table:

<i>Flow-time t in seconds</i>	<i>Jet diameter (mm)</i>	<i>Flash point, closed-cup (°C)</i>
$20 < t \leq 60$	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	no limit

- (b) Less than 3% of the clear solvent layer separates in the solvent separation test;
- (c) The mixture or any separated solvent does not meet the criteria for Division 6.1 or Class 8;
- (d) The substances are packed in receptacles of not more than 450 litre capacity.

2.3.2.3 *Reserved.*”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

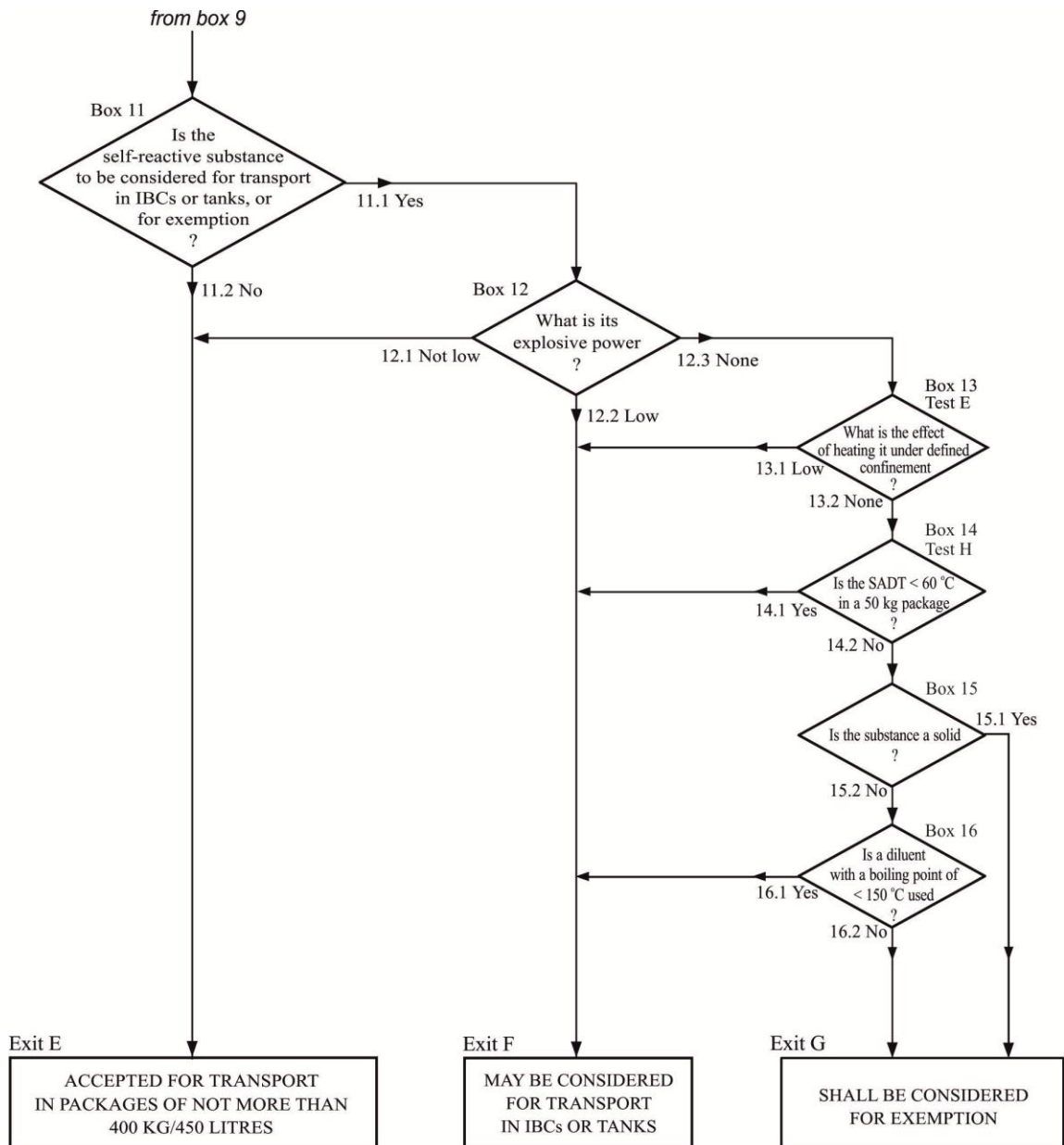
2.3.2.5 At the beginning, replace “Viscous substances” with “Viscous liquids”. Amend the fourth indent to read as follows:

“- Are packed in receptacles of not more than 450 litre capacity”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

Chapter 2.4

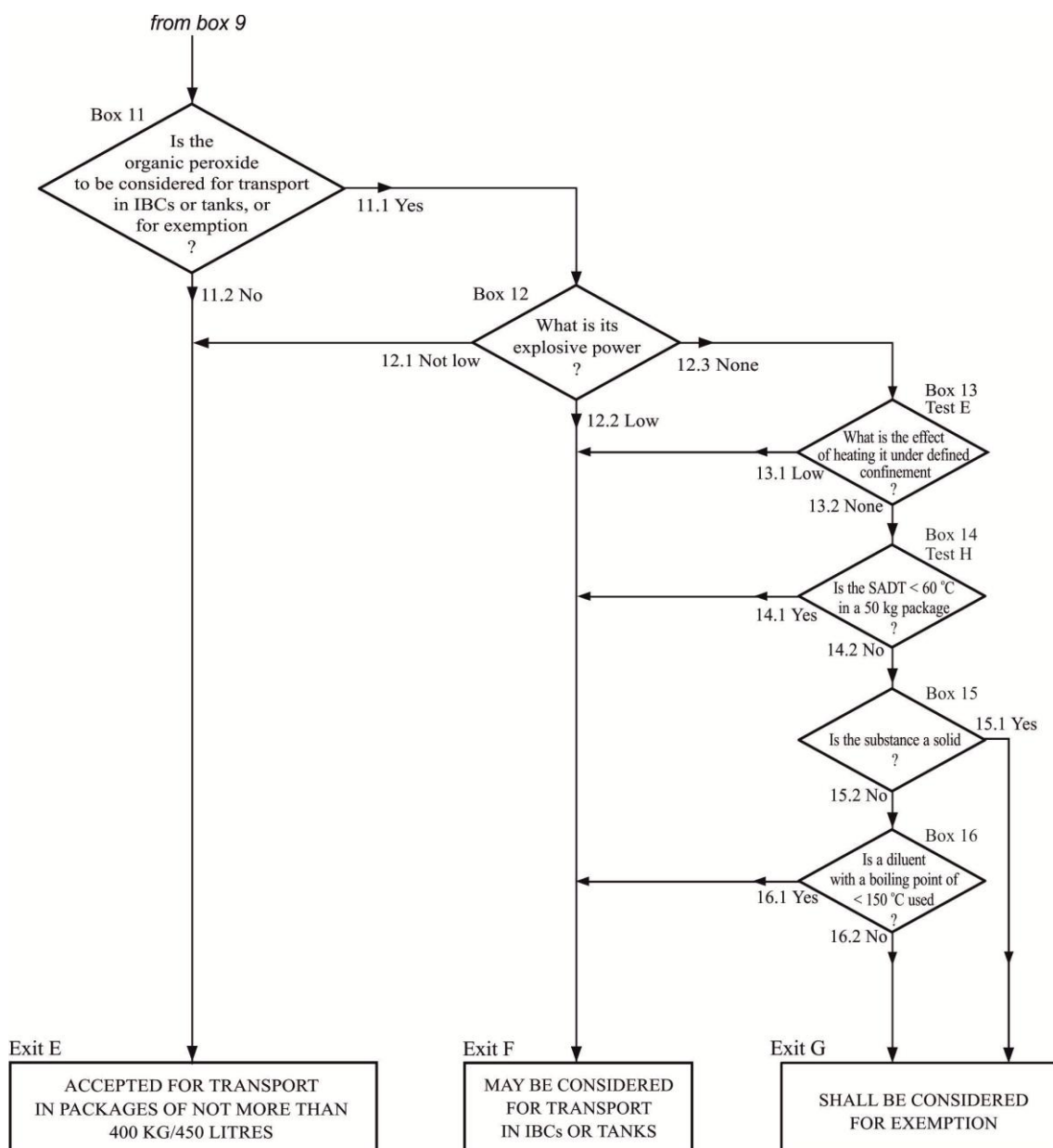
Amend the second part of figure 2.4.1 to read as follows:



(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 2.5

Amend the second part of figure 2.5.1 to read as follows:



(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 2.6

2.6.3.2.3.5 Amend to read as follows:

“2.6.3.2.3.5 Dried blood spots, collected by applying a drop of blood onto absorbent material, are not subject to these Regulations.”.

Insert two new paragraphs 2.6.3.2.3.6 and 2.6.3.2.3.7 to read as follows and renumber existing paragraphs accordingly:

“2.6.3.2.3.6 Faecal occult blood screening samples are not subject to these Regulations.

2.6.3.2.3.7 Blood or blood components which have been collected for the purposes of transfusion or for the preparation of blood products to be used for transfusion or

transplantation and any tissues or organs intended for use in transplantation [as well as samples drawn in connection with such purposes] are not subject to these Regulations.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Chapter 2.9

2.9.2 Replace all three entries for UN No. 3268 with “3268 SAFETY DEVICES, electrically initiated”.

(Reference document: informal document INF.70, Consequential amendment) [41st session]

2.9.4 At the end of (a), insert the following new sentence before the Note:

“However batteries and cells manufactured before 1 January 2014 and conforming to a design type tested according to requirements of the fifth revised edition of the *Manual of test and criteria*, part III, sub section 38.3 may continue to be transported.”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

Chapter 3.2

Dangerous goods list

UN 0222 In column (8) insert “IBC100”. In column (9), insert “[B2, B17] [B3, B17]”. Amend column (2) to read “AMMONIUM NITRATE”. In column (6) insert “[370]”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

UN No. 0503 In column (2), amend name to read: “SAFETY DEVICES, PYROTECHNIC†”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

For UN 1082, in column (2), add “(REFRIGERANT GAS R 1113)” at the end and amend the alphabetical index accordingly.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

UN Nos. 1210, 1263, 3066, 3469 and 3470 In column (6), insert “367”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

UN 1942 Amend column (2) to read “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.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

UN 2212 In column (2) amend the name to read “ASBESTOS AMPHIBOLE (amosite, tremolite, actinolite, anthophyllite, crocidolite)”. In column (6), insert “274”.

UN 2590 In column (2) amend the name to read “ASBESTOS CHRYSOTILE or ASBESTOS CHRYSOTILE FIBRE”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

UN 3089, packing group III In column (8) replace “IBC06” by “IBC08”. In column (9) insert “B2, B4”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

UN Nos. 3090, 3091, 3480 and 3481 In column (8) insert “LP903”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

UN 3268 In column (2), amend the name to read: “SAFETY DEVICES, electrically initiated”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

UN 3316 Replace the existing entry with the two following new entries:

(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)
3316	CHEMICAL KIT or FIRST AID KIT	9		II	251 340	See special provision 251 in chapter 3.3	See special provision 340 in chapter 3.3	P901			
3316	CHEMICAL KIT or FIRST AID KIT	9		III	251 340	See special provision 251 in chapter 3.3	See special provision 340 in chapter 3.3	P901			

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

UN 3375 In column (8), replace “P099 IBC99” by “P505 IBC02”. In column (9), insert “B16”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

For UN Nos. 3393, 3394, 3395, 3396, 3397, 3398, and 3399 (all packing groups): Insert “TP41” in column (11).

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Chapter 3.3

SP 66 Replace “Mercurous chloride and cinnabar are” with “Cinnabar is”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

SP122 At the end, add: “, 4.1.4.2 packing instruction IBC520 and 4.2.5.2.6 portable tank instruction T23.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II as corrected)

SP 135 Amend to read as follows:

“135 The dihydrated sodium salt of dichloroisocyanuric acid does not meet the criteria for inclusion in Division 5.1 and is not subject to these Regulations unless meeting the criteria for inclusion in another Class or Division.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

SP172 Amend to read as follows:

“172 Where a radioactive material has a subsidiary risk:

- (a) The substance shall be allocated to Packing Group I, II or III, if appropriate, by application of the packing group criteria provided in Part 2 corresponding to the nature of the predominant subsidiary risk;
- (b) Packages shall be labelled with subsidiary risk labels corresponding to each subsidiary risk exhibited by the material; corresponding placards shall be affixed to transport units in accordance with the relevant provisions of 5.3.1;
- (c) The dangerous goods transport document shall indicate the subsidiary class or division and, where assigned the packing group as required by 5.4.1.4.1(d) and (e)
- (d) The proper shipping name described on the dangerous goods transport document [and as marked on the package] shall be supplemented with the name of the constituents which most predominantly contribute to this (these) subsidiary risk(s) and [which] shall be enclosed in parenthesis.

For packing, see also 4.1.9.1.5.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

SP235 Amend to read as follows:

“235 This entry applies to articles which contain Class 1 explosive substances and which may also contain dangerous goods of other classes. These articles are used to enhance safety in vehicles, vessels or aircraft – e.g. air bag inflators, air bag modules, seat-belt pretensioners, and pyromechanical devices.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

SP 251 Insert the following new third paragraph (after “to any individual substance in the kit.”):

“Where the kit contains only dangerous goods to which no packing group is assigned, no packing group need be indicated on the dangerous goods transport document.”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

SP280 Amend to read as follows:

“280 This entry applies to safety devices for vehicles, vessels or aircraft – e.g. air bag inflators, air bag modules, seat-belt pretensioners, and pyromechanical devices and which contain dangerous goods of Class 1 or dangerous goods of other classes and when

transported as component parts and if these articles as presented for transport have been tested in accordance with Test Series 6(c) of Part 1 of the Manual of Tests and Criteria, with no explosion of the device, no fragmentation of device casing or pressure vessel, and no projection hazard nor thermal effect which would significantly hinder fire-fighting or emergency response efforts in the immediate vicinity. This entry does not apply to life saving appliances described in special provision 296 (UN Nos. 2990 and 3072).”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

SP289 Amend to read as follows:

“289 Safety devices, electrically initiated and safety devices, pyrotechnic installed in vehicles, vessels or aircraft or in completed components such as steering columns, door panels, seats, etc. are not subject to these Regulations.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

SP306 Amend to read as follows:

“306 This entry may only be used for substances that are too insensitive for acceptance into Class 1 when tested in accordance with Test Series 2 (see Manual of Tests and Criteria, Part I).”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

SP309 Amend the last sentence to read as follows:

“Substances shall satisfactorily pass Tests 8(a), (b) and (c) of Test Series 8 of the *Manual of Tests and Criteria*, Part I, Section 18 and be approved by the competent authority.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

SP335 At the end, add the following new text:

“[Inner packagings containing not more than 10 ml of an environmentally hazardous liquid packed in a combination packaging not exceeding 30 kg total gross mass conforming to general packing provisions 4.1.1.1, 4.1.1.2, 4.1.1.4, and 4.1.1.8 and meeting the construction requirements of 6.1.4 are not subject to these Regulations, if the packaging is designed to prevent the release of the liquid content by using an intermediate packaging (plastic bag, blister or similar) or by adding absorbing material in a part of the packaging (outer or intermediate packaging).]”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

SP363 In subparagraph (c), replace “loaded in an orientation” with “oriented”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Add the following new special provisions:

“367 For the purposes of documentation and package marking:

The proper shipping name “Paint related material” may be used for consignments of packages containing “Paint” and “Paint related material” in the same package;

The proper shipping name “Paint related material, corrosive, flammable” may be used for consignments of packages containing “Paint, corrosive, flammable” and “Paint related material, corrosive, flammable” in the same package;

The proper shipping name “Paint related material, flammable, corrosive” may be used for consignments of packages containing “Paint, flammable, corrosive” and “Paint related material, flammable, corrosive” in the same package; and

The proper shipping name “Printing ink related material” may be used for consignments of packages containing “Printing Ink” and “Printing ink related material” in the same package.”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

“[370] This entry applies to:

- ammonium nitrate with more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance; and
- ammonium nitrate with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any added substance, that are not too sensitive for acceptance into Class 1 when tested in accordance with Test Series 2 (see Manual of Tests and Criteria, Part I). See also UN No. 1942.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

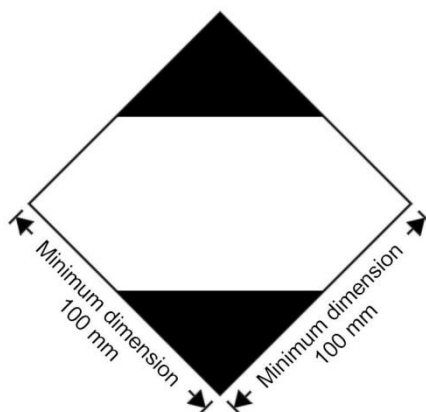
Chapter 3.4

Amend sections 3.4.7 and 3.4.8 to read as follows:

“3.4.7 Marking for packages containing limited quantities

3.4.7.1 Except for air transport, packages containing dangerous goods in limited quantities shall bear the marking shown in Figure 3.4.1:

Figure 3.4.1



Marking for packages containing limited quantities

The marking shall be readily visible, legible and able to withstand open weather exposure without a substantial reduction in effectiveness.

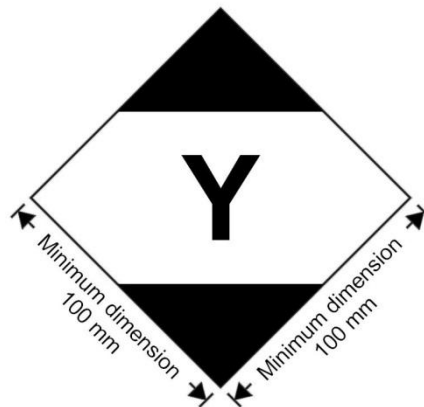
The marking shall be in the form of a square set at an angle of 45 degrees (diamond-shaped). The top and bottom portions and the surrounding line shall be black. The centre area shall be white or a suitable contrasting background. The minimum dimensions shall be 100 mm x 100 mm and the minimum width of line forming the diamond shall be 2 mm. Where dimensions are not specified, all features shall be in approximate proportion to those shown.

3.4.7.2 If the size of the package so requires, the minimum outer dimensions shown in Figure 3.4.1 may be reduced to be not less than 50 mm x 50 mm provided the marking remains clearly visible. The minimum width of the line forming the diamond may be reduced to a minimum of 1 mm.

3.4.8 Marking for packages containing limited quantities conforming to Part 3, Chapter 4 of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air

3.4.8.1 Packages containing dangerous goods packed in conformity with the provisions of Part 3, Chapter 4 of the ICAO Technical Instructions for the Transport of Dangerous Goods may bear the marking shown in Figure 3.4.2 to certify conformity with these provisions:

Figure 3.4.2



Marking for packages containing limited quantities conforming to Part 3, Chapter 4 of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air

The marking shall be readily visible, legible and able to withstand open weather exposure without a substantial reduction in effectiveness.

The marking shall be in the form of a square set at an angle of 45 degrees (diamond-shaped). The top and bottom portions and the surrounding line shall be black. The centre area shall be white or a suitable contrasting background. The minimum dimensions shall be 100 mm x 100 mm and the minimum width of line forming the diamond shall be 2 mm. The symbol “Y” shall be placed in the centre of the mark and shall be clearly visible. Where dimensions are not specified, all features shall be in approximate proportion to those shown.

3.4.8.2 If the size of the package so requires, the minimum outer dimensions shown in Figure 3.4.2 may be reduced to be not less than 50 mm x 50 mm provided the marking remains clearly visible. The minimum width of the line forming the diamond may be reduced to a minimum of 1 mm. The symbol “Y” shall remain in approximate proportion to that shown in Figure 3.4.2.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

3.4.9 Amend to read as follows:

“3.4.9 Packages containing dangerous goods bearing the marking shown in 3.4.8 with or without the additional labels and markings for air transport shall be deemed to meet the provisions of section 3.4.1 as appropriate and of sections 3.4.2 to 3.4.4 of this Chapter and need not bear the marking shown in 3.4.7.”.

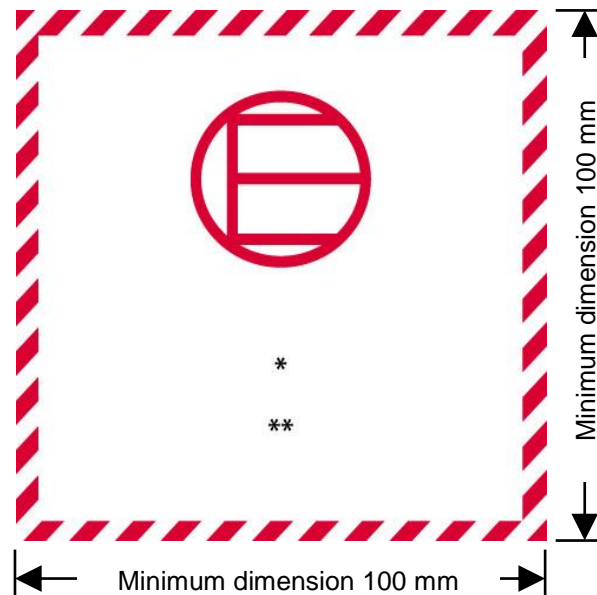
(Reference document: ST/SG/AC.10/C.3/78, Annex II)

Chapter 3.5

Amend 3.5.4.2 and 3.5.4.3 to read as follows:

“3.5.4.2 Excepted quantities mark

Figure 3.5.1



Excepted quantities mark

* The Class or, when assigned, the Division number(s) shall be shown in this location

** The name of the consignor or of the consignee shall be shown in this location if not shown elsewhere on the package

The marking shall be in the form of a square. The hatching and symbol shall be of the same colour, black or red, on white or suitable contrasting background. The minimum dimensions shall be 100 mm x 100 mm. Where dimensions are not specified, all features shall be in approximate proportion to those shown.

3.5.4.3 An overpack containing dangerous goods in excepted quantities shall display the markings required by 3.5.4.1, unless such markings on packages within the overpack are clearly visible.”

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Appendix B

Amend the entry for “AIR BAG INFLATORS, PYROTECHNIC or AIR BAG MODULES, PYROTECHNIC or SEAT-BELT PRETENSIONERS, PYROTECHNIC” to read, “SAFETY DEVICES, electrically initiated”

Amend the definition to read as follows:

“Articles which contain pyrotechnic substances or dangerous goods of other classes and are used in vehicles, vessels or aircraft to enhance safety to persons. Examples are: air bag inflators, air bag modules, seat-belt pretensioners and pyromechanical devices. These pyromechanical devices are assembled components for tasks such as but not limited to separation, locking, or release-and-drive or occupant restraint. The term includes “SAFETY DEVICES, PYROTECHNIC”.”

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Alphabetical index

Amend the entries for “AIR BAG INFLATORS, PYROTECHNIC or AIR BAG MODULES, PYROTECHNIC or SEAT-BELT PRETENSIONERS, PYROTECHNIC” to read as follows:

«Air bag inflators, see	1.4G 9	0503 3268»
«Air bag modules, see	1.4G 9	0503 3268»
«Seat-belt pretensioners, see	1.4G 9	0503 3268»

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Add the following new entries in alphabetical order:

Name and description	Class	UN No.
Mercurous chloride, see	6.1	2025
“SAFETY DEVICES, electrically initiated	9	3268”
“SAFETY DEVICES, PYROTECHNIC	1.4G	0503”

(Reference documents: ST/SG/AC.10/C.3/80, Annex I and ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 4.1

4.1.1.5 Add a new 4.1.1.5.2 to read as follows:

“4.1.1.5.2 Use of supplementary packagings within an outer packaging (e.g. an intermediate packaging or a receptacle inside a required inner packaging) additional to what is required by the packing instructions is authorized provided all relevant requirements are met, including those of 4.1.1.3, and, if appropriate, suitable cushioning is used to prevent movement within the packaging.”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

4.1.4.1 P404 (1) Amend to read as follows:

(1) **Combination packagings**

Outer packagings: (1A1, 1A2, 1B1, 1B2, 1N1, 1N2, 1H1, 1H2, 1D, 1G, 4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G or 4H2)

Inner packagings: Metal receptacles with a maximum net mass of 15 kg each. Inner packagings shall be hermetically sealed and have threaded closures;
Glass receptacles, with a maximum net mass of 1 kg each, having threaded closures with gaskets, cushioned on all sides and contained in hermetically sealed metal cans.

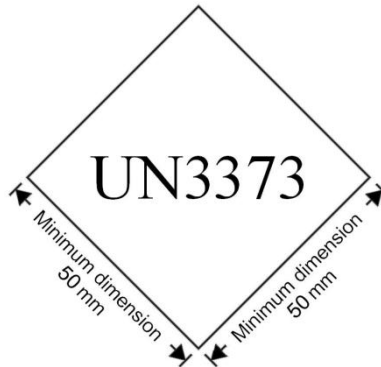
Outer packagings shall have a maximum net mass of 125 kg.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

4.1.4.1 P601 (1) and P602 (2) At the beginning, insert “or plastics” after “consisting of metal”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

4.1.4.1 P650 Amend the diagram to read as follows:



(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.1.4.1 P901 After “(see 3.3.1, special provision 251)”, insert the following new sentence: “Where the kit contains only dangerous goods to which no packing group is assigned, packagings shall meet Packing Group II performance level.”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

4.1.4.1 P903 In paragraph (2), replace subparagraphs (a) and (b) with the following subparagraphs (a) to (c):

- “(a) Strong outer packagings;
- (b) Protective enclosures (e.g., fully enclosed or wooden slatted crates); or
- (c) Pallets or other handling devices.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.1.4.1 P904 Amend the diagram to read as follows:



(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.1.4.1 P906 (2) Amend to read as follows:

- “(2) For transformers and condensers and other devices:

- Packagings in accordance with packing instructions P001 or P002. The articles shall be secured with suitable cushioning material to prevent inadvertent movement during normal conditions of transport;

or

- Leakproof packagings which are capable of containing, in addition to the devices, at least 1.25 times the volume of the liquid PCBs, polyhalogenated biphenyls or terphenyls present in them. There shall be sufficient absorbent material in the packagings to absorb at least 1.1 times the volume of liquid which is contained in the devices. In general, transformers and condensers shall be carried in leakproof metal packagings which are capable of holding, in addition to the transformers and condensers, at least 1.25 times the volume of the liquid present in them.”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

4.1.4.1 Add the following new packing instructions:

P505 PACKING INSTRUCTION P505		
This instruction applies to UN No. 3375		
The following packagings are authorized, provided that the general provisions of 4.1.1 and 4.1.3 are met:		
Combination packagings:	Inner packaging maximum capacity	Outer packaging maximum net mass
Boxes (4B, 4C1, 4C2, 4D, 4G, 4H2) or drums (1B2, 1G, 1N2, 1H2, 1D) jerricans (3B2, 3H2) with glass, plastics or metal inner packagings	5 l	125 kg
Single packagings:	Maximum capacity	
Drums aluminium (1B1, 1B2), plastics (1H1, 1H2)	250 l	
Jerricans aluminium (3B1, 3B2), plastics (3H1, 3H2)	60 l	
Composite packagings plastics receptacle with outer aluminium drum (6HB1) plastics receptacle with outer fibre, plastics or plywood drum (6HG1, 6HH1, 6HD1) plastics receptacle with outer aluminium crate or box or plastics receptacle with outer wooden, plywood, fibreboard or solid plastics box (6HB2, 6HC, 6HD2, 6HG2 or 6HH2) glass receptacle with outer aluminium, fibre or plywood drum (6PB1, 6PG1, 6PD1) or with outer solid plastics or expanded plastics receptacles (6PH1 or 6PH2) or with outer aluminium crate or box or with outer wooden or fibreboard box or with outer wickerwork hamper (6PB2, 6PC, 6PG2 or 6PD2)	250 l 250 l 60 l 60 l	

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.1.4.2 In IBC02, insert the following new special provision B16:

“B16 For UN 3375, IBCs of type 31A and 31N are not allowed without competent authority approval.”

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.1.4.2 In IBC04 Replace “and 21N” with “, 21N, 31A, 31B and 31N”.

4.1.4.2 In IBC05 (1) Replace “and 21N” with “, 21N, 31A, 31B and 31N”.

4.1.4.2 In IBC05 (2) Replace “and 21H2” with “, 21H2, 31H1 and 31H2”.

4.1.4.2 In IBC05 (3) Replace “and 21HZ1” with “, 21HZ1 and 31HZ1”.

4.1.4.2 In IBC06 (1), IBC07 (1) and IBC08 (1) Replace “and 21N” with “, 21N, 31A, 31B and 31N”.

4.1.4.2 In IBC06 (2), IBC07 (2) and IBC08 (2) Replace “and 21H2” with “, 21H2, 31H1 and 31H2”.

4.1.4.2 In IBC06 (3), IBC07 (3) and IBC08 (3) Replace “and 21HZ2” with “21HZ2 and 31HZ1”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

IBC100 In the first line of packing instruction IBC100, insert “0222” after “0082”. Insert the following special packing provisions:

[“B2 For UN No. 0222 in IBCs other than metal or rigid plastics IBCs, the IBCs shall be transported in closed cargo transport units.”]

[“B3 For UN No. 0222, flexible IBCs shall be sift-proof and water resistant or shall be fitted with a sift-proof and water resistant liner.”]

[“B17 For UN No. 0222, metal IBCs are not authorized.”]

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.1.4.3 Insert the following new packing instruction:

LP903	PACKING INSTRUCTION	LP903
This instruction applies to UN Nos. 3090, 3091, 3480 and 3481		
<p>The following large packagings are authorized for a single battery, including for a battery contained in equipment, provided that the general provisions of 4.1.1 and 4.1.3 are met:</p> <p>Rigid large packagings conforming to the packing group II performance level, made of:</p> <ul style="list-style-type: none"> steel (50A); aluminium (50B); metal other than steel or aluminium (50N); rigid plastics (50H); natural wood (50C); plywood (50D); reconstituted wood (50F); rigid fibreboard (50G). <p>The battery shall be packed so that the battery is protected against damage that may be caused by its movement or placement within the large packaging.</p>		
<p>Additional requirement:</p> <p>Batteries shall be protected against short circuit.</p>		

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.1.6.1.2 Replace “ISO 11114-1:1997” with “ISO 11114-1:2012”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 4.2

4.2.5.2.6 Amend the header to the tabulated portable tank instructions for T1 – T22 to read as follows:

“These portable tank instructions apply to liquid and solid substances of Class 1 and Classes 3 to 9. The general provisions of section 4.2.1 and the requirements of section 6.7.2 shall be met.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.2.5.2.6 In tank instruction T23, at the end of footnote d add: ““CORROSIVE” subsidiary risk placard required (Model No 8, see 5.2.2.2.2).”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.2.5.3 In special provision TP32, paragraph (b), at the beginning, insert “For UN 3375 only,”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

4.2.5.3 Add the following new portable tank special provision:

“TP41 The 2.5 year internal examination may be waived or substituted by other test methods or inspection procedures specified by the competent authority or its authorized body, provided that the portable tank is dedicated to the transport of the organometallic substances to which this tank special provision is assigned. However this examination is required when the conditions of 6.7.2.19.7 are met.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Chapter 5.1

5.1.2.1 Add the following new sentence and note at the end:

“The lettering of the “OVERPACK” marking shall be at least 12 mm high.

NOTE: *The size requirement for the “OVERPACK” marking shall apply as from 1 January 2016.”.*

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

Chapter 5.2

5.2.1.1 In the second sentence, after “except for packagings of 30 litres of 30 kg capacity or less” insert “and except for cylinders of 60 litres water capacity or less,”.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

5.2.1.3 Add the following new sentence and note at the end:

“The lettering of the “SALVAGE” marking shall be at least 12 mm high.

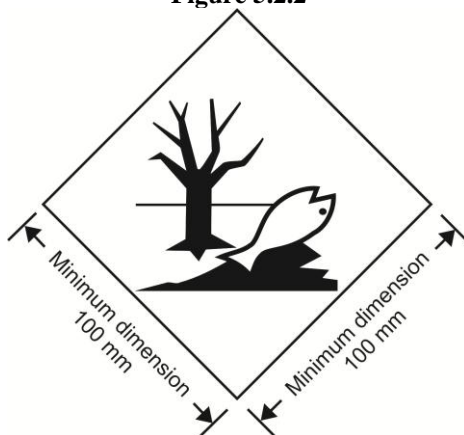
NOTE: *The size requirement for the “SALVAGE” marking shall apply as from 1 January 2016.”.*

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

Amend 5.2.1.6.3 and figure 5.2.2 to read as follows:

“5.2.1.6.3 The environmentally hazardous substance mark shall be as shown in Figure 5.2.2.

Figure 5.2.2



Environmentally hazardous substance mark

The marking shall be in the form of a square set at an angle of 45 degrees (diamond-shaped). The symbol (fish and tree) shall be black on white or suitable contrasting background. The minimum dimensions shall be 100 mm x 100 mm and the minimum width of line forming the diamond shall be 2 mm. If the size of the package so requires, the dimensions/line thickness may be reduced, provided the marking remains clearly visible. Where dimensions are not specified, all features shall be in approximate proportion to those shown.

NOTE: The labelling provisions of 5.2.2 apply in addition to any requirement for packages to bear the environmentally hazardous substance mark.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

5.2.1.7.1 Number the figures and amend the caption to read as follows:

“Figure 5.2.3

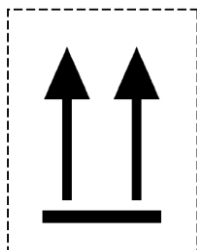
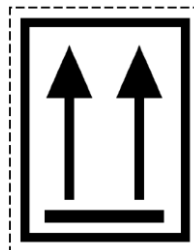


Figure 5.2.4



or

Two black or red arrows on white or suitable contrasting background.

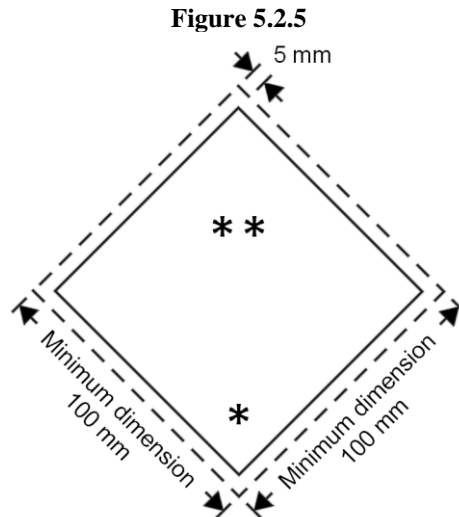
The rectangular border is optional

All features shall be in approximate proportion to those shown.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

5.2.2.2.1.1 Amend to read as follows:

“5.2.2.2.1.1 Labels shall be configured as shown in Figure 5.2.5.



Class/division label

* Class or division number shall be shown in this location in the bottom corner

** The class or division symbol/numeral/text shall be shown in this location

5.2.2.2.1.1.1 Labels shall be displayed on a background of contrasting colour, or shall have either a dotted or solid outer boundary line.

5.2.2.2.1.1.2 The label shall be in the form of a square set at an angle of 45 degrees (diamond-shaped). The minimum dimensions shall be 100 mm x 100 mm and the minimum width of the line inside the edge forming the diamond shall be 2 mm. The line inside the edge shall be parallel and 5 mm from the outside of that line to the edge of the label. The line inside the edge on the upper half of the label shall be the same colour as the symbol and the line inside the edge on the lower half of the label shall be the same colour as the class or division number in the bottom corner. Where dimensions are not specified, all features shall be in approximate proportion to those shown.

5.2.2.2.1.1.3 If the size of the package so requires the dimensions may be reduced, provided the symbols and other elements of the label remain clearly visible. The line inside the edge shall remain 5 mm to the edge of the label. The minimum width of the line inside the edge shall remain 2 mm. Dimensions for cylinders shall comply with 5.2.2.2.1.2.”

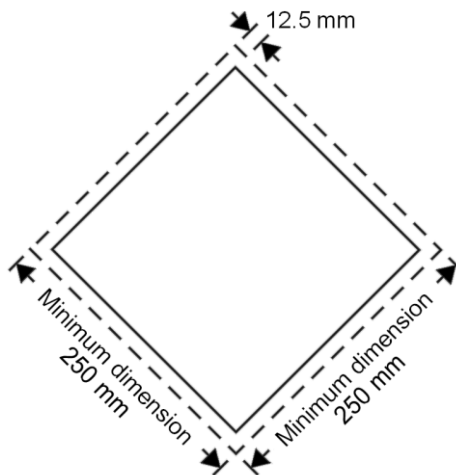
(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 5.3

Amend paragraph 5.3.1.2.1 to read as follows:

“5.3.1.2.1 Except as provided in 5.3.1.2.2 for the Class 7 placard, and in 5.3.2.3.2 for the environmentally hazardous substance mark, a placard shall be configured as shown in Figure 5.3.0.

Figure 5.3.0



Placard (except for class 7)

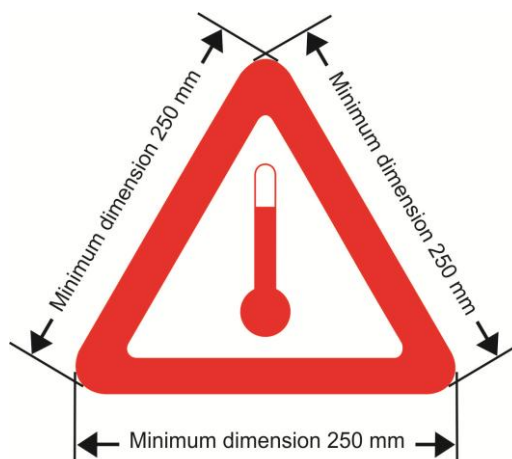
The placard shall be in the form of a square set at an angle of 45 degrees (diamond-shaped). The minimum dimensions shall be 250 mm x 250 mm (to the edge of the placard). The line inside the edge shall be parallel and 12.5 mm from the outside of that line to the edge of the placard. The symbol and line inside the edge shall correspond in colour to the label for the class or division of the dangerous goods in question. The class or division symbol/numeral shall be positioned and sized in proportion to those prescribed in 5.2.2.2 for the corresponding class or division of the dangerous goods in question. The placard shall display the number of the class or division (and for goods in Class 1, the compatibility group letter) of the dangerous goods in question in the manner prescribed in 5.2.2.2 for the corresponding label, in digits not less than 25 mm high. Where dimensions are not specified, all features shall be in approximate proportion to those shown.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

5.3.2.2 Amend to read as follows:

“5.3.2.2 Elevated temperature substances

Cargo transport units containing a substance that is transported or offered for transport in a liquid state at a temperature equal to or exceeding 100 °C, in a solid state at a temperature equal to or exceeding 240 °C shall bear on each side and on each end the mark shown in Figure 5.3.4.

Figure 5.3.4

Mark for carriage at elevated temperature

The marking shall be an equilateral triangle. The colour of the mark shall be red. The minimum dimension of the sides shall be 250 mm. Where dimensions are not specified, all features shall be in approximate proportion to those shown.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Add a new paragraph 5.3.2.3.2 as follows:

“5.3.2.3.2 The environmentally hazardous substance mark for cargo transport units shall be as described in 5.2.1.6.3 and Figure 5.2.2, except that the minimum dimensions shall be 250 mm x 250 mm.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 5.4

5.4.1.6.1 In the text of the certification, after “above”, add a reference to footnote 2. The footnote reads as follows: “or below”.

5.4.2.1 Renumber footnote 2 as footnote 3.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

5.4.2.1 (h) Amend to read as follows:

“(h) When substances presenting a risk of asphyxiation are used for cooling or conditioning purposes (such as dry ice (UN 1845) or nitrogen, refrigerated liquid (UN 1977) or argon, refrigerated liquid (UN 1951)), the container/vehicle is externally marked in accordance with 5.5.3.6; and”.

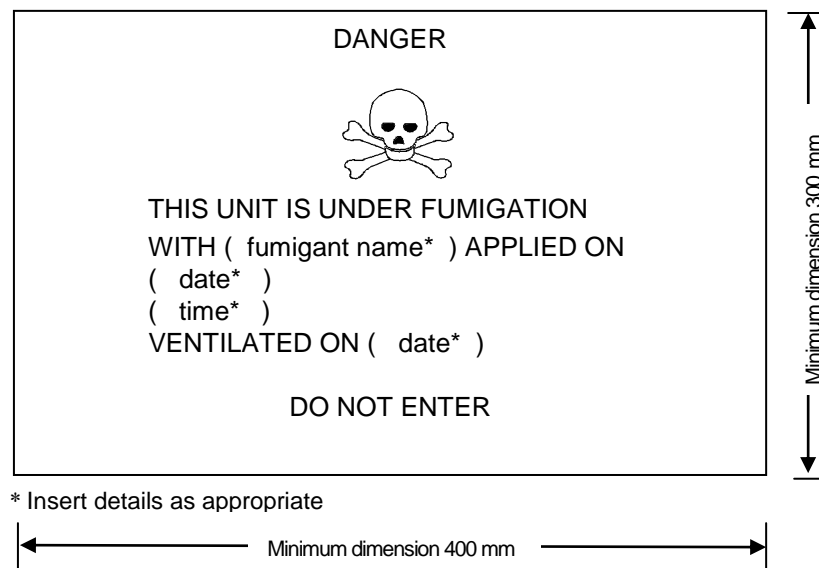
(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Chapter 5.5

Amend 5.5.2.3.2 and Figure 5.5.1 to read as follows:

“5.5.2.3.2 The fumigation warning mark shall be as shown in Figure 5.5.1.

Figure 5.5.1



Fumigation warning mark

The marking shall be a rectangle. The minimum dimensions shall be 400 mm wide x 300 mm high and the minimum width of the outer line shall be 2 mm. The marking shall be in black print on a white background with lettering not less than 25 mm high. Where dimensions are not specified, all features shall be in approximate proportion to those shown.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

5.5.3 Add a new subparagraph 5.5.3.1.4 to read as follows:

“5.5.3.1.4 Cargo transport units containing substances used for cooling or conditioning purposes include cargo transport units containing substances used for cooling or conditioning purposes inside packages as well as cargo transport units with unpackaged substances used for cooling or conditioning purposes.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

5.5.3.2.2 Amend to read as follows:

“5.5.3.2.2 When dangerous goods are loaded in cargo transport units containing substances used for cooling or conditioning purposes any provisions of these Regulations relevant to these dangerous goods apply in addition to the provisions of this section.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

5.5.3.2.4 Amend to read as follows:

“5.5.3.2.4 Persons engaged in the handling or transport of cargo transport units containing substances used for cooling or conditioning purposes shall be trained commensurate with their responsibilities.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

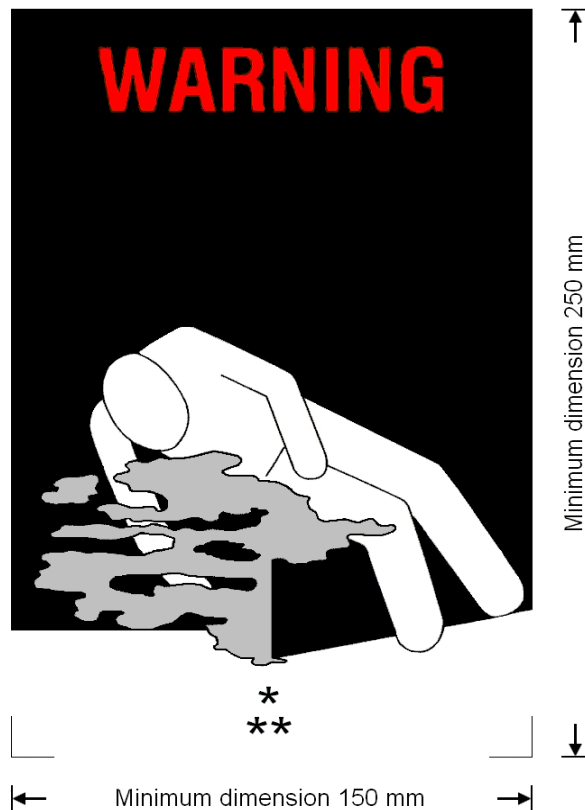
5.5.3.6.1 Add “purposes” after “cooling or conditioning” in the first sentence.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

5.5.3.6.2 Amend paragraph to read as follows:

“5.5.3.6.2 The warning mark shall be as shown in Figure 5.5.2

Figure 5.5.2



Coolant/conditioning warning mark for cargo transport units

* Insert proper shipping name of the coolant/conditioner. The lettering shall be in capitals, all be on one line and shall be at least 25 mm high. If the length of the proper shipping name is too long to fit in the space provided, the lettering may be reduced to the maximum size possible to fit. For example: CARBON DIOXIDE, SOLID

** Insert “AS COOLANT” or “AS CONDITIONER” as appropriate. The lettering shall be in capitals, all be on one line and be at least 25 mm high

The marking shall be a rectangle. The minimum dimensions shall be 150 mm wide x 250 mm high. The word “WARNING” shall be in red or white and be at least 25 mm high. Where dimensions are not specified, all features shall be in approximate proportion to those shown.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

5.5.3.7.1 Replace “that have been cooled or conditioned” with “containing or have contained substances used for cooling or conditioning purposes”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 6.1

6.1.1.1 (d) After “Packagings” insert “for liquids, other than combination packagings,”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

6.1.3.1 (e) Insert an reference to note * at the center of the symbol and add the following note under the symbol:

“* The last two digits of the year of manufacture may be displayed at that place. In such a case, the two digits of the year in the type approval marking and in the inner circle of the clock shall be identical.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Chapter 6.2

6.2.2 Add the following new second sentence: “Manufacture of new pressure receptacles or service equipment according to any particular standard in 6.2.2.1 and 6.2.2.3 is not permitted after the date shown in the right hand column of the tables.”

Renumber the existing NOTE as “NOTE 1”

Add the following new note: “**NOTE 2:** UN pressure receptacles and service equipment constructed according to standards applicable at the date of manufacture may continue in use subject to the periodic inspection provisions of these Regulations.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.1.1 In the table, add a new third column. Add a new first row with the following text:

Reference	Title	Applicable for manufacture
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For ISO Standards “ISO 9809-1:1999”, “ISO 9809-2:2000” and “ISO 9809-3:2000”, in the third column, add “Until 31 December 2018”.

After ISO Standard “ISO 9809-1:1999” add the following new standard:

ISO 9809-1:2010	Gas cylinders -- Refillable seamless steel gas cylinders -- Design, construction and testing -- Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa	Until further notice
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After ISO Standard “ISO 9809-2:2000” add the following new standard:

ISO 9809-2:2010	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 2: Quenched and tempered steel cylinders with tensile strength greater than or equal to 1 100 MPa	Until further notice
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After ISO Standard “ISO 9809-3:2000” add the following new standard:

ISO 9809-3:2010	Gas cylinders -- Refillable seamless steel gas cylinders -- Design, construction and testing -- Part 3: Normalized steel cylinders	Until further notice
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For all the other standards, in the column “Applicable for manufacture”, add “Until further notice”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.1.2 In the table, add a new third column. Add a new first row with the following text:

Reference	Title	Applicable for manufacture
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For ISO Standard “ISO 11120:1999”, in the column “Applicable for manufacture”, add “Until further notice”.

6.2.2.1.3 Amend the first table to read as follows:

Reference	Title	Applicable for manufacture
ISO 9809-1:1999	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa <i>NOTE: The note concerning the F factor in section 7.3 of this standard shall not be applied for UN cylinders.</i>	Until 31 December 2018
ISO 9809-1:2010	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa	Until further notice
ISO 9809-3:2000	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 3: Normalized steel cylinders	Until 31 December 2018
ISO 9809-3:2010	Gas cylinders – Refillable seamless steel gas cylinders – Design, construction and testing – Part 3: Normalized steel cylinders	Until further notice

6.2.2.1.3 (second table), 6.2.2.1.4 and 6.2.2.1.5 In the tables, add a new third column.
Add a new first row with the following text:

Reference	Title	Applicable for manufacture
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For all the standards, in the column “Applicable for manufacture”, add “Until further notice”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

After 6.2.2.1.5 insert a new paragraph.

“6.2.2.1.6 The standard shown below applies for the design, construction and initial inspection and test of UN bundles of cylinders. Each cylinder in a UN bundle of cylinders shall be a UN cylinder complying with the requirements of 6.2.2. The inspection requirements related to the conformity assessment system and approval for UN bundles of cylinders shall be in accordance with 6.2.2.5.

Reference	Title	Applicable for manufacture
ISO 10961:2010	Gas cylinders – Cylinder bundles – Design, manufacture, testing and inspection	Until further notice

NOTE: Changing one or more cylinders of the same design type, including the same test pressure, in an existing UN bundle of cylinders does not require re-certification of the existing bundle.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.2 Replace “ISO 11114-1:1997” with “ISO 11114-1:2012”. In the title for standard “ISO 11114-1:2012”, delete “Transportable”. Delete the note at the end.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.3 Amend the first table to read as follows:

Reference	Title	Applicable for manufacture
ISO 11117 :1998	Gas cylinders – Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests	Until 31 December 2014
ISO 11117 :2008 + Cor 1:2009	Gas cylinders – Valve protection caps and valve guards – Design, construction and tests	Until further notice
ISO 10297 :1999	Gas cylinders – Refillable gas cylinder valves – Specification and type testing	Until 31 December 2008
ISO 10297 :2006	Gas cylinders – Refillable gas cylinder valves – Specification and type testing	Until further notice
ISO 13340 :2001	Transportable gas cylinders – Cylinders valves for non-refillable cylinders – Specification and prototype testing	Until further notice

6.2.2.3 In the second table, add a new third column. Add a new first row with the following text:

Reference	Title	Applicable for manufacture
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For ISO Standard “ISO 16111:2008”, in the column “Applicable for manufacture”, add “Until further notice”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.4 In the table, add a new third column. Add a new first row with the following text:

Reference	Title	Applicable
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For all standards, in the column “Applicable”, add “Until further notice”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.7 Amend the note to read as follows:

“NOTE: Marking requirements for UN metal hydride storage systems are given in 6.2.2.9 and marking requirements for UN bundles of cylinders are given in 6.2.2.10.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.7.4 (p) Replace “ISO 11114-1:1997” with “ISO 11114-1:2012”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.7.9 Delete

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.9.2 (j) Replace “ISO 11114-1:1997” with “ISO 11114-1:2012”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

6.2.2.10 Add the following new section:

“6.2.2.10 Marking of bundles of cylinders

6.2.2.10.1 Individual cylinders in a bundle of cylinders shall be marked in accordance with 6.2.2.7.

6.2.2.10.2 Refillable UN bundles of cylinders shall be marked clearly and legibly with certification, operational, and manufacturing marks. These marks shall be permanently affixed (e.g. stamped, engraved, or etched) on a plate permanently attached to the frame of the bundle of cylinders. Except for the UN packaging symbol, the minimum size of the marks shall be 5 mm. The minimum size of the UN packaging symbol shall be 10 mm.

6.2.2.10.3 The following marks shall be applied:

- (a) The certification marks specified in 6.2.2.7.2 (a), (b), (c), (d) and (e);
- (b) The operational marks specified in 6.2.2.7.3 (f), (i), (j) and the total of the mass of the frame of the bundle and all permanently attached parts (cylinders, manifold, fittings and valves). Bundles intended for the carriage of UN 1001 acetylene, dissolved and UN 3374 acetylene, solvent free shall bear the tare mass as specified in clause B.4.2 of ISO 10961:2010; and
- (c) The manufacturing marks specified in 6.2.2.7.4 (n), (o) and, where applicable, (p).

6.2.2.10.4 The marks shall be placed in three groups:

- (a) The manufacturing marks shall be the top grouping and shall appear consecutively in the sequence given in 6.2.2.10.3 (c);
- (b) The operational marks in 6.2.2.10.3 (b) shall be the middle grouping and the operational mark specified in 6.2.2.7.3 (f) shall be immediately preceded by the operational mark specified in 6.2.2.7.3 (i) when the latter is required;
- (c) Certification marks shall be the bottom grouping and shall appear in the sequence given in 6.2.2.10.3 (a).”.

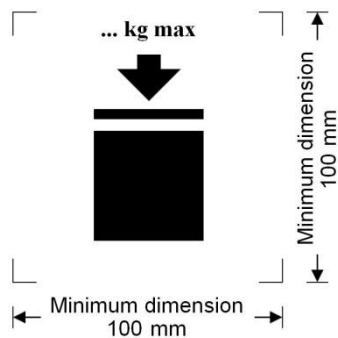
(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 6.5

Amend 6.5.2.2.2 to read as follows:

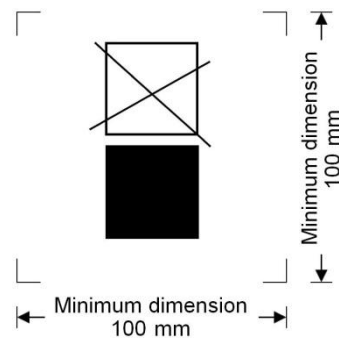
“6.5.2.2.2 The maximum permitted stacking load applicable when the IBC is in use shall be displayed on a symbol as shown in Figure 6.5.1 or Figure 6.5.2. The symbol shall be durable and clearly visible.

Figure 6.5.1



IBCs capable of being stacked

Figure 6.5.2



IBCs NOT capable of being stacked

The minimum dimensions shall be 100 mm x 100 mm. The letters and numbers indicating the mass shall be at least 12 mm high. The area within the printer's marks indicated by the dimensional arrows shall be square. Where dimensions are not specified, all features shall be in approximate proportion to those shown. The mass marked above the symbol shall not exceed the load imposed during the design type test (see 6.5.6.6.4) divided by 1.8.”


(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 6.6

6.6.2.2 At the beginning, replace “The letter “W”” with “The letters “T” or “W”” and insert a new second sentence to read as follows: “The letter “T” signifies a large salvage packaging conforming to the requirements of 6.6.5.1.9.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

6.6.3.2 Insert a new second example to read as follows:

“  50AT/Y/05/01/B/PQRS For a large steel salvage packaging suitable for stacking; stacking load: 2500 kg; maximum gross mass: 1000 kg.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Amend 6.6.3.3 to read as follows:

“6.6.3.3 The maximum permitted stacking load applicable when the large packaging is in use shall be displayed on a symbol as shown in Figure 6.6.1 or Figure 6.6.2. The symbol shall be durable and clearly visible.

Figure 6.6.1

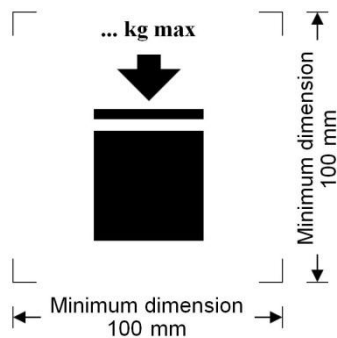
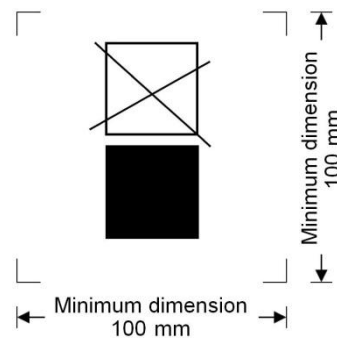


Figure 6.6.2



Large packagings capable of being stacked

Large packagings NOT capable of being stacked

The minimum dimensions shall be 100 mm x 100 mm. The letters and numbers indicating the mass shall be at least 12 mm high. The area within the printer's marks indicated by the dimensional arrows shall be square. Where dimensions are not specified, all features shall be in approximate proportion to those shown. The mass marked above the symbol shall not exceed the load imposed during the design type test (see 6.6.5.3.3.4) divided by 1.8.

NOTE: *The provisions of 6.6.3.3 shall apply to all large packagings manufactured, repaired or remanufactured as from 1 January 2015.*

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Insert the following new 6.6.5.1.9:

“6.6.5.1.9 Large salvage packagings

Large salvage packagings shall be tested and marked in accordance with the provisions applicable to packing group II large packagings intended for the transport of solids or inner packagings, except as follows:

- (a) The test substance used in performing the tests shall be water, and the large salvage packagings shall be filled to not less than 98% of their maximum capacity. 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 affected. Alternatively, in performing the drop test, the drop height may be varied in accordance with 6.6.5.3.4.4.2 (b);
- (b) Large salvage packagings shall, in addition, have been successfully subjected to the leakproofness test at 30 kPa, with the results of this test reflected in the test report required by 6.6.5.4; and
- (c) Large salvage packagings shall be marked with the letter “T” as described in 6.6.2.2.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Chapter 6.7

6.7.2.20.2, 6.7.3.16.2 and 6.7.5.13.2 Replace “shall be marked” with “shall be durably marked”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

6.7.5.2.4 (a) Replace “ISO 11114-1:1997” with “ISO 11114-1:2012”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Chapter 6.8

6.8.4.6 After “BKx”, add a reference to footnote 1. The footnote reads as follows: “x should be replaced with “1” or “2” as appropriate.”.

(Reference document: ST/SG/AC.10/C.3/80, Annex I)

Part II. Draft amendments to the fifth revised edition of the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria

Section 17

Amend 17.5.1.2 (b) to read:

“(b) 95 mm diameter by 95 mm long pellet with a density of $1\,600\text{ kg/m}^3 \pm 50\text{ kg/m}^3$ of either 50/50 pentolite or 95/5 RDX/WAX;”

Amend 17.5.1.2 (c) to read:

“(c) Tubing, steel, seamless, with an outer diameter of $95.0 \pm 7.0\text{ mm}$, a wall thickness of $9.75 \pm 2.75\text{ mm}$ and an inner diameter of $73.0 \pm 7.0\text{ mm}$, and with a length of 280 mm;”

Amend 17.5.1.2 (e) to read:

“(e) Polymethyl methacrylate (PMMA) rod, of 95 mm diameter by 70 mm long;”

Amend 17.5.1.2 (f) to read:

“(f) Mild steel plate, 200 mm × 200 mm × 20 mm;”

Delete 17.5.1.2 (g) and renumber current 17.5.1.2 (h) to be 17.5.1.2 (g).

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Section 18

18.4.1.2.5 Amend the formula to read as follows:

$$L = \ln 2 \times (C_p / t_{1/2})$$

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

18.4.1.2.6 Amend to read as follows:

“18.4.1.2.6 Dewar vessels filled with 400 ml of inert substance, with a heat loss of 100 mW/kg.K or less are suitable.”

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Amend 18.5.1.2.1 (b) to read:

“(b) 95 mm diameter by 95 mm long pellet with a density of $1\,600\text{ kg/m}^3 \pm 50\text{ kg/m}^3$ of either 50/50 pentolite or 95/5 RDX/WAX;”

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Amend 18.5.1.2.1 (c) to read:

“(c) Tubing, steel, seamless, with an outer diameter of 95.0 ± 7.0 mm, a wall thickness of 9.75 ± 2.75 mm and an inner diameter of 73.0 ± 7.0 mm, and with a length of 280 mm;”

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Amend 18.5.1.2.1 (e) to read:

“(e) Polymethyl methacrylate (PMMA) rod, of 95 mm diameter by 70 mm long. A gap length of 70 mm results in an incident shock pressure at the ANE interface somewhere between 3.5 and 4 GPa, depending on the type of donor used (see Table 18.5.1.1 and Figure 18.5.1.2);”

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Amend 18.5.1.2.1 (f) to read:

“(f) Mild steel plate, 200 mm × 200 mm × 20 mm;”

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Delete 18.5.1.2.1(g) and renumber current 18.5.1.2.1(h) to be 18.5.1.2.1(g).

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Amend Table 18.5.1.1 as follows:

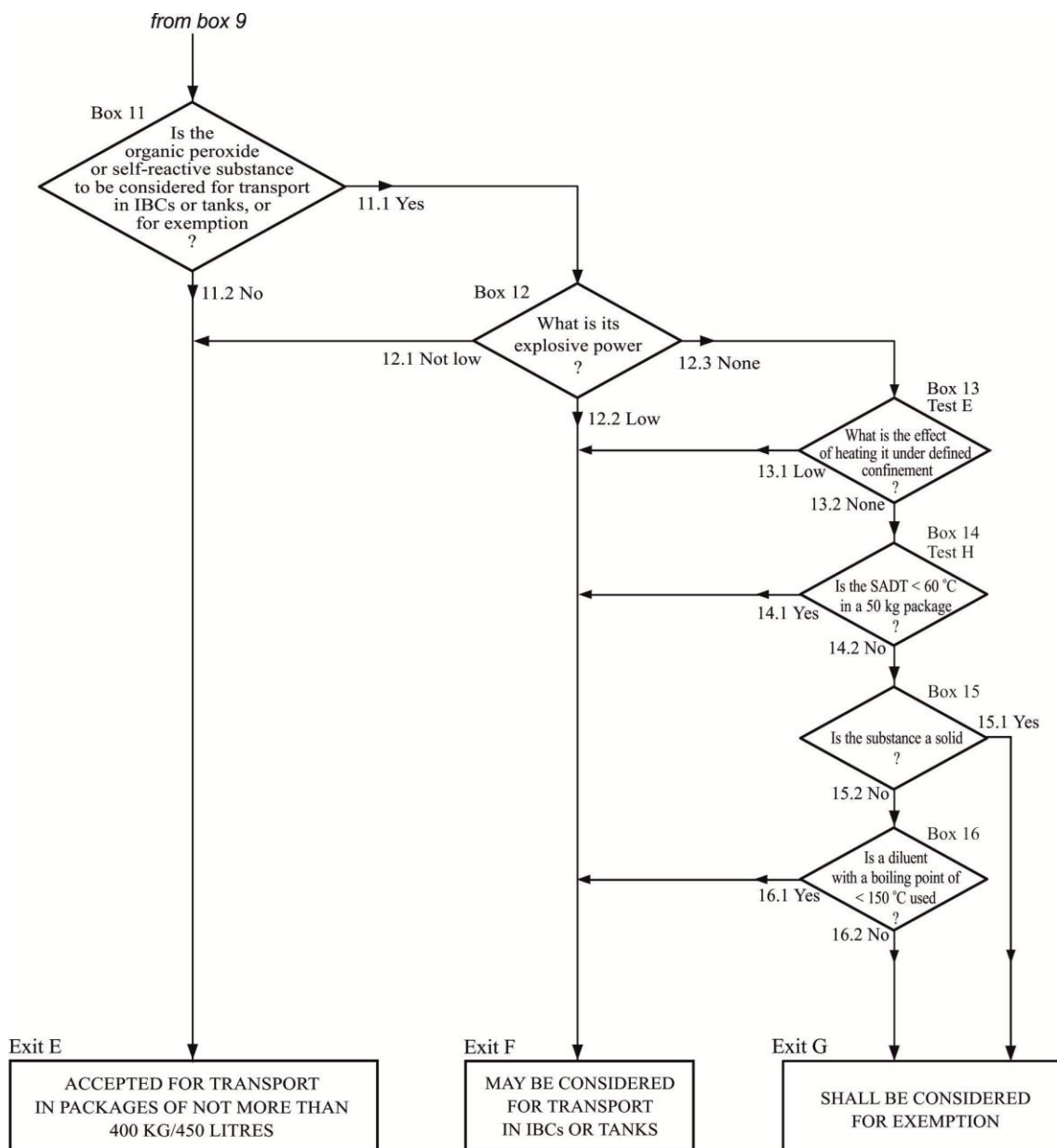
In the “PENTOLITE 50/50 DONOR” column, revise the “Barrier Pressure Value” for the 55mm gap length entry to read “4.91” instead of “4.76”.

In the “PENTOLITE 50/50 DONOR” column, revise the “Barrier Pressure Value” for the 60mm gap length entry to read “4.51” instead of “4.31”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Section 20

Amend figure 20.1 (b) to read as follows:



(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

20.3.3.3 In the first sentence, delete “and exothermic decomposition energy”. Add the following new second sentence: “Exothermic decomposition energy may be estimated using a suitable calorimetric technique such as differential scanning calorimetry.”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Section 28

28.3.5 Amend the formula to read as follows:

$$“L = \ln 2 \times (C_p / t_{1/2})”$$

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Section 32

32.3.1.4 to 32.3.1.7 Delete.

(Reference document: ST/SG/AC.10/C.3/78, Annex II)

Section 38

38.3.4.6.2 In the heading, replace “greater than 20 mm in diameter” with “not less than 18.0 mm in diameter”.

38.3.4.6.3 In the heading, replace “not more than 20 mm in diameter” with “less than 18.0 mm in diameter”.

After the heading in 38.3.4.6.2 and 38.3.4.6.3 add a new Note to read as follows:

“NOTE: Diameter here refers to the design parameter (for example the diameter of 18650 cells is 18.0 mm).”.

(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)

Appendix 7

Rename Appendix 7 to read **“FLASH COMPOSITION TESTS”**

Insert a new subsection heading **“A. HSL Flash Composition Tests”** at the beginning.

Add the following new procedure at the end:

“B. US Flash Composition Test

1. Introduction

This test may be used to determine if pyrotechnic substances in powder form or as pyrotechnic units as presented in fireworks that are used to produce an aural effect or used as a bursting charge or propellant charge, may be considered a “flash composition” for the purposes of the default fireworks classification table in 2.1.3.5.5 of the Model Regulations.

2. Apparatus and materials

The experimental set up consists of:

- a cardboard or fibreboard sample tube with a minimum inside diameter of 25 mm and height 150 mm with a maximum wall thickness of 3.8 mm, closed at the base with a thin cardboard or paperboard disk, plug or cap just sufficient to retain the sample;
- a 1.0 mm thick 160 × 160 mm steel witness plate;
- an electric igniter, e.g. a fuse head, with lead wires of at least 30 cm length;
- a mild steel confinement sleeve (weighing approximately 3 kg) which is bored from a solid billet approximately 1 mm deeper than the overall sample tube length and having an inside diameter of 38 mm, an outside diameter of 63 mm and a height of 165 mm with a notch or groove cut into one radius of the open end sufficient to allow the igniter lead wires to pass through (the steel sleeve might be provided with a rugged steel handle for easier handling);

- a steel ring of approximately 50 mm height with an inner diameter of approximately 95 mm; and
- a solid metal base, e.g. a plate of approximately 25 mm thickness and 150 mm square.

3. Procedure

3.1 Prior to testing, the pyrotechnic substance is stored for at least 24 hours in a desiccator at a temperature of 20 - 30 °C. Twenty-five (25) g net mass of the pyrotechnic substance to be tested as a loose powder or granulated or coated onto any substrate, is pre-weighed and then poured carefully into a fibreboard sample tube with the bottom end closed with a cardboard or paperboard disk, cap or plug. After filling, the top cardboard or paperboard disk, cap or plug might be inserted lightly to protect the sample from spillage during transport to the test stand. The height of the sample substance in the tube will vary depending on its density. The sample should be first consolidated by lightly tapping the tube on a non-sparking surface. The final density of the pyrotechnic substance in the tube should be as close as possible to the density achieved when contained in a fireworks device.

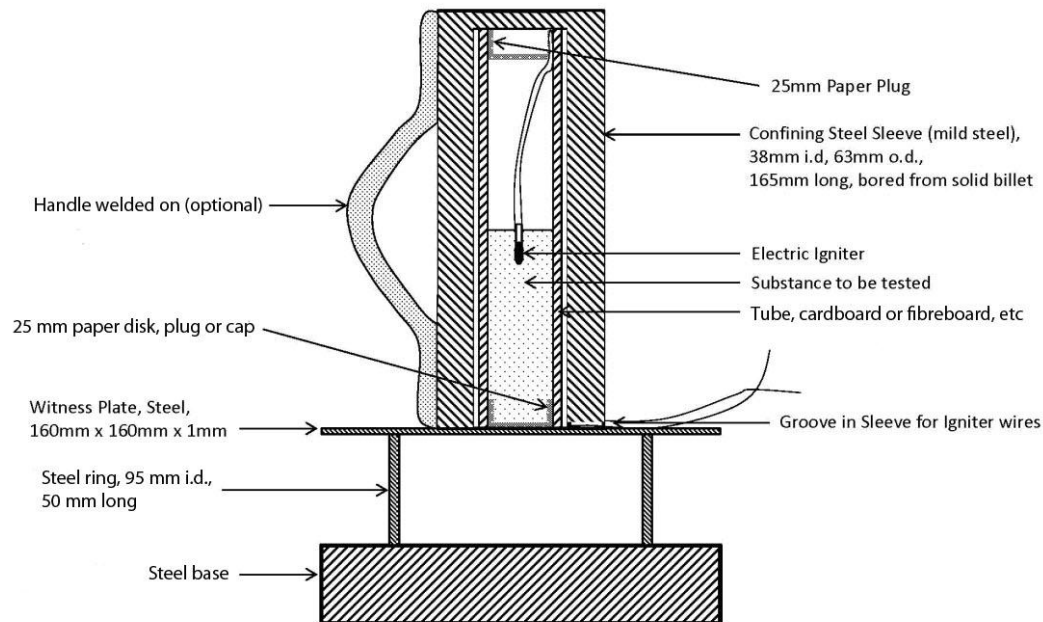
3.2 The witness plate is placed on the supporting ring. If present, the paperboard or cardboard top disk, cap or plug of the fibreboard sample tube is removed and the electric igniter is inserted into the top of the pyrotechnic substance to be tested and visually positioned to an approximate depth of 10 mm. The paperboard or cardboard top disk, cap or plug is then inserted or re-inserted, fixing the igniter's position in the fibreboard sample tube and the depth of its match head. The lead wires are bent over and down along the sidewall and bent away at the bottom. The sample tube is placed vertically and centred on the witness plate. The steel sleeve is placed over the fibreboard sample tube. The igniter lead wires are positioned to pass through the slotted groove in the bottom edge of the steel confining sleeve and will be ready to attach to the firing circuit apparatus. See Figure A7.10 as an example of the test set-up.

3.3 The electric igniter is then initiated from a safe position. After initiation and a suitable interval the witness plate is recovered and examined. The test should be performed 3 times unless a positive result is obtained earlier.

4. Test criteria and method of assessing results

The result is considered positive “+” and the substance is considered to be a “flash composition” if in any trial the witness plate is torn, perforated, pierced or otherwise penetrated (i.e. light is visible through the plate). Otherwise, the result is considered negative “-”. Bulges or folds in the witness plate are not to be considered positive “+” results.

Figure A7.10



(Reference document: ST/SG/AC.10/C.3/82/Add.1, Annex II)