

Distr.: General 21 December 2018

English

Original: English and French

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

Report of the Sub-Committee of Experts on the Transport of Dangerous Goods on its fifty-fourth session

held in Geneva from 26 November to 4 December 2018

Addendum

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Annex I

Draft amendments to the twentieth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations (ST/SG/AC.10/1/Rev.20)

Chapter 1.1

The amendment to Note 1 under the heading does not apply to the English version.

(Reference document: informal document INF.52, proposal 4)

1.1.1.2 The amendment to sub-paragraph (a) and note 3 does not apply to the English version

Add a new note 4 as follows:

"NOTE 4: For dangerous goods in equipment in use or intended for use during transport, see 5.5.4."

(Reference document: informal document INF.52, proposals 1 and 3)

Chapter 1.5

1.5.2.5 In the first sentence, replace "accidents or incidents" by "a nuclear or radiological emergency" and ", emergency provisions, as established" by ", provisions as established".

Amend the second sentence to read as follows: "This includes arrangements for preparedness and response established in accordance with the national and/or international requirements and in a consistent and coordinated manner with the national and/or international emergency arrangements."

(Reference document: informal document INF.41, as amended)

1.5.2.6 Amend to read as follows:

"1.5.2.6 The arrangements for preparedness and response shall be based on the graded approach and take into consideration the identified hazards and their potential consequences, including the formation of other dangerous substances that may result from the reaction between the contents of a consignment and the environment in the event of a nuclear or radiological emergency. Guidance for the establishment of such arrangements is contained in "Preparedness and Response for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSR Part 7, IAEA, Vienna (2015); "Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSG-2, IAEA, Vienna (2011); "Arrangements for Preparedness for a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GS-G-2.1, IAEA, Vienna (2007), and "Arrangements for the Termination of a Nuclear or Radiological Emergency", IAEA Safety Standards Series No. GSG-11, IAEA, Vienna (2018).".

(Reference document: informal document INF.41)

Chapter 2.0

2.0.5.4 At the end, add the following new sentence "However, this section applies to articles containing explosives which are excluded from Class 1 in accordance with 2.1.3.6.4.".

(Reference document: ST/SG/AC.10/C.3/2018/75, proposal 1)

Chapter 2.1

2.1.3.3.1 In the second sentence delete "(2.1.1.1 (c))".

(Reference document: ST/SG/AC.10/C.3/2018/81 as amended by informal document INF.50, Annex 2, amendment 2)

2.1.3.5.2 In the first sentence, after "or 0336" insert ", and articles to UN 0431 for those used for theatrical effects meeting the definition for article type and 1.4G specification in the default fireworks classification table in 2.1.3.5.5".

(Reference document: ST/SG/AC.10/C.3/2018/87, as amended)

Chapter 2.2

2.2.1.3 Replace "charged with a gas and aerosols" by "charged with a gas, aerosols and chemicals under pressure".

(Reference document: informal document INF.23)

2.2.2.1 Amend the note to read as follows:

"NOTE: For UN 1950 AEROSOLS, see also the criteria in special provision 63. For chemicals under pressure of UN Nos. 3500 to 3505, see also special provision 362. For UN 2037 RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) see also special provision 303."

(Reference document: informal document INF.23, as amended)

Chapter 2.8

2.8.1.1 The amendment does not apply to the English version.

(Reference document: informal document INF.52, proposal 3, as amended)

In the second sentence, replace "the grouping" by "classification" and replace "OECD Test Guideline 404¹, or 435^{2,3,4}." by "OECD Test Guidelines^{1,2,3,4}.".

In the third sentence replace "OECD Test Guideline 430³, or 431⁴." by "OECD Test Guidelines^{1,2,3,4}.".

Delete the existing footnote 4 and renumber the current footnote 3 to 4. In the renumbered footnote, add "Method" between "Test" and "(TER)". Insert a new footnote 3 as follows: "³ OECD Guideline for the testing of chemicals No. 431 "In vitro skin corrosion: reconstructed human epidermis (RHE) test method" 2016".

At the end of the paragraph, add the following new sentence: "If the in vitro test results indicate that the substance or mixture is corrosive and not assigned

to packing group I, but the test method does not allow discrimination between packing groups II and III, it shall be considered to be packing group II.".

(Reference document: ST/SG/AC.10/C.3/2018/70, as amended)

Chapter 3.2, dangerous goods list

For UN Nos 0005, 0007, 0012, 0014, 0033, 0037, 0136, 0167, 0180, 0238, 0240, 0242, 0279, 0291, 0294, 0295, 0324, 0326, 0327, 0330, 0338, 0339, 0348, 0369, 0371, 0413, 0414, 0417, 0426, 0427, 0453, 0457, 0458, 0459 and 0460, add "LP101" in column (8) under "P130".

(Reference document: ST/SG/AC.10/C.3/2018/113)

UN 2037 In column (6) insert "327". In column (8) insert "LP200". In column (9) insert "PP96" against "P003".

(Reference document: ST/SG/AC.10/C.3/2018/106, consequential amendment)

UN 3500 In column (9) insert "PP97" against "P206".

(Reference document: informal document INF.46, consequential amendment)

Chapter 3.3

SP 172 (d) Replace "subsidiary class or division" by "class or division of the subsidiary hazard".

(Reference document: ST/SG/AC.10/C.3/2018/73 as amended by informal document INF.40)

SP 274 At the end, add the following new paragraphs:

"For UN 3077 and UN 3082 only, the technical name may be a name shown in capital letters in column 2 of the Dangerous Goods List, provided that this name does not include "N.O.S." and that special provision 274 is not assigned. The name which most appropriately describes the substance or mixture shall be used, e.g.:

UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (PAINT)

UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (PERFUMERY PRODUCTS)"

(Reference document: ST/SG/AC.10/C.3/2018/95 as amended by informal document INF.49)

SP 327 In the first sentence, replace "Waste aerosols consigned" by "Waste aerosols and waste gas cartridges consigned" and "transported under this entry for" by "transported under UN 1950 or UN 2037, as appropriate, for".

After the third sentence insert the following new sentence: "Waste gas cartridges, other than those leaking or severely deformed, shall be packed in accordance with packing instruction P003 and special packing provisions PP17 and PP96, or packing instruction LP200 and special packing provision L2.".

In the next sentence, replace "aerosols shall be transported in salvage packagings" by "aerosols and gas cartridges shall be transported in salvage pressure receptacles, or salvage packagings".

In the last sentence, replace "Waste aerosols shall not" by "Waste aerosols and waste gas cartridges shall not".

Add the following new paragraph at the end: "Waste gas cartridges that were filled with gases of Division 2.2 and have been pierced are not subject to these regulations."

(Reference document: ST/SG/AC.10/C.3/2018/106, as amended)

SP 370 Amend the first sentence to read as follows: "This entry only applies to ammonium nitrate that meets one of the following criteria:" and at the end of the first indent, replace "and" by "or".

Add the following new paragraph at the end, after the indents:

"This entry shall not be used for ammonium nitrate for which a proper shipping name already exists in the Dangerous Goods List of Chapter 3.2 including ammonium nitrate mixed with fuel oil (ANFO) or any of the commercial grades of ammonium nitrate."

(Reference document: ST/SG/AC.10/C.3/2018/68 as amended by informal document INF.50, Annex 2, amendment 1)

Chapter 4.1

4.1.4.1, P003 Add the following new special packing provision:

"PP96 For UN 2037 waste gas cartridges carried in accordance with special provision 327, the packagings shall be adequately ventilated to prevent the creation of dangerous atmospheres and the build-up of pressure."

(Reference document: ST/SG/AC.10/C.3/2018/106)

4.1.4.1, P200 (3)(c) In the first sentence, delete "(filling factor)".

(Reference document: ST/SG/AC.10/C.3/2018/73)

- 4.1.4.1, P200 In table 2, replace the values of column "LC $_{50}$ in ml/m 3 " as follows:
 - UN 1859 replace "450" by "922".
 - UN 2188 replace "20" by "178".
 - UN 2202 replace "2" by "51".
 - UN 2534 replace "600" by "2810".
 - UN 2676 replace "20" by "178".

(Reference document: ST/SG/AC.10/C.3/2018/66, as amended)

4.1.4.1, P206 In the title of the last row of the packing instruction, replace "Special packing provision" by "Special packing provisions".

Add the following new special packing provision:

"PP97 For fire extinguishing agents assigned to UN 3500 the maximum test period for periodic inspection shall be 10 years. They may be transported in tubes of a maximum water capacity of 450 *l* conforming to the applicable requirements of Chapter 6.2."

(Reference document: ST/SG/AC.10/C.3/2018/77 as amended by informal document INF.46, proposal 1)

4.1.4.1, P207 In special packing provision PP87, replace "flammable atmosphere" by "dangerous atmospheres".

(Reference document: ST/SG/AC.10/C.3/2018/106)

4.1.4.1, P301 In the last sentence of (1) and (2) replace "unit" by "primary containment".

(Reference document: ST/SG/AC.10/C.3/2018/73)

4.1.4.1, P400 In (2) and (3):

• first sentence: delete "threaded".

After the first sentence insert the following new sentence: "Inner
packagings shall have threaded closures or closures physically held
in place by any means capable of preventing back-off or loosening
of the closure by impact or vibration during transport.".

(Reference document: ST/SG/AC.10/C.3/2018/76)

4.1.4.1, P404 In the introductory sentence, replace "3391, 3393 and 3461" by "3391 and 3393".

In (1), under "Inner packagings":

- First paragraph: delete "and have threaded closures".
- Second paragraph: delete "threaded".
- Add the following new third paragraph before the last sentence ("Outer packagings...125 kg"):

"Inner packagings shall have threaded closures or closures physically held in place by any means capable of preventing back-off or loosening of the closure by impact or vibration during transport.".

In (2) insert ", 1B2" between ", 1B1" and ", 1N1".

(Reference document: ST/SG/AC.10/C.3/2018/76)

4.1.4.3, LP200 In the introductory sentence, replace "UN No. 1950" by "UN 1950 and UN 2037".

In the next paragraph, replace "are authorized for aerosols" by "are authorized for aerosols and gas cartridges".

In the first sentence of special packing provision L2, after "dangerous movement" delete "of the aerosols".

Amend the last sentence to read: "For waste aerosols and waste gas cartridges carried in accordance with special provision 327, the large packagings shall be adequately ventilated to prevent the creation of dangerous atmospheres and the build-up of pressure."

(Reference document: ST/SG/AC.10/C.3/2018/106)

4.1.6.1.8 After the paragraph "For pressure receptacles ... annex A of ISO 10297:2014 shall be met.", insert the following new paragraph: "For pressure receptacles with self-closing valves with inherent protection, the requirements of annex A of ISO 17879:2017 shall be met."

(Reference document: informal document INF.39)

Chapter 5.2

5.2.1.1 Amend the end of the second sentence to read as follows: "...for cylinders of 60 litres water capacity or less when they shall be at least 6 mm in height and except for packages of 5 litres capacity or less or of 5 kg maximum net mass when they shall be of an appropriate size".

(Reference document: informal document INF.38)

- 5.2.1.9.2 In Figure 5.2.5, replace "120 mm" by "100 mm" and "110 mm" by "100 mm". In the last paragraph:
 - First sentence: replace "a rectangle" by "a rectangle or a square".
 - Second sentence: replace "120 wide x 110 m high" by "100 mm wide x 100 mm high"
 - Fourth sentence: delete "/line thickness" and replace "105 mm wide x 74 mm high" by "100 mm wide x 70 mm high"

(Reference document: ST/SG/AC.10/C.3/2018/115 as amended by informal document INF.55)

Chapter 5.4

5.4.1.5.1 The amendment does not apply to the English version.

(Reference document: ST/SG/AC.10/C.3/2018/69)

Chapter 5.5

- 5.5.4 Add a new section 5.5.4 to read as follows:
- "5.5.4 Dangerous goods in equipment in use or intended for use during transport
- 5.5.4.1 Dangerous goods (e.g. lithium batteries, fuel cell cartridges) contained in equipment such as data loggers and cargo tracking devices, attached to or placed in packages, overpacks, containers or load compartments are not subject to any provisions of these Regulations other than the following:
 - (a) the equipment shall be in use or intended for use during transport;
 - (b) the contained dangerous goods (e.g. lithium batteries, fuel cell cartridges) shall meet the applicable construction and test requirements specified in these Regulations; and
 - (c) the equipment shall be capable of withstanding the shocks and loadings normally encountered during transport.
- 5.5.4.2 When such equipment containing dangerous goods is transported as a consignment, the relevant entry of the Dangerous Goods List in Chapter 3.2 shall be used and all applicable provisions of these Regulations shall apply."

(Reference document: informal document INF.52, proposal 2, as amended)

Chapter 6.1

6.1.3.1 Amend the third sentence to read as follows:

"Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 litres capacity or less or of 30 kg maximum net mass, when they shall be at least 6 mm in height and except for packagings of 5 litres capacity or less or of 5 kg maximum net mass when they shall be of an appropriate size."

(Reference document: informal document INF.38)

Chapter 6.2

6.2.2.3 In the first table, insert the following new row:

ISO 17879:2017	Gas cylinders – Self-closing cylinder valves –	Until further
	Specification and type testing	notice
	NOTE: This standard shall not be applied to self-	
	closing valves in acetylene cylinders.	

(Reference document: informal document INF.39, as amended)

Chapter 6.3

6.3.4.1 Amend the third sentence to read as follows:

"Letters, numerals and symbols shall be at least 12 mm high, except for packagings of 30 litres capacity or less or of 30 kg maximum net mass, when they shall be at least 6 mm in height and except for packagings of 5 litres capacity or less or of 5 kg maximum net mass when they shall be of an appropriate size."

(Reference document: informal document INF.38)

Chapter 6.5

6.5.2.2.4 Amend the end of the first paragraph to read as follows:

"It shall be durable, legible and placed in a location so as to be readily accessible for inspection after assembling the inner receptacle in the outer casing. When the mark on the inner receptacle is not readily accessible for inspection due to the design of the outer casing, a duplicate of the required mark on the inner receptacle shall be placed on the outer casing preceded by the wording "Inner receptacle". This duplicate shall be durable, legible and placed in a location so as to be readily accessible for inspection.".

(Reference document: ST/SG/AC.10/C.3/2018/107 as amended by informal document INF.48)

6.5.5.1.6 Insert a new introductory sentence as follows:

"Metal IBCs with a capacity of more than 1500 l shall comply with the following minimum wall thickness requirement:"

Amend the table under (a) to read as follows:

Wall thickness (T) in mm							
Types 11A	Types 11A, 11B, 11N		Types 21A, 21B, 21N, 31A, 31B, 31N				
Unprotected	Protected	Unprotected	Protected				
T = C/2000 + 1.5	T = C/2000 + 1.0	T = C/1000 + 1.0	T = C/2000 + 1.5				

(Reference document: ST/SG/AC.10/C.3/2018/96 as amended by informal document INF.47)

Chapter 6.7

6.7.2.2.16 Add "of the Dangerous Goods List" after "Column 11" and delete it after "described in 4.2.5.3".

(Reference document: ST/SG/AC.10/C.3/2018/100, proposal 4)

6.7.2.4.8 The amendment does not apply to the English version.

(Reference document: ST/SG/AC.10/C.3/2018/100, consequential amendment)

6.7.2.19.6 Add the following new paragraph:

"6.7.2.19.6.1 Except as provided for in 6.7.2.19.6, portable tanks which have missed the timeframe for their scheduled 5 year or 2.5 year periodic inspection and test may only be filled and offered for transport if a new 5 year periodic inspection and test is performed according to 6.7.2.19.4".

(Reference document: ST/SG/AC.10/C.3/2018/112, as amended)

6.7.3.4.1 After (b), add the following new paragraph:

"In addition, any relevant portable tank special provision indicated in Column 11 of the Dangerous Goods List and described in 4.2.5.3 shall be taken into account."

(Reference document: ST/SG/AC.10/C.3/2018/100, proposal 2)

6.7.3.4.5 The amendment does not apply to the English version.

(Reference document: ST/SG/AC.10/C.3/2018/100, consequential amendment)

6.7.3.5.5 The amendment does not apply to the English version.

(Reference document: informal document INF.15, proposal 2)

6.7.3.15.6 Add the following new paragraph:

"6.7.3.15.6.1 Except as provided for in 6.7.3.15.6, portable tanks which have missed the timeframe for their scheduled 5 year or 2.5 year periodic inspection and test may only be filled and offered for transport if a new 5 year periodic inspection and test is performed according to 6.7.3.15.4".

(Reference document: ST/SG/AC.10/C.3/2018/112, consequential amendment)

6.7.4.4.7 The amendment does not apply to the English version.

(Reference document: ST/SG/AC.10/C.3/2018/100, consequential amendment)

6.7.4.14.6 Add the following new paragraph:

"6.7.4.14.6.1 Except as provided for in 6.7.4.14.6, portable tanks which have missed the timeframe for their scheduled 5 year or 2.5 year periodic inspection and test may only be filled and offered for transport if a new 5 year periodic inspection and test is performed according to 6.7.4.14.4".

(Reference document: ST/SG/AC.10/C.3/2018/112, consequential amendment)

Document ST/SG/AC.10/C.3/2018/65, Part I, adopted with the following modifications:

Remove all square brackets.

Chapter 1.1

1.1.1.2 Delete the amendment.

(Reference document: informal document INF.52, consequential amendment)

Chapter 3.2, Dangerous goods list

Remove the new entry for UN 1390.

(Reference document: ST/SG/AC.10/C.3/2018/86)

Chapter 3.3

SP 388

Replace "UN 3536 LITHIUM BATTERIES" by "UN 3536 LITHIUM BATTERIES INSTALLED IN CARGO TRANSPORT UNIT lithium ion batteries or lithium metal batteries".

(Correction)

Chapter 4.1

4.1.4.1, P622

Replace "This instruction applies to UN 3549" by "This instruction applies to waste of UN 3549 transported for disposal".

4.1.4.3, LP622

Replace "This instruction applies to UN 3549" by "This instruction applies to waste of UN 3549 transported for disposal". In the Additional requirements, paragraph 6, second sentence, replace "may withstand" by "withstands".

(Reference document: ST/SG/AC.10/C.3/108, paragraph 8 (c))

Chapter 4.2

4.2.5.3, TP19 Amend to read as follows:

"TP19 At the time of construction, the minimum shell thickness determined according to 6.7.3.4 shall be increased by 3 mm as a corrosion allowance. Shell thickness shall be verified ultrasonically at intervals midway between periodic hydraulic tests and shall never be lower than the minimum shell thickness determined according to 6.7.3.4."

(Reference document: ST/SG/AC.10/C.3/2018/100, proposal 1)

Chapter 6.7

6.7.2.12.2.1 and 6.7.3.8.1.1 The correction does not apply to the English version.

(Reference document: ST/SG/AC.10/C.3/108, paragraph 8 (e))

Chapter 7.1

7.1.5.4.5 (b) to (e) Delete the amendments.

(Reference document: ST/SG/AC.10/C.3/108, paragraph 8 (d))

Annex II

Draft amendments to the sixth revised edition of the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.6 and Amend.1)

General table of contents

The amendment does not apply to the English version.

(Reference document: informal document INF.52, proposal 4)

Section 1

The amendment does not apply to the English version.

(Reference document: informal document INF.52, proposal 4)

Section 16

16.5.1.4 (c) Replace "gave a "+" result" by "gave evidence of a mass explosion".

(Reference document: ST/SG/AC.10/C.3/2018/82 as amended by informal document INF.50, Annex 3, amendment 6)

Part IV

The amendment does not apply to the English version.

(Reference document: informal document INF.52, proposal 4)

Document ST/SG/AC.10/C.3/100/Add.1, Annex II: Correction

In items 5, 6, 13 and 17, delete "dibutyl phthalate or".

(Reference document: informal document INF.50, Annex 5)

Document ST/SG/AC.10/C.3/2018/61, adopted with the following modifications:

Remove all square brackets.

Section 20

In the Note replace "the SAPT shall be determined to evaluate if" by "the SAPT shall be evaluated (e.g., calculated or measured) to determine if".

(Reference document: informal document INF.50, Annex 6)

In the second sentence replace: "the SAPT should be determined in order to decide if" by "the SAPT shall be evaluated (e.g., calculated or measured) to determine if".

(Reference document: informal document INF.50, Annex 6)

Document ST/SG/AC.10/C.3/2018/62: adopted

Document ST/SG/AC.10/C.3/2018/64, adopted with the following modifications:

Delete all square brackets

Appendix 11

Paragraph 1 Delete "UN approved".

(Reference document: informal document INF.50, Annex 5)

Document ST/SG/AC.10/C.3/2018/65, Part II, adopted with the following modification:

Section 1

1.6.1 Replace "Insert a new row under the current row for Test series 7 (l), as follows" by "Add a new row under the current row for Test series 7 (k), as follows"

(Reference document: informal document INF.50, Annex 5)

Document ST/SG/AC.10/C.3/2018/67, annexes I and II: adopted as amended by informal document INF.50, Annex III, amendments 1, 2, 3, 4 and 5

Document ST/SG/AC.10/C.3/2018/88, adopted with the following modification:

Section 28

28.2.5 Replace "a suitable alternative test" by "a suitable alternative method".

(Reference document: informal document INF.50, Annex 6)

Document ST/SG/AC.10/C.3/2018/116: adopted

Annex III

Corrections to the twentieth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations (ST/SG/AC.10/1/Rev.20)

Chapter 2.2, 2.2.1.2 (c)

At the end delete or

(Reference document: informal document INF.18)

Chapter 2.4, 2.4.2.3.1.2 (e)

For Aromatic sulphohydrazides read Aromatic sulphonylhydrazides

(Reference document: informal document INF.18)

Chapter 2.8, 2.8.4.3.3

At the end *add* For this calculation method, generic concentration limits apply where 1% is used in the first step for the assessment of the packing group I substances, and where 5% is used for the other steps respectively.

(Reference document: informal document INF.18)

Chapter 2.8, 2.8.4.3.4, last sentence

Delete

(Reference document: informal document INF.18)

Chapter 2.8, 2.8.4.3.5, Example 2, calculation for packing group III

For 10 (conc B) read 10 (conc C)

(Reference document: informal document INF.18, as amended)

Chapter 3.3, special provision 188 sub-paragraphs (g) and (h)

For Except when batteries read Except when cells or batteries

(Reference document: informal document INF.18, as amended)

Chapter 3.3, special provision 392, entry for Regulation No. 134

For Hydrogen and fuel cell vehicles (HFCV) read Uniform provisions concerning the approval of motor vehicles and their components with regards to the safety-related performance of hydrogen-fuelled vehicles (HFCV)

(Reference document: informal document INF.18)

Chapter 5.2, 5.2.2.1.12.1, third sentence

Delete

(Reference document: informal document INF.18)