



**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

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**Report of the Sub-Committee of Experts on the Transport of
Dangerous Goods on its sixty-second session**

held in Geneva from 3 July to 7 July 2023

Addendum

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I. Draft amendments to the twenty-third revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations (ST/SG/AC.10/1/Rev.23)

Chapter 1.2

[1.2.1 In the definition of “*Cylinder*”, at the end, add “with a test pressure volume product not exceeding 1.5 million bar litres”.

In the definition of “*Bundle of cylinders*”, at the end, add “. The product of test pressure and total water capacity shall not exceed 1.5 million bar litres”.

In the definition of “*Salvage pressure receptacle*”, delete “with a water capacity not exceeding 3 000 litres” and, after “pressure receptacle(s)”, add “having a total test pressure volume product not exceeding 1.5 million bar litres”.

In the definition of “*Tube*”, at the end, add “with a test pressure volume product not exceeding 1.5 million bar litres”.]

(Reference document: ST/SG/AC.10/C.3/2023/1)

In the definition for *Filling ratio*, replace “a pressure receptacle” by “the means of containment”.

(Reference document: informal document INF.13)

1.2.2.1 In note ^a to 1.2.2.1:

- Delete the sections for “*Force*” and “*Stress*”;
- In the section for “*Pressure*”:
 - For “1 Pa”, delete “= $1.02 \times 10^{-5} \text{ kg/cm}^2 = 0.75 \times 10^{-5} \text{ torr}$ ”;
 - For “1 bar”, delete “= $1.02 \text{ kg/cm}^2 = 750 \text{ torr}$ ”;
 - Delete the lines for “1 kg/cm²” and “1 torr”;
- In the section for “*Energy, Work, Quantity of heat*”:
 - For “1 J”, delete “= 0.102 kgm”;
 - For “1 kWh”, delete “= $367 \times 10^3 \text{ kgm}$ ”;
 - Delete the line for “1 kgm”;
 - For “1 kcal”, delete “= 427 kgm”;
- In the section for “*Power*”:
 - For “1 W”, delete “= 0.102 kgm/s”;
 - Delete the line for “1 kgm/s”;
 - For “1 kcal/h”, delete “= 0.119 kgm/s”;
- In the section for “*Dynamic viscosity*”:
 - For “1 Pa · s”, delete “= 0.102 kgs/m²”;
 - For “1 P”, delete “= $1.02 \times 10^{-2} \text{ kgs/m}^2$ ”;
 - Delete the line for “1 kgs/m²”;

(Reference document: ST/SG/AC.10/C.3/2023/2, proposals 1 and 2)

Chapter 2.0

- 2.0.3.1 In footnote 3, replace “preparations” by “mixtures”, after “ingestion”, replace “or”, by “and” and, at the end, add “(see note under 2.6.2.2.4.1 and 2.8.2.4)”.

(Reference document: informal document INF.41)

Chapter 2.1

- [2.1.1.1 In (b), after “except”, add “those that are too dangerous to transport or”.]

(Reference document: informal document INF.47, amendment 4)

- [2.1.1.3 In (e), delete “, in the context of 2.1.1.1 (c),”.]

(Reference document: informal document INF.47, amendment 2)

Chapter 2.5

- 2.5.3.2.4 The amendment does not apply to the English version.

(Reference document: informal document INF.13)

Chapter 2.6

- 2.6.2.2.4.1 In the note, after “Substances” add “or mixtures” and replace “(see 2.8.2.4)” “(see footnote 3 in 2.0.3.1 and 2.8.2.4)”.

(Reference document: informal document INF.41)

Chapter 2.8

- 2.8.2.4 Replace “A substance or mixture” by “Substances or mixtures”, after “ingestion”, replace “or”, by “and” and replace “(see note under 2.6.2.2.4.1)” “(see footnote 3 in 2.0.3.1 and note under 2.6.2.2.4.1)”.

(Reference document: informal document INF.41)

Chapter 2.9

- 2.9.4 In the note in (g), delete “for lithium cells or batteries or equipment with installed lithium cells or batteries”.

(Reference document: informal document INF.13)

- 2.9.5 In (a), at the end, add the following new note:

“NOTE: Batteries shall be of a type proved to meet the testing requirements of the “Manual of Tests and Criteria”, part III, sub-section 38.3, irrespective of whether the cells of which they are composed are of a tested type.”

In (f), at the end, add the following new note:

“NOTE: The term “make available” means that manufacturers and subsequent distributors ensure that the test summary is accessible so that the consignor or other persons in the supply chain can confirm compliance.”

(Reference document: informal document INF.13)

Chapter 3.3

SP 145 Replace “packing group III” by “with more than 24 % but not more than 70 % alcohol by volume”.

(Reference document: ST/SG/AC.10/C.3/2023/7, as amended)

SP 146 Replace “packing group II” by “with more than 70 % alcohol by volume”.

(Reference document: ST/SG/AC.10/C.3/2023/7, as amended)

SP 188 In (f):

- In the first sentence, replace “lithium or sodium battery mark” by “lithium battery or sodium ion battery mark”.

- In the note, replace “(lithium battery mark)” by “(lithium battery or sodium ion battery mark)”.

- In the last paragraph, first sentence, replace “lithium or sodium battery mark” by “lithium battery or sodium ion battery mark”.

(Reference document: informal document INF.13)

SP 252 The amendment does not apply to the English version.

(Reference document: informal document INF.13)

SP 296 In (d), replace “lithium or sodium ion batteries” by “lithium batteries or sodium ion batteries”.

(Reference document: informal document INF.13)

SP 310 The amendment does not apply to the English version.

(Reference document: informal document INF.13)

SP 328 The amendment does not apply to the English version.

(Reference document: informal document INF.13)

SP 363 In (f), add a new third sentence to read: “Furthermore, sodium ion batteries shall meet the provisions of 2.9.5, except that 2.9.5 (a), (e) and (f) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are transported for testing, are installed in machinery or engines.”. The second amendment does not apply to the English version.

(Reference document: informal document INF.13, with an editorial modification)

SP 388 In the ninth paragraph, add a new third sentence to read: “Furthermore, sodium ion batteries shall meet the provisions of 2.9.5, except that 2.9.5 (a), (e) and (f) do not apply when batteries of a production run of not more than 100 cells or batteries, or pre-production prototypes of cells or batteries when these prototypes are transported for testing, are installed in machinery or engines.”.

(Reference document: informal document INF.13, with an editorial modification)

SP 401 In the last sentence, after “UN 2795”, delete “BATTERIES, WET, FILLED WITH ALKALI, electric storage”. At the end, add a new sentence to read: “Batteries containing metallic sodium or sodium alloy shall be carried as UN 3292.”.

(Reference document: informal document INF.13)

SP 403 In (b) (i) and (b) (ii), replace “according to” by “in accordance with”.

(Reference document: informal document INF.13)

SP 404 The amendment does not apply to the English version.

(Reference document: informal document INF.13)

SP 405 Amend to read as follows:

“405 Vehicles that are fully enclosed by packagings, crates or other means that prevent ready identification are subject to the marking and labelling requirements of chapter 5.2.”

(Reference document: informal document INF.13)

SP 407 The amendment does not apply to the English version.

(Reference document: informal document INF.13)

SP 408 In the first paragraph, in (a) and in (b), replace “must” by “shall”.

(Reference document: informal document INF.13)

Chapter 4.1

4.1.3.6.5 In the first sentence, replace “level of filling” by “degree of filling”.

(Reference document: informal document INF.13)

4.1.4.1, P200 In (4) (d), replace “degree or pressure of filling” by “filling ratio or pressure of filling”.

(Reference document: informal document INF.13)

4.1.4.1, P912 In (c), at the beginning, replace “where the vehicles” by “where they”. The second amendment does not apply to the English version.

(Reference document: informal document INF.13)

Chapter 4.2

4.2.1.9 The amendment does not apply to the English version.

(Reference document: informal document INF.13)

4.2.2.8 In (a), replace “an ullage condition” by “a filling condition”.

(Reference document: informal document INF.13)

4.2.3.8 In (a), replace “an ullage condition” by “a filling condition”.

(Reference document: informal document INF.13)

Chapter 5.2

5.2.1.9 In the heading, after “**Lithium**”, add “**battery**”.

(Reference document: informal document INF.13)

5.2.1.9.1 Replace “lithium or sodium ion cells or batteries” by “lithium cells or batteries or sodium ion cells or batteries”.

(Reference document: informal document INF.13)

Figure 5.2.5 In the heading, after “**Lithium**”, add “**battery**”.

(Reference document: informal document INF.13)

5.2.2.1.13.1 In the second sentence, replace “lithium or sodium ion batteries” by “lithium batteries or sodium ion batteries” and replace “lithium or sodium ion battery mark” by “lithium battery or sodium ion battery mark”. In the third sentence,

replace “lithium or sodium ion batteries” by “lithium batteries or sodium ion batteries”.

(Reference document: informal document INF.13)

Chapter 5.5

5.5.4 In the heading, replace “**Dangerous goods in equipment in use**” by “**Devices containing dangerous goods, which are in use**”.

(Reference document: ST/SG/AC.10/C.3/2023/14)

5.5.4.1 In the first sentence, at the beginning, replace “Dangerous goods (e.g. lithium batteries, fuel cell cartridges) contained in equipment” by “Devices in use or intended for use during transport containing dangerous goods,” after “data loggers”, insert “, sensors” and replace “containers or load compartments” by “bulk containers, freight containers or other types of cargo transport units”.

In (a), replace “equipment” by “device”.

In (c), replace “equipment” by “device” and, at the end, add “and shall be safe for use in the dangerous environments to which it may be exposed”.

(Reference document: ST/SG/AC.10/C.3/2023/14, as amended)

5.5.4.2 Replace “equipment” by “a device”.

(Reference document: ST/SG/AC.10/C.3/2023/14)

Chapter 6.4

6.4.11.2 In (d), second sentence, replace “weight” by “mass”.

(Reference document: ST/SG/AC.10/C.3/2023/3)

Chapter 6.9

[6.9.2.1 Amend the definition of “FRP shell” to read as follows:

“FRP shell means the part of the portable tank constructed from FRP, which retains the substance intended for transport (tank proper), including openings and their closures, but does not include service equipment or external structural equipment. Openings and their closures may be manufactured from metallic materials or FRP;”

Replace the definition of “FRP tank” by the following new definition:

“FRP portable tank means a portable tank constructed with an FRP shell;”]

(Reference document: informal document INF.43, with and editorial modification)

[6.9.2.2.3.14.1 Replace “FRP tanks” by “FRP portable tanks”.]

(Reference document: informal document INF.43)

6.9.2.2.3.16.2 In the first sentence, replace “weight” by “mass”.

(Reference document: ST/SG/AC.10/C.3/2023/3)

6.9.2.6.4.2 The amendments do not apply to the English version.

(Reference document: informal document INF.13)

[6.9.2.8.1 In the first sentence, replace “FRP tanks” by “FRP portable tanks”.]

(Reference document: informal document INF.43)

Documents ST/SG/AC.10/C.3/2023/3 and ST/SG/AC.10/C.3/2023/4, and informal document INF.7 with amendments to the Spanish version were adopted.

II. Draft amendments to the eighth revised edition of the Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.8)

Section 51

51.4.1.2 In (b), delete “Division 1.1”.

(Reference document: informal document INF.47, amendment 3)

[51.4.4.2 Amend (e) to read as follows:

“(e) I_{relevant} is obtained from the maximum of the smoothed and corrected curve of the measured heat radiation. $I_{\text{calculated}}$ is the average value of the radiation obtained by converting the integrated area in a rectangle of equal area during the same total burning time (see figure 51.4.1).”]

(Reference document: informal document INF.47, amendment 1)

Informal document INF.7 with amendments to the Spanish version was adopted.
