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## 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

#### Sixty-fifth session

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Item 6 (d) of the provisional agenda

#### Miscellaneous proposals for amendments to the Model Regulations on the Transport of Dangerous Goods:

#### Other miscellaneous proposals

### Prohibited packagings for substances which may become liquid during transport

Transmitted by the experts from Germany and the Republic of Korea\*

## I. Introduction

1. At the sixty-fourth session of the Sub-Committee, the Republic of Korea submitted document ST/SG/AC.10/C.3/2024/43, identifying inconsistencies between 4.1.3.4 of the *Model Regulations*, which pertains to prohibit packaging for substances that may become liquid during transport, and the relevant packing instructions. Germany and the Republic of Korea also submitted informal document INF.46, proposing additional improvements to the initial proposal and clarifying packing instructions P002, P410, IBC04, IBC05, and LP02.

2. As a result of the discussions, most of the experts of the Sub-Committee supported in principle, the amendments proposed in informal document INF.46. Some experts proposed further improvement and it was agreed that Germany and the Republic of Korea would jointly submit a revised official document containing the proposed amendments to continue the discussion.

3. This document aims to prevent confusion on the use of packagings for substances which may become liquid during transport by aligning 4.1.3.4 of the *Model Regulations* with the packing instructions P002, P410, IBC04, IBC05, and LP02, and to harmonize the *Model Regulations* with other transport regulations by amending 4.1.3.4. and the packing instructions.

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\* A/78/6 (Sect. 20), table 20.5.



## II. Explanation

4. Packagings prohibited for use with substances that may become liquid during transport are listed in provision 4.1.3.4 of the *Model Regulations*. However, some packagings not listed in 4.1.3.4 are mentioned in the footnotes of packing instructions P002 and P410.

5. Additionally, some footnotes of packing instruction P002 reference provision 4.1.3.4, but the prohibited packagings are not listed in the provision. This can cause misinterpretation.

6. The following inconsistencies between provision 4.1.3.4 and P002 have been identified (see marked text of packing instruction P002 in the annex to this document):

(a) According to the footnote (d) of packing instruction P002, single packagings 1A2, 1B2, 1N2, 1H2, 3A2, 3B2, and 3H2 cannot be used for substances of packing group I that may become liquid during transport and reference provision 4.1.3.4. However, these packagings are not listed in the provision, making it unclear whether their use is prohibited for substances of packing group I. Moreover, it is not clear whether these packaging types approved for liquid transport are prohibited even if an according design type is approved for the transport of liquids.

(b) According to the footnote (e) of packing instruction P002, single packagings 4A, 4B, 4N, and 4H2, and composite packagings 6PH2 cannot be used for substances that may become liquid during transport, and provision 4.1.3.4 is referenced. However, these packagings are not listed in provision 4.1.3.4, making it unclear whether their use is prohibited.

(c) According to provision 4.1.3.4, packagings 6HC, 6PC, and 6PH1 are prohibited to use for substances that may become liquid during transport. However, unlike other packagings, footnote (e) is not indicated for 6HC, 6PC, and 6PH1 of packing instruction P002, leading to potential misinterpretation that their use is permitted.

7. Additional necessary amendments have been identified in packing instructions P410, IBC04, IBC05, IBC06, IBC07, IBC08, and LP02, as follows:

(a) Packing instruction P410 lacks footnote (c) for all composite packagings, which may cause misinterpretation that their use is permitted for substances that may become liquid during transport.

(b) According to 4.1.3.4, any type of IBC cannot be used for substances of packing group I that may become liquid during transport. However, packing instructions IBC04 and IBC05, which can be allocated to substances of packing group I, do not include footnote (e) or additional requirements indicating this prohibition. Moreover, 4.1.3.4 generally prohibits the use of IBCs for substances of packing group I, which includes IBCs approved for the transport of liquids (code 31) in IBC04, IBC05, IBC06, IBC07 and IBC08, resulting in an inconsistency.

(c) Provision 4.1.3.4 prohibits the use of large packaging 51H (outer packagings) for substances that may become liquid during transport. However, this prohibition is not reflected in the additional requirements or footnote (e) of packing instruction LP02. In addition, footnote (a) of LP02 refers to “packagings” whereas “inner packagings” are meant (see footnote (b) of P002 and footnote (b) of P410 for comparison).

8. Since the above-mentioned packing instructions specify compliance with the general provisions of section 4.1.3, they should follow provision 4.1.3.4 even without specific mention in the footnotes or additional requirements of the packing instructions. However, the inconsistent reflection of prohibited packagings between 4.1.3.4 and the footnotes or additional requirements of P002, P410, IBC06, IBC07, and IBC08 can cause confusion. Therefore, amendments are needed to ensure consistency and correct application.

9. Comparing other transport regulations such as ADR, RID, and IMDG Code, 4.1.3.4 of ADR and RID clearly lists 4A, 4B, 4N, and 4H2 (not listing 6PH2) as prohibited for substances that may become liquid. In contrast, the *Model Regulations* and the IMDG Code do not list 4A, 4B, 4N, 4H2, or 6PH2 in 4.1.3.4.

### III. Proposals

10. To prevent misinterpretation by transport stakeholders in applying the regulations, it is proposed to amend 4.1.3.4 to include all single packagings marked in footnote (d) or (e) of packing instruction P002. The amendment is as follows (new text in **bold and underlined**, deleted text in ~~strikethrough~~):

“4.1.3.4 The following packagings shall not be used when the substances being transported are liable to become liquid during transport:

**Single P**packagings

**For substances of packing group I, if approved for transport of solids only:**

<b><u>Drums:</u></b>	<b><u>1A2, 1B2, 1H2 and 1N2</u></b>
<b><u>Jerricans:</u></b>	<b><u>3A2, 3B2 and 3H2</u></b>

**For substances of packing groups I, II and III:**

Drums:	1D and 1G
Boxes:	<b><u>4A, 4B, 4C1, 4C2, 4D, 4F, 4G, and 4H, 4H2 and 4N</u></b>
Bags:	5L1, 5L2, 5L3, 5H1, 5H2, 5H3, 5H4, 5M1 and 5M2
Composite packagings:	6HC, <b><u>6HD1</u></b> , 6HD2, 6HG1, 6HG2, <del>6HD1</del> , 6PC, 6PD1, 6PD2, 6PG1, 6PG2, <del>and</del> 6PH1 <b><u>and 6PH2</u></b>

...”

11. To allow for the use of IBCs which are approved for the transport of liquids of packing group I it is proposed to amend 4.1.3.4 as follows (new text in **bold and underlined**):

“IBCs

For substances of packing group I: All types of IBCs, **unless approved for the transport of liquids of packing group I;**

...”

12. To address the inconsistencies described in paragraphs 4 to 8 above, the following amendments to packing instructions P002, P410, IBC04, IBC05, and LP02 are proposed by inserting the existing additional requirements of packing instructions IBC06, IBC07 and IBC08:

(a) Delete the footnotes (d) and (e) of packing instruction P002 and add an additional requirement: "Where the solid may become liquid during transport, see 4.1.3.4."

(b) Delete the footnote (c) of packing instruction P410 and add an additional requirement: "Where the solid may become liquid during transport, see 4.1.3.4."

(c) Add an additional requirement into packing instructions IBC04 and IBC05: "Where the solid may become liquid during transport, see 4.1.3.4."

(d) Add an additional requirement into packing instruction LP02: "Where the solid may become liquid during transport, see 4.1.3.4."

(e) Add the word “inner” in the footnote (a) of packing instruction LP02 before “packagings”.

## Annex

[English only]

## Excerpt of packing instruction P002

P002	PACKING INSTRUCTION (SOLIDS)			P002
The following packagings are authorized provided that the general provisions of 4.1.1 and 4.1.3 are met:				
		Maximum net mass (see 4.1.3.3)		
		Packing group I	Packing group II	Packing group III
<b>Single packagings</b>				
<b>Drums</b>				
steel (1A1 or <u>1A2<sup>d</sup></u> )	400 kg	400 kg	400 kg	400 kg
aluminium (1B1 or <u>1B2<sup>d</sup></u> )	400 kg	400 kg	400 kg	400 kg
metal, other than steel, or aluminium (1N1 or <u>1N2<sup>d</sup></u> )	400 kg	400 kg	400 kg	400 kg
plastics (1H1 or <u>1H2<sup>d</sup></u> )	400 kg	400 kg	400 kg	400 kg
fibre (1G) <sup>e</sup>	400 kg	400 kg	400 kg	400 kg
plywood (1D) <sup>e</sup>	400 kg	400 kg	400 kg	400 kg
<b>Single packagings (cont'd)</b>				
<b>Jerricans</b>				
Steel (3A1 or <u>3A2<sup>d</sup></u> )	120 kg	120 kg	120 kg	120 kg
Aluminium (3B1 or <u>3B2<sup>d</sup></u> )	120 kg	120 kg	120 kg	120 kg
plastics (3H1 or <u>3H2<sup>d</sup></u> )	120 kg	120 kg	120 kg	120 kg
<b>Boxes</b>				
steel (4A) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
aluminium (4B) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
other metal (4N) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
natural wood (4C1) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
plywood (4D) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
reconstituted wood (4F) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
natural wood with sift proof walls (4C2) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
fibreboard (4G) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
solid plastics (4H2) <sup>e</sup>	Not allowed	400 kg	400 kg	400 kg
<b>Bags</b>				
bags (5H3, 5H4, 5L3, 5M2) <sup>e</sup>	Not allowed	50 kg	50 kg	50 kg
<b>Composite packagings</b>				
plastics receptacle in steel, aluminium, plywood, fibre or plastics drum (6HA1, 6HB1, 6HG1 <sup>e</sup> , 6HD1 <sup>e</sup> , or 6HH1)	400 kg	400 kg	400 kg	400 kg
plastics receptacle in steel or aluminium crate or box, wooden box, plywood box, fibreboard box or solid plastics box (6HA2, 6HB2, <u>6HC</u> , 6HD2 <sup>e</sup> , 6HG2 <sup>e</sup> or 6HH2)	75 kg	75 kg	75 kg	75 kg
glass receptacle in steel, aluminium, plywood or fibre drum (6PA1, 6PB1, 6PD1 <sup>e</sup> or 6PG1 <sup>e</sup> ) or in steel, aluminium, wooden or fibreboard box or in wickerwork hamper (6PA2, 6PB2, <u>6PC</u> , 6PG2 <sup>e</sup> , or 6PD2 <sup>e</sup> ) or in expanded or solid plastics packaging ( <u>6PH1</u> or <u>6PH2<sup>e</sup></u> )	75 kg	75 kg	75 kg	75 kg

<sup>d</sup> These packagings shall not be used for substances of packing group I that may become liquid during transport (see 4.1.3.4).

<sup>e</sup> These packagings shall not be used when the substances being transported may become liquid during transport (see 4.1.3.4).