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INLAND TRANSPORT COMMITTEE

Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Committee of Experts and the  
Working Party on the Transport of Dangerous Goods

Bern, 8-11 September 2009 and  
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Item 6 of the provisional agenda

HARMONIZATION WITH THE UN MODEL REGULATIONS  
ON THE TRANSPORT OF DANGEROUS GOODS

Carriage of dangerous goods packed in limited quantities

Note by the secretariat<sup>1,2</sup>

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<sup>1</sup> In accordance with the programme of work of the Inland Transport Committee for 2006-2010 (ECE/TRANS/166/Add.1, programme activity 02.7 (c)).

<sup>2</sup> Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2009/28.

## **Introduction**

1. The Ad Hoc Working Group on the Harmonization of RID/ADR/ADN with the United Nations Recommendations on the Transport of Dangerous Goods, at its session held in Geneva from 18 to 20 May 2009, invited the secretariat to prepare a proposal to reflect principles according to which the provisions of the United Nations Recommendations concerning the carriage of dangerous goods packed in limited quantities (chapter 3.4 of the Model Regulations) would be included in RID/ADR/ADN, while the current “LQ” provisions of RID/ADR/ADN would be maintained for a certain period to be determined by the Joint Meeting when quantities per inner packagings exceed the limits of the United Nations Recommendations (see ECE/TRANS/WP.15/AC.1/2009/16, paras. 33-36).

2. In the light of this invitation, the secretariat proposes the following amendments to the RID/ADR/ADN provisions concerning the carriage of dangerous goods packed in limited quantities.

## **Proposals**

3. Amend Chapter 3.4 of RID/ADR/ADN to read as follows:

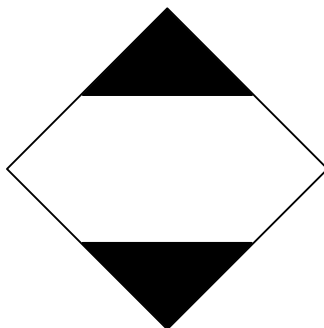
### **“CHAPTER 3.4**

#### **DANGEROUS GOODS PACKED IN LIMITED QUANTITIES**

3.4.1 This Chapter provides the provisions applicable to the transport of dangerous goods of certain classes packed in limited quantities. The applicable quantity limit for the inner packaging or article is specified for each substance in the first line of Column (7a) of Table A of Chapter 3.2. In addition, the quantity “0” has been indicated in this column for each entry not permitted to be transported in accordance with this Chapter. The provisions of Chapter 1.10 [and sections 7.2.4, 7.5.2, 7.5.4, 7.5.11, Chapters 8.1, [8.2], [8.3], 8.4, 8.5, 8.6] do not apply to the carriage of dangerous goods packed in limited quantities. All other provisions and requirements of RID/ADR/ADN apply to the carriage of limited quantities except as specifically provided in this Chapter.

3.4.2 Dangerous goods shall be packed only in inner packagings placed in suitable outer packagings. Intermediate packagings may be used. However, the use of inner packagings is not necessary for the transport of articles such as aerosols or “receptacles, small, containing gas”. The packagings [need not conform to the provisions of Chapter 4.1 nor those of Chapter 6.1 except that they] shall meet the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 and be so designed that they meet the construction requirements of 6.1.4. [Articles containing gases shall meet the requirements of 6.2.5.1 and 6.2.6.1 to 6.2.6.3 as appropriate and relevant.] The total gross mass of the package shall not exceed 30 kg.

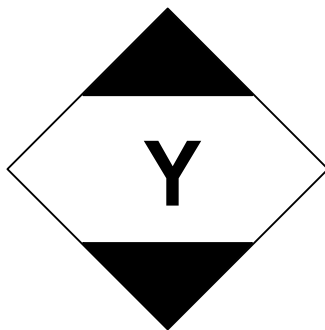
- 3.4.3 Shrink-wrapped or stretch-wrapped trays meeting the conditions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 are acceptable as outer packagings for articles or inner packagings containing dangerous goods carried in accordance with this Chapter. Inner packagings that are liable to break or be easily punctured, such as those made of glass, porcelain, stoneware or certain plastics, shall be placed in suitable intermediate packagings meeting the provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8, and be so designed that they meet the construction requirements of 6.1.4. The total gross mass of the package shall not exceed 20 kg.
- 3.4.4 Liquid goods of Class 8, packing group II in glass, porcelain or stoneware inner packagings shall be enclosed in a compatible and rigid intermediate packaging.
- 3.4.5 Different dangerous goods packed in limited quantities may be placed in the same outer packaging provided they will not interact dangerously in the event of leakage.
- 3.4.6 Any segregation provisions for dangerous goods packed in limited quantities need not apply within a vehicle or container.
- 3.4.7 Except for air transport, packages containing dangerous goods in limited quantities need not be labelled nor marked with the proper shipping name or UN number of the contents, but shall bear the marking shown below.



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

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 × 100 mm and the minimum width of line forming the diamond shall be 2 mm. If the size of the package so requires, the dimension may be reduced, to be not less than 50 mm × 50 mm provided the marking remains clearly visible.

- 3.4.8 Packages containing dangerous goods consigned for air transport in conformity with the provisions of Part 3, Chapter 4 of the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air shall bear the marking shown below.



The marking shall be readily visible, legible and able to withstand open weather exposure without a substantial reduction in effectiveness. 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 × 100 mm. The minimum width of line forming diamond shall be 2 mm. The symbol “Y” shall be placed in the centre of the mark and shall be clearly visible. If the size of the package so requires, the dimension may be reduced, to be not less than 50 mm × 50 mm provided the marking remains clearly visible.

- 3.4.9 Packages containing dangerous goods bearing the marking shown in 3.4.8 shall be deemed to meet the provisions of sections 3.4.1 to 3.4.5 of this Chapter and need not bear the marking shown in 3.4.7.
- 3.4.10 The documentation provisions of 5.4.1 [5.4.3 and 5.4.4] need not apply to dangerous goods packed in limited quantities.\*
- 3.4.11 When packages containing dangerous goods in limited quantities are placed in an overpack, the overpack shall be marked with the word “OVERPACK” and the marking required by this Chapter unless the markings representative of all dangerous goods in the overpack are visible.

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\* For carriage by air and sea, consignors should be aware that dangerous goods packed in limited quantities are not exempted from the documentation requirements of the ICAO Technical Instructions nor those of the IMDG Code. The ICAO Technical Instructions and the IMDG Code require that, in addition to the elements of information to be included in the transport document for dangerous goods, the words “limited quantity” or “LTD QTY” be included after the description of the dangerous goods packed in limited quantities.

3.4.12 In advance of carriage, consignors of dangerous goods packed in limited quantities shall inform the carrier in a traceable form of the total gross mass of such goods to be consigned.

(RID:)

**NOTE:** *If markings according to 3.4.16 are displayed on the wagon or large container, information regarding the total gross mass is not required."*

(ADR:)

**NOTE:** *If markings according to 3.4.16 are displayed on the transport unit or container, information regarding the total gross mass is not required."*

(ADN:)

**NOTE:** *If markings according to 3.4.16 are displayed on the transport unit, wagon or container, information regarding the total gross mass is not required."*

3.4.13 (ADR) (a) Transport units with a maximum mass exceeding 12 tonnes carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.15 at the front and at the rear except when orange-coloured plate marking is displayed in accordance with 5.3.2.

(b) Containers carrying packages with dangerous goods in limited quantities, on transport units with a maximum mass exceeding 12 tonnes, shall be marked in accordance with 3.4.15 on all four sides except when placards are already affixed in accordance with 5.3.1.

The carrying transport unit need not be marked, except when the marking affixed to the containers is not visible from outside this carrying transport unit. In this latter case, the same marking shall be affixed at the front and at the rear of the transport unit.

3.4.13 (ADN) (a) Transport units with a maximum mass exceeding 12 tonnes carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.15 at the front and at the rear except when orange-coloured plate marking is displayed in accordance with 5.3.2.

(b) Wagons carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.15 on both sides except when placards in accordance with section 5.3.1 are already affixed.

(c) Containers carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.12 on all four sides except.

- when placards in accordance with section 5.3.1 are already affixed;
- for small containers loaded on a wagon;

- for containers loaded on a transport unit with a maximum mass less than or equal to 12 tonnes.

If the containers are loaded on a transport unit or wagon, the carrying transport unit or wagon need not be marked, except when the marking affixed to the containers is not visible from the outside of this carrying transport unit or wagon. In this latter case, the same marking shall also be affixed at the front and the rear of the carrying transport unit, or on both sides of the carrying wagon.

- 3.4.13 (RID) (a) Wagons carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.15 on both sides except when placards are already affixed in accordance with 5.3.1.
- (b) Large containers carrying packages with dangerous goods in limited quantities shall be marked in accordance with 3.4.15 on all four sides except when placards are already affixed in accordance with 5.3.1.

If the marking affixed to the large containers is not visible from outside the carrying wagon, the same marking shall also be affixed to both sides of the wagon.

- 3.4.14 Markings specified in 3.4.13 may be dispensed with, if the total gross mass of the packages containing dangerous goods packed in limited quantities carried does not exceed 8 tonnes per transport unit.

- [3.4.15 The marking shall be that required in 3.4.7, except that the minimum dimensions shall be 250 mm × 250 mm.]

3.4.16 to 3.4.19 *Reserved.*

**3.4.20 Specific requirements for the carriage of dangerous goods packed in limited quantities for carriage under ADR, RID and ADN only.**

*NOTE 1: Dangerous goods packed in limited quantities and carried under the provisions of this section are not accepted for air or maritime carriage under the provisions of the ICAO Technical Instructions nor those of the IMDG Code.*

*NOTE 2: The provisions of this section may be applied until [30 June 2017] only.*

- 3.4.20.1 When, and only when, the quantity per inner packaging exceeds the limit specified in the first line of column (7a) of Table A of Chapter 3.2, and a “LQ” code is specified in the second line of column (7a) of Table A of Chapter 3.2, dangerous goods may also be carried as dangerous goods packed in limited quantities under the provisions of this section.

3.4.20.2 The provisions of Chapter 1.10 [and ...] do not apply to the carriage of dangerous goods packed in limited quantities according to this section. All other provisions and requirements of ADR/RID/ADN apply except as specifically provided in this section.

3.4.20.3 The provisions of 3.4.20.2 to 3.4.2.6 and 3.4.12 to 3.4.15 apply, [except that the letters "LQ" [LQADR or LQRID] shall be placed in the centre of the mark required by 3.4.15 in black letters not less than 65 mm high.

3.4.20.4 Each package shall be clearly and durably marked with:

- (a) the UN number of the goods contained therein, as given in Column (1) of Table A in Chapter 3.2, preceded by the letters "UN";
- (b) in the case of different goods with different UN numbers within a single package:
  - the UN numbers of the goods contained therein, preceded by the letters "UN", or
  - the letters "LQ"<sup>\*\*</sup>.

These markings shall be displayed within a diamond-shaped area surrounded by a line that measures at least 100 mm × 100 mm. The width of line forming the diamond shall be at least 2 mm; the number shall be at least 6 mm high. Where more than one substance assigned to different UN numbers are included in the package, the diamond shall be large enough to include each relevant UN number. If the size of the package so requires, the dimension may be reduced, provided the markings remain clearly visible.

3.4.20.5 When the code "LQ3" is shown in Column (7a) of Table A in Chapter 3.2 for a given substance the substance shall be carried in combination packagings, the following outer packagings being allowed:

- Steel or aluminium drums with removable head;
- Steel or aluminium jerricans with removable head;
- Plywood or fibre drums;
- Plastics drums or jerricans with removable head;
- Boxes of natural wood, plywood, reconstituted wood, fibreboard, plastics, steel or aluminium;

and being so designed that they meet the relevant construction requirements of 6.1.4.

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<sup>\*\*</sup> *The letters "LQ" are an abbreviation of the English words "Limited Quantities". The letters "LQ" are not permitted by the IMDG Code or the ICAO Technical Instructions.*

- 3.4.20.6 When one of the codes "LQ4" to "LQ19" and "LQ22" to "LQ28" is shown in Column (7a) of Table A in Chapter 3.2 for a given substance, the substance shall be carried:
- (a) In combination packagings, corresponding to the prescriptions of 3.4.20.5, or
  - (b) In metal or plastics inner packagings which are not liable to break or be easily punctured, placed in shrink-wrapped or stretch-wrapped trays.
- 3.4.20.7 The maximum net quantities per inner packaging shown in columns (2) or (4) and per package in columns (3) or (5), where indicated, of the table below shall not be exceeded.



Code	Combination packagings <sup>a</sup> Maximum net quantity		Inner packagings placed in shrink-wrapped or stretch-wrapped trays <sup>ab</sup> Maximum net quantity	
	Per inner packaging	per package <sup>b</sup>	per inner packaging	per package <sup>b</sup>
(1)	(2)	(3)	(4)	(5)
LQ3 <sup>c</sup>	500 ml	1 l	Not allowed	Not allowed
LQ4 <sup>c</sup>	3 l		1 l	
LQ5 <sup>c</sup>	5 l	Unlimited	1 l	
LQ6 <sup>c</sup>	5 l		1 l	
LQ7 <sup>c</sup>	5 l		5 l	
LQ8	3 kg		500 g	
LQ9	6 kg		3 kg	
LQ10	500 ml		500 ml	
LQ11	500 g		500 g	
LQ12	1 kg		1 kg	
LQ13	1 l		1 l	
LQ14	25 ml		25 ml	
LQ15	100 g		100 g	
LQ16	125 ml		125 ml	
LQ17	500 ml	2 l	100 ml	2 l
LQ18	1 kg	4kg	500 g	4 kg
LQ19	5 kg		5 kg	
LQ20	Reserved	Reserved	Reserved	Reserved
LQ21	Reserved	Reserved	Reserved	Reserved
LQ22	1 l		500 ml	
LQ23	3 kg		1 kg	
LQ24	6 kg		2 kg	
LQ25 <sup>d</sup>	1 kg		1 kg	
LQ26 <sup>d</sup>	500 ml	2l	500 ml	2 l
LQ27	6 kg		6 kg	
LQ28	3 l		3 l	

<sup>a</sup> See 3.4.2. However, for LQ5, the 30 kg limit per combination packaging does not apply.

<sup>b</sup> See 3.4.5.

<sup>c</sup> In the case of homogenous mixtures of Class 3 containing water, the quantities specified relate only to the substance of Class 3 contained in those mixtures.

<sup>d</sup> For UN Nos. 2315, 3151, 3152 and 3432 when carried in apparatus, the inner packaging quantities shall not be exceeded per piece of apparatus. The apparatus shall be carried in a leakproof packaging and the complete package shall conform to 3.4.20.4 Shrink-wrapped and stretch-wrapped trays shall not be used for apparatus.

3.4.20.8 Overpacks shall be marked, as required by 3.4.20.4 for each item of dangerous goods contained in the overpack, unless markings representative of all dangerous goods contained in the overpack are visible.”.

### **Consequential amendments**

4. In Chapter 3.2, section 3.2.1, amend the explanatory notes for column (7a) to read as follows:

“Limited quantities

Provides the maximum quantity per inner packaging or article for carrying dangerous goods as limited quantities in accordance with Chapter 3.4, paragraphs 3.4.1 to 3.4.16. May contain, in addition, an alphanumeric code starting with the letters “LQ” signifying that dangerous goods packed in limited quantities may also be carried in accordance with the provisions of Chapter 3.4, section 3.4.20”.

5. In Table A of Chapter 3.2, column (7a), add the maximum quantity per inner packaging or article for carrying dangerous goods as limited quantities, as given in Chapter 3.2 of the UN Recommendations on the Transport of Dangerous Goods, Model Regulations, sixteenth revised edition (document ST/SG/AC.10/1/Rev.16).

6. In Table A of Chapter 3.2, column (7a), delete alphanumeric codes LQ0, LQ1 and LQ2 wherever they appear [NOTE: Other codes could probably be deleted if the quantity limits correspond to the quantity limits of the United Nations Recommendations].

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