



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)  
MEETING OF THE WORKING GROUP OF THE WHOLE**

**Memphis, 30 April to 4 May 2007**

**Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) for incorporation in the 2009/2010 Edition**

**2.1: Part 1 — General**

**2.3: Part 3 — Dangerous Goods List and Limited Quantities Exceptions**

**EXCEPTED QUANTITIES**

(Presented by the Secretary)

**SUMMARY**

This paper discusses the incorporation in the UN Regulations of a new chapter on excepted quantities and a new column for limited quantities in the List of Dangerous Goods.

Action by the DGP-WG is in paragraph 2.

**1. INTRODUCTION**

1.1 At the third session of the UN Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals (Geneva, 14 December 2006), provisions for excepted quantities were adopted for incorporation in the UN Model Regulations as a new Chapter 3.5 (see the appendix to this working paper) together with quantity limits in a new column 7b of the List of Dangerous Goods.

1.2 The requirements largely reflect those in 1;2.4 of the 2007-2008 edition of the Technical Instructions with a number of exceptions:

- a) a new excepted quantities mark (Figure 3.5.1 in the appendix to this working paper);  
and

- b) a new format in which a code (E0 to E5) is assigned to each entry in the List of Dangerous Goods with the corresponding quantity limits presented in paragraph 3.5.1.2 (shown in the appendix to this working paper).

1.3 It should be noted that if the new excepted quantities format is adopted, a new format for Table 3-1 containing an additional column for limited quantities would be required. This new layout would appear in the 2009-2010 edition, followed by a further change in layout for the 2011-2012 edition if the reformatted packing instructions are adopted for incorporation at that time.

## 2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to defer adoption of the new format until after a decision is taken regarding the formatting of the packing instructions.

2.2 If no decision is taken at DGP-WG/07, a revised 1;2.4 will be presented at DGP/21.

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**APPENDIX A**

**NEW CHAPTER IN THE UN MODEL REGULATIONS CONCERNING  
EXCEPTED QUANTITIES**

**CHAPTER 3.5  
DANGEROUS GOODS  
PACKED IN EXCEPTED QUANTITIES**

**3.5.1 Excepted quantities**

3.5.1.1 Excepted quantities of dangerous goods of certain classes, other than articles, meeting the provisions of this section are not subject to any other provisions of these Regulations except for:

- (a) The training requirements in Chapter 1.3;
- (b) The classification procedures and packing group criteria in Part 2, Classification;
- (c) The packaging requirements of 4.1.1.1, 4.1.1.2, 4.1.1.4, 4.1.1.4.1 and 4.1.1.6 in Part 4.

***NOTE:** In the case of radioactive material, the requirements for radioactive material in excepted packages in 1.5.1.5 apply.*

3.5.1.2 Dangerous goods which may be carried as excepted quantities in accordance with these provisions are shown in column 7b of the dangerous goods list by means of an alphanumeric code as follows:

<b>Code</b>	<b>Maximum quantity per inner packaging</b>	<b>Maximum quantity per outer packaging</b>
E0	Not permitted as Excepted Quantity	
E1	30g/30ml	1kg/1L
E2	30g/30ml	500g/500ml
E3	30g/30ml	300g/300ml
E4	1g/1ml	500g/500ml
E5	1g/1ml	300g/300ml

For gases, the volume indicated for inner packagings refers to the water capacity

of the inner receptacle and the volume indicated for outer packagings refers to the combined water capacity of all inner packagings within a single outer package.

Where dangerous goods in excepted quantities for which different codes are assigned are packaged together the total quantity per outer packaging shall be limited to that corresponding to the most restrictive Code.

Excepted quantities of dangerous goods shall be transported in accordance with the provisions of sections 3.5.1.3 to 3.5.1.6.

3.5.1.3 Packagings used for the transport of dangerous goods in excepted quantities shall be in compliance with the following:

- (a) There shall be an inner packaging and each inner packaging shall be constructed of plastic (when used for liquid dangerous goods it shall have a minimum thickness of not less than 0.2 mm), or of glass, porcelain, stoneware, earthenware or metal (see also 4.1.1.2) and the closure of each inner packaging shall be held securely in place with wire, tape or other positive means; any receptacle having a neck with moulded screw threads shall have a leak proof threaded type cap. The closure shall be resistant to the contents;
- (b) Each inner packaging shall be securely packed in an intermediate packaging with cushioning material in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents. The intermediate packaging shall completely contain the contents in case of breakage or leakage, regardless of package orientation. For liquid dangerous goods, the intermediate packaging shall contain sufficient absorbent material to absorb the entire contents of the inner packaging. In such cases, the absorbent material may be the cushioning material. Dangerous goods shall not react dangerously with cushioning, absorbent material and packaging material or reduce the integrity or function of the materials;
- (c) The intermediate packaging shall be securely packed in a strong, rigid outer packaging (wooden, fibreboard or other equally strong material);
- (d) Each package type shall be in compliance with the provisions in 3.5.1.4;
- (e) Each package shall be of such a size that there is adequate space to apply all necessary markings; and
- (f) Overpacks may be used and may also contain packages of dangerous goods or goods not subject to these Regulations.

### 3.5.1.4 *Tests for packages*

3.5.1.4.1 The complete package as prepared for transport, with inner packagings filled to not less than 95% of their capacity for solids or 98% for liquids, shall be capable of withstanding, as demonstrated by testing which is appropriately documented, without breakage or leakage of any inner packaging and without significant reduction in effectiveness:

- (a) Drops onto a rigid, non-resilient flat and horizontal surface from a height of 1.8 m:
  - (i) Where the sample is in the shape of a box, it shall be dropped in each of the following attitudes:
    - flat on the base;
    - flat on the top;
    - flat on the longest side;
    - flat on the shortest side;
    - on a corner;
  - (ii) Where the sample is in the shape of a drum, it shall be dropped in each of the following attitudes:
    - diagonally on the top chime, with the centre of gravity directly above the point of impact;
    - diagonally on the base chime;
    - flat on the side.

*NOTE: Each of the above drops may be performed on different but identical packages.*

- (b) A force applied to the top surface for a duration of 24 hours, equivalent to the total weight of identical packages if stacked to a height of 3 m (including the drop sample).

3.5.1.4.2 For the purposes of testing, the substances to be transported in the packaging may be replaced by other substances except where this would invalidate the results of the tests. For solids, when another substance is used, it must have the same physical characteristics (mass, grain size, etc.) as the substance to be carried. In the drop tests for liquids, when another substance is used, its relative density (specific gravity) and viscosity should be similar to those of the substance to be transported.

### 3.5.1.5 *Marking of packages*

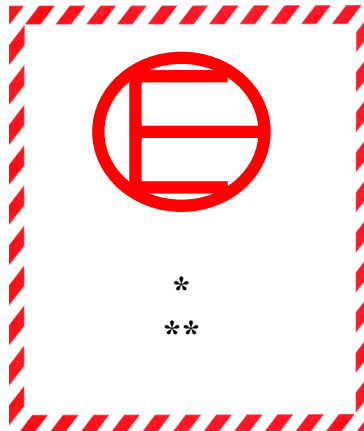
3.5.1.5.1 Packages containing excepted quantities of dangerous goods prepared in accordance with this Chapter shall be durably and legibly marked with the mark shown in Figure 3.5.1. The primary hazard class or, when assigned, the division of each of the dangerous goods contained in the package shall be shown in the mark. Where the name of the consignor or

consignee is not shown elsewhere on the package this information shall be included within the mark.

3.5.1.5.2 For packages the dimensions of the mark shall be a minimum of 100 mm × 100 mm.

3.5.1.5.3 An overpack containing dangerous goods in excepted quantities shall display the markings required by 3.5.1.5.1, unless such markings on packages within the overpack are clearly visible.

**Figure 3.5.1**



Excepted quantities mark

Hatching and symbol of the same colour, black or red,  
on white or suitable contrasting background

\* 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.

**3.5.1.6 *Maximum number of packages in any freight vehicle, railway freight wagon or multimodal freight container***

The number of packages in any freight vehicle, railway freight wagon or multimodal freight container shall not exceed 1 000.

**3.5.1.7 *Documentation***

If a document (such as a bill of lading or air waybill) accompanies dangerous goods in excepted quantities, it shall include the statement "Dangerous Goods in Excepted Quantities" and indicate the number of packages.