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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

Thirty-sixth session
Geneva, 30 November – 9 December 2009
Item 5 of the provisional agenda

**MISCELLANEOUS PROPOSALS OF AMENDMENTS TO THE MODEL
REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS**

“De minimis” quantities of dangerous goods

Transmitted by the expert from the United States of America¹

Background

1. During the thirty-fifth session, the Sub-Committee held an informal lunch-time working group to discuss the inclusion of provisions in the Model Regulations for packages containing minute quantities of dangerous goods. The report of the informal working group recommended addressing a proposal for de minimis exceptions within existing provisions.
2. The rationale behind de minimis quantity provisions is that selected dangerous goods packed in minute quantities, with limitations on the quantity per inner packaging and outer package and in good quality packaging pose a negligible risk in transport compared to those same goods packed in larger volumes, and on this basis relief from the Model Regulations could be accepted.

¹ In accordance with the programme of work of the Sub-Committee for 2009-2010 approved by the Committee at its fourth session (refer to ST/SG/AC.10/C.3/68, para. 118 (d) and ST/SG/AC.10/36, para. 14).

3. Currently the Model Regulations provide no quantity threshold below which certain substances meeting the classification criteria of Part 2 are considered to be non-dangerous in transport. As such, under a strict application of the classification criteria, even a small fraction of a gram of a flammable solid for example would be considered a dangerous good. In practice however, were a fire to occur during transport, the packaging for the material itself will contain far more potential energy than such a small quantity of material.

4. Subjecting extremely minute quantities of certain goods to the full requirements of the Model Regulations is of questionable value, and may also falsely communicate a risk in transport. This in turn can lead to unjustified precautions and unnecessary incident response actions which are unwarranted and have a negative effect on transport safety. Based on the recognition that de minimis quantities of such materials pose a negligible risk to health and safety or property, this paper proposes appropriate provisions be added to the Model Regulations to ensure a comprehensive, safe, and practical approach to dangerous goods transport regulations.

5. Taking into account comments received during the Sub-Committee's thirty-fifth session (see informal document UN/SCETDG/35/INF.59), it is proposed to include de minimis provisions into the existing excepted quantity provisions. Incorporating conditions applicable to de minimis provisions as proposed provides a consistent, logical and simple approach.

- (a) Informal document UN/SCETDG/35/INF.59 suggested that as a starting point, the acceptable hazard classes and divisions could include: Class 3, Class 4, Divisions 5.1 and 6.1, Class 8, and Class 9. Other hazard classes and divisions could be considered based on a more specific review. Further, it is believed that except for Division 6.1 (oral and dermal hazards) packing group I substances should not be included in this provision. Therefore, to ensure consistency with the excepted quantity provisions, it is proposed that only dangerous goods assigned to excepted quantity codes E1, E2, E4, and E5 be considered for de minimis provisions. Consistent with the excepted quantity provision description within the "Guiding Principles for the Development of the UN Model Regulations" (see http://www.unece.org/trans/danger/publi/unrec/GuidingPrinciples/GuidingPrinciplesRev15_e.html), this proposal would allow de minimis exceptions for minute quantities of Division 2.2 (no subsidiary risk), Class 3, Class 4, Division 5.1 Division 6.1 (oral and dermal hazards only), Class 8, and Class 9. The text from the Guiding Principles applicable to the excepted quantity authorization is reproduced in Annex 1.
- (b) The introduction of de minimis provisions is based on the realization that minute quantities of certain dangerous goods pose no real risk in transport. The quantity limits proposed in this paper are based on years of successful experience within the United States.
- (c) As an extension of the excepted quantities provisions, it is considered appropriate to include the package capability provisions of 3.5.2 and 3.5.3.

Proposal

6. Amend Chapter 3.5.1 to include the following provisions:

- “3.5.1.4 Excepted quantities of dangerous goods assigned to codes E1, E2, E4, and E5 are not subject to these Regulations provided that:
- (a) The maximum quantity of material per inner receptacle is limited to 1 ml for authorized liquids and 1 g for authorized solid materials;
 - (b) The provisions of 3.5.2 are met, except that an intermediate packaging is not required if the inner packagings are securely packed in an outer packaging with cushioning material in such a way that, under normal conditions of transport, it cannot break, be punctured, or leak its contents; and for liquid dangerous goods, the outer packaging contains sufficient absorbent material to absorb the entire contents of the inner packagings;
 - (c) The provisions of 3.5.3 are complied with; and
 - (d) The aggregate quantity of dangerous goods per package does not exceed 100 g for solids or 100 ml for liquids.”.

Annex

[English only]

The following table is reproduced from the Guiding Principles on the Development of the UN Model Regulations for use with the fifteenth Revised Edition, Part 3, Chapter 3.5.

NOTE: The Guiding Principles were amended for use with the sixteenth Revised Edition by adding an additional footnote to Division 6.1 materials to identify that substances having an inhalation toxicity of PG I shall not be transported as excepted quantities (see ST/SG/AC.10/C.3/68, item 58).

Substances permitted in excepted quantities include:

	Packing Group I	Packing group II	Packing Group III
CLASS/ DIVISION	E-Code	E-Code	E-Code
1	E0 (not permitted)		
2.1	E0 (not permitted)		
2.2 ^a without subsidiary risk	E1		
2.2 with subsidiary risk 5.1	E0 (not permitted)		
2.3	E0 (not permitted)		
3 without subsidiary risk ^b	E3	E2	E1
3 with subsidiary risk	E0 (not permitted)	E2	E1
4.1 ^c	E0 (not permitted)	E2	E1
4.2	E0 (not permitted)	E2	E1
4.3	E0 (not permitted)	E2	E1
5.1	E0 (not permitted)	E2	E1
5.2 ^d	E0 (not permitted)		
6.1 ^e	E5	E4	E1
6.2	E0 (not permitted)		
7	E0 (not permitted)		
8 ^f	E0 (not permitted)	E2	E1
9 ^g	Not applicable	E2	E1

^a 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;

^b Desensitized explosives and UN 3256 shall not be transported as excepted quantities;

- ^c Self-reactive substances, desensitized explosives, UN Nos. 2304, 2448, 3176 (molten substances) and 3360 shall not be transported as excepted quantities;
- ^d Division 5.2 dangerous goods shall ONLY be transported as excepted quantities if in UN 3316, Chemical Kit or First Aid Kit;
- ^e UN Nos. 1600, 2312 and 3250 (molten substances) shall not be transported as excepted quantities;
- ^f UN Nos. 2215 (molten), 2576, 2803 and 2809 shall not be transported as excepted quantities.
- ^g UN Nos. 1845, 2807, 3245, 3257, 3258, 3334 and 3335 shall not be transported as excepted quantities;

The meaning of the codes in the Table above is explained in 3.5.1.2 of the Model Regulations.
