



**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-eighth session**

Geneva, 29 November–7 December 2010

Item 4 of the provisional agenda

Listing, classification and packing**Classification of Class 3 viscous liquids in packing group III****Transmitted by the International Air Transport Association (IATA)¹****Introduction**

1. Viscous flammable liquids such as paints, enamels, lacquers, varnishes, adhesives and polishes with a flash point of less than 23°C may be assigned to packing group III in accordance with the provisions of 2.3.2.2 and 2.3.2.3 in the Model Regulations and 32.3.1.7 and 32.4.2 in the Manual of Tests and Criteria.
2. The content of applicable paragraphs in the Model Regulations and the Manual of Tests and Criteria, though, appear to be in conflict with respect to the properties of the flammable liquid or to the constituent components. There is also information contained in the Manual of Tests and Criteria which should be included in the Model Regulations and the structure of the information in the Manual of Tests and Criteria with respect to the tests of viscous flammable liquids could be revised to make the requirements more clear.
3. Paragraph 2.3.2.3(b) in the Model Regulations has a condition on a viscous flammable liquid being assigned to PG III that “the mixture or any separated solvent does not meet the criteria for Division 6.1 or Class 8.” However, in paragraph 32.3.1.7(b) of the manual or Tests and Criteria the condition for the same liquids is that “The mixture does not contain any substances with a primary or subsidiary risk of Division 6.1 or Class 8.”
4. These two conditions are quite different. Based on the condition applicable to viscous substances with a flash point of 23°C or above, which is almost the same as shown

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 (a) and ST/SG/AC.10/36, para. 14).

in paragraph 2.3.2.3, it is suggested that it is the text in the Manual of Tests and Criteria that should be revised. The Sub-Committee is invited to confirm that this is the case.

5. Also in paragraph 2.3.2.3 in the Model Regulations, there are two identified conditions that allow for the viscous flammable liquid to be assigned to PG III, these being the solvent separation test and the aforementioned presence of Division 6.1 or Class 8. But paragraph 2.3.2.2 specifies that there are three conditions in the Manual of Tests and Criteria that must be satisfied, being:

- (a) The viscosity expressed as the flowtime in seconds;
- (b) The closed-cup flash point; and
- (c) A solvent separation test.

6. Missing from this list is an additional condition listed in the paragraph 32.3.1.7 in the Manual of Tests and Criteria, which is that capacity of the receptacle used does not exceed 450 litres. Here it is suggested that paragraphs 2.3.2.2 and 2.3.2.3 could be combined into a single paragraph with a structure similar to that in 2.3.2.5 that would clearly identify the relevant provisions in the Manual of Tests and Criteria and the outcome that must be achieved to allow for assignment to PG III.

7. In reviewing the text of Chapter 2.3 it was also identified that there is an inconsistent way of describing the size of the packaging, where the language used is "... less than 450 litres...". However, 450 litres is an approved quantity and the text should be written as "... not more than 450 litres".

8. In looking at the provisions of the Manual of Tests and Criteria applicable to viscous flammable liquids with a flash point of less than 23 °C, here too there is an inconsistent use of language which could be aligned with the language used in other paragraphs associated with flammable liquids.

Proposal

9. Revise paragraphs 2.3.2.2, 2.3.2.3 and 2.3.2.5 as follows:

2.3.2.2 Viscous ~~substances~~ flammable liquids such as paints, enamels, lacquers, varnishes, adhesives and polishes having a flash point of less than 23 °C may be placed in packing group III in conformity with the procedures prescribed in the *Manual of Tests and Criteria*, Part III, sub-section 32.3, ~~on the basis of provided that~~:

- (a) ~~The viscosity expressed as the flowtime in seconds~~ and flash point are in accordance with the table in paragraph 32.3.1.7 in the *Manual of Tests and Criteria*;
- (b) ~~the closed-cup flash point~~ Less than 3% of the clear solvent layer separates in the solvent separation test;
- (c) ~~a solvent separation test~~ The mixture or any separated solvent does not meet the criteria for Division 6.1 or Class 8;
- (d) The substances are packed in receptacles of not more than 450 litre capacity.

2.3.2.3 ~~Viscous flammable liquids such as paints, enamels, lacquers, varnishes, adhesives and polishes with a flash point of less than 23 °C are included in packing group III provided that Reserved.~~

~~(a) Less than 3% of the clear solvent layer separates in the solvent separation test;~~

~~(b) The mixture or any separated solvent does not meet the criteria for Division 6.1 or Class 8.~~

...

2.3.2.5 Viscous substances which:

- Have a flash point of 23 °C or above and less than or equal to 60 °C;
- Are not toxic, corrosive or environmentally hazardous;
- Contain not more than 20% nitrocellulose provided the nitrocellulose contains not more than 12.6% nitrogen by dry mass; and
- Are packed in receptacles of ~~less~~ not more than 450 l capacity;

...

10. Revise paragraph 32.3.1.6 and 32.3.1.7 in the Manual of Tests and Criteria as follows:

32.3.1.6 Viscous substances which:

- (a) Have a flash point of 23 °C or above and less than or equal to 60 °C;
- (b) Are not toxic, corrosive or environmentally hazardous;
- (c) Contain not more than 20% nitrocellulose provided the nitrocellulose contains not more than 12.6% nitrogen by dry mass; and
- (d) Are packed in receptacles of ~~less~~ not more than 450 l capacity;

Are not subject to the Model Regulations if:

- (a) In the solvent separation test (see 32.5.1) the height of the separated layer of solvent is less than 3% of the total height; and
- (b) The flow-time in the viscosity test (see 32.4.3) with a jet diameter of 6mm is equal to or greater than:
 - (i) 60 seconds; or
 - (ii) 40 seconds if the viscous substance contains not more than 60% of Class 3 substances.

32.3.1.7 Viscous flammable liquids such as paints, enamels, lacquers, varnishes, adhesives and polishes with a flash point of less than 23 °C are included in packing group III provided that:

- (a) Less than 3% of the clear solvent layer separates in the solvent separation test;
- (b) ~~The mixture does not contain any substances with a primary or a subsidiary risk of Division 6.1 or Class 8~~ [The mixture or any separated solvent does not meet the criteria for Division 6.1 or Class 8];
- (c) The viscosity and flash point are in accordance with the following table;

<i>Flow-time t (s)</i>	<i>Jet diameter (mm)</i>	<i>Flash point (°C)</i>
$20 < t \leq 60$	4	above 17
$60 < t \leq 100$	4	above 10
$20 < t \leq 32$	6	above 5
$32 < t \leq 44$	6	above 1
$44 < t \leq 100$	6	above 5
$100 < t$	6	no limit

- (d) ~~The capacity of the receptacle used does not exceed 450 litres~~ substances are packed in receptacles of not more than 450 litre capacity.
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