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Economic Commission for Europe**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, 17–21 March 2014

Item 5 (a) of the provisional agenda

**Proposals for amendments to RID/ADR/ADN:
pending issues****Assignment of flammable liquids in packing group II to
packing group III according to their viscosity****Transmitted by the European Council of the Paint, Printing Ink and
Artists' Colours Industry (CEPE)^{1, 2}***Summary*

Executive summary: The amendment to 2.2.3.1.4, agreed in principle at the autumn 2013 session to align with the text of the Model Regulations, should be cancelled or the text modified, because industry uses and needs to retain the kinematic viscosity criteria as currently included in the table in 2.2.3.1.4 (b). CEPE has no specific objection to the inclusion of 2.2.3.1.4 (d) to align with the 450 litre limit in the Model Regulations.

Action to be taken: Revert to the existing text of 2.2.3.1.4 in RID/ADR/ADN 2013, including the kinematic viscosity criteria and footnote 2, or insert the latter elements into the amended text adopted in the autumn 2013 session.

Related documents: ECE/TRANS/WP.15.AC.1/132, paragraphs 23 to 24; 2.2.3.1.4 in ECE/TRANS/WP.15/AC.1/2013/31/Add.1.

¹ In accordance with the programme of work of the Inland Transport Committee for 2012–2016 (ECE/TRANS/224, para. 94, ECE/TRANS/2012/12, programme activity 02.7 (A1c)).

² Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2014/20.

Background and problem

1. At its autumn 2013 session, the Joint Meeting considered proposals in ECE/TRANS/WP.15/AC.1/2013/31/Add.1 and Add.1/Corr.1 for harmonization of RID/ADR/ADN with the UN Model Regulations. For the flammable liquids provisions in 2.2.3.1.4 and 2.2.3.1.5, a choice was presented in both cases between option 1 (amend text to align with the Model Regulations) or option 2 (leave the existing text unchanged).
2. For 2.2.3.1.4 CEPE did not support option 1, because this would result in deletion of the first column from the table in 2.2.3.1.4 (b) containing the criteria expressed as kinematic viscosity, along with the footnote 2 on viscosity determination where the substance is non-Newtonian or a flow cup method is otherwise unsuitable. These criteria and determination methods are frequently used in the paints and printing inks industry and are essential for the characterisation of thixotropic mixtures, such as some emulsions and many gloss trim paints.
3. The expert from CEPE was unable to attend the autumn 2013 session in person and so this objection was communicated through another observer delegation. However it appears that CEPE's feedback was erroneously interpreted as an objection to the 450 litre limit in 2.2.3.1.4 (d) of option 1. Consequently the Joint Meeting adopted option 1 in principle, with 2.2.3.1.4 (d) placed between square brackets pending communication of further information from industry on current practices and economic consequences of a 450 litre limit for land transport.
4. CEPE has no information to offer on the consequences of the 450 litre limit, nor do its members foresee any specific issues in compliance with that limit. The kinematic viscosity determination criteria, on the other hand, have been used by members for many years without problems, and their deletion will create significant difficulties for industry without delivering any increase in safety.
5. In general, CEPE is in favour of maximising harmonisation between transport modes and alignment with the Model Regulations. In this case, however, such alignment will result in an unwanted negative impact and CEPE asks that the Joint Meeting reconsider its decision. It is recognised that reinstatement of the kinematic viscosity criteria in 2.2.3.1.4 of RID/ADR/ADN will restore a disharmony with the Model Regulations, at least in the short term. The value of these criteria to the industry is such, however, that CEPE (through its international organisation IPPIC) plans to submit a working document at the forty-fifth session of the Sub-Committee of Experts on the Transport of Dangerous Goods, proposing their inclusion in the Model Regulations and the Manual of Tests and Criteria. If adopted, the kinematic viscosity criteria would thus be available for harmonisation across all transport modes.
6. In the following paragraphs CEPE presents two alternative suggestions to remedy this problem temporarily in RID/ADR/ADN, pending submission of the aforementioned proposal to the Sub-Committee of Experts on the Transport of Dangerous Goods.

Proposal 1

7. Reverse the decision adopted in principle at the autumn 2013 session of the Joint Meeting, and revert to the existing text of 2.2.3.1.4 as in RID/ADR/ADN 2013.

Proposal 2

8. In the aligned text of 2.2.3.1.4 as adopted in the autumn 2013 session, amend the introductory text and sub-paragraph (a) so that 2.2.3.1.4 reads as follows:

“2.2.3.1.4 Viscous flammable liquids such as paints, enamels, lacquers, varnishes, adhesives and polishes having a flash-point of less than 23 °C may be assigned to packing group III in conformity with the procedures prescribed in the Manual of Tests and Criteria, Part III, sub-section 32.3 ~~except sub-paragraph 32.3.1.7 (d)~~, provided that:

(a) **The viscosity² and flash-point are in accordance with the following table:**

<i>Kinematic viscosity (extrapolated) ν</i> <i>(at near-zero shear rate)</i> <i>mm²/s at 23°C</i>	<i>Flow-time t in seconds</i>	<i>Jet diameter (mm)</i>	<i>Flash-point,</i> <i>closed-cup (°C)</i>
20 < ν ≤ 80	20 < t ≤ 60	4	above 17
80 < ν ≤ 135	60 < t ≤ 100	4	above 10
135 < ν ≤ 220	20 < t ≤ 32	6	above 5
220 < ν ≤ 300	32 < t ≤ 44	6	above -1
300 < ν ≤ 700	44 < t ≤ 100	6	above -5
700 < ν	100 < t	6	no limit

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

(c) The mixture or any separated solvent does not meet the criteria for Class 6.1 or Class 8;

[(d) The substances are packed in receptacles of not more than 450 litre capacity].

NOTE: *These provisions also apply to mixtures containing no more than 20% nitrocellulose with a nitrogen content not exceeding 12.6% by dry mass. Mixtures containing more than 20% but not more than 55% nitrocellulose with a nitrogen content not exceeding 12.6% by dry mass are substances assigned to UN No. 2059.*

Mixtures having a flash-point below 23 °C and containing:

- *more than 55% nitrocellulose, whatever their nitrogen content; or*
 - *not more than 55% nitrocellulose with a nitrogen content above 12.6% by dry mass,*
- are substances of Class 1 (UN Nos. 0340 or 0342) or of Class 4.1 (UN Nos. 2555, 2556 or 2557).”.*

Footnote 2 reads as follows: “Viscosity determination: *Where the substance concerned is non-Newtonian, or where a flow-cup method of viscosity determination is otherwise unsuitable, a variable shear-rate viscometer shall be used to determine the dynamic viscosity coefficient of the substance, at 23°C, at a number of shear rates. The values obtained are plotted against shear rate and then extrapolated to zero shear rate. The dynamic viscosity thus obtained, divided by the density, gives the apparent kinematic viscosity at near-zero shear rate.”.*

9. The Joint Meeting can choose whether to adopt 2.2.3.1.4 (d) based on information or interventions, if any, from other delegations.