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**Economic Commission for Europe****Inland Transport Committee**English, French and German**16 July 2013****Working Party on the Transport of Dangerous Goods****Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee)****Twenty-third session**

Geneva, 26-30 August 2013

Item 4 (b) of the provisional agenda

**Proposals for amendments to the Regulations annexed to ADN:****Other proposals**

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**Report on a meeting of representatives of PTB, CEFIC and BAM on 22 May 2013 in Brunswick concerning designations used in Table C****Transmitted by the Central Commission for the Navigation of the Rhine (CCNR)<sup>1</sup>****Introduction**

1. For the 22<sup>nd</sup> session of the ADN Safety Committee (21 to 25 January 2013) the classification societies recognized according to ADN have submitted the INF paper 27 with proposals for amendments in Table C. This paper refers in particular to differences between the individual language versions of ADN regarding UN No. 1268 PETROLEUM DISTILLATES, N.O.S. WITH MORE THAN 10% BENZENE or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE. In its session the Safety Committee decided to refer this paper for consultation to the informal working group on substances (ECE/TRANS/WP.15/AC.2/46, VI., B., 12., para. 61).
2. On 19 and 20 March 2013 the informal working group on substances held its sixth session in Strasbourg and discussed, amongst others, this topic. The differences between the individual language versions that had been identified by the classification societies were confirmed. It was also found, however, that none of the language versions was inherently conclusive and plausible. Furthermore, the members of the informal working group concluded that similar problems could possibly be found to exist for other UN numbers as well.
3. It was therefore suggested that a review should be made in cooperation between CEFIC, the German PTB (Physikalisch-Technische Bundesanstalt) and the German BAM (Federal Institute for Materials Research and Testing). If required, a separate proposal should be elaborated for submission to the Safety Committee.

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<sup>1</sup> Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR-ZKR/ADN/WP.15/AC.2/23/INF.5.

## Results

### A. Entries with particulars concerning the initial boiling point and the vapour pressure in the name

4. On 22 May 2013 representatives of CEFIC, PTB and BAM met in Brunswick and came to the following conclusions:

5. In addition to the problem concerning UN No. 1268 PETROLEUM DISTILLATES, N.O.S. WITH MORE THAN 10% BENZENE or PETROLEUM PRODUCTS, N.O.S. WITH MORE THAN 10% BENZENE, similar problems exist with regard to

UN 1267 PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE,  
UN 1863 FUEL, AVIATION, TURBINE ENGINE, WITH MORE THAN 10% BENZENE,  
UN 1993 FLAMMABLE LIQUID, N.O.S. WITH MORE THAN 10% BENZENE and  
UN 3295 HYDROCARBONS, LIQUID, N.O.S. WITH MORE THAN 10% BENZENE.

6. Moreover it was noted that the occurrence of the following three situations is fundamentally possible:

(a) The carriage is performed in a type C vessel and all required data are available. In this case the cargo tank internal pressure must be calculated, and accordingly the transport conditions such as the set pressure of the high-velocity vent valve or the necessity of a water-spray system shall be determined according to the flowchart.

(b) The carriage is performed in a type C vessel and some of the required data are lacking. The transport conditions are merely determined on the basis of the initial boiling point, which leads

(1) for packing group I to one entry:

initial boiling point  $\leq 60$  °C,

(2) for packing group II to 4 entries:

initial boiling point  $\leq 60$  °C,

$60$  °C < initial boiling point  $\leq 85$  °C,

$85$  °C < initial boiling point  $\leq 115$  °C and

$115$  °C < initial boiling point and

(3) for packing group III to 3 entries:

$60$  °C < initial boiling point  $\leq 85$  °C,

$85$  °C < initial boiling point  $\leq 115$  °C and

$115$  °C < initial boiling point.

(c) The carriage is performed in a closed type N vessel. The transport conditions are merely determined on the basis of the vapour pressure at  $50$  °C.

7. However, the entries concerned, which are derived from Table C and relate to the five UN numbers, and in respect of which differences have occurred in the language versions, exclusively involve substances with a benzene content of more than 10%. That means that carriage must be effected in a type C vessel. The particulars for the vapour pressure at  $50$  °C in the designation, which would be relevant only if the carriage was made in a closed type N vessel, may accordingly be omitted in these entries.

8. Using the example of UN No. 1267 PETROLEUM CRUDE OIL, N.O.S., the annex presents a draft based on this for the corresponding entries in Table C.

9. In the meeting participants' view this approach should also be adopted for the other above-mentioned entries. They recommend to subsequently have them translated into the other ADN languages.

**B. Classification as a floater**

10. Besides, in these discussions it became obvious that in several entries a classification as floater had been chosen although, for instance, the classification in packing group II suggests that these mixtures still have a relatively high vapour pressure and/or that these substances have a high solubility. It is recommended to entrust the informal working group on substances with the respective review.

11. In this connection the issue was raised that several substances such as crude oil or naphtha also always contain low-volatile components. The high vapour pressure caused by the highly volatile components leads to the fact that those substances are not classified as floaters, although the damage pattern evoked by the low-volatile components corresponds to that of floaters. It is recommended to discuss this issue in the Safety Committee and, if appropriate, include a corresponding note in the provisions (definitions and classification).

**C. Term “initial boiling point”**

12. Furthermore, it is recommended that in the entire ADN the obsolete term “boiling point” should be replaced by the term “initial boiling point”, which is now common use.

## Annex

(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
UN No. or substance identification No.	Name and description	Class	Classification Code	Packing group	Dangers	Type of tank vessel	Cargo tank design	Cargo tank type	Cargo tank equipment	Opening pressure of the high-velocity vent valve in kPa	Max. degree of filling in %	Relative density at 20 °C	Type of sampling device	Pump room below deck permitted	Temperature class	Explosion group	Anti-explosion protection required	Equipment required	Number of blue cones/lights	Additional requirements/remarks
1267	PETROLEUM CRUDE OIL	3	F1	I	3+(N1, N2, N3, CMR, F)	*	*	*	*	*	*		*	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	*	1	*see 3.2.3.3
1267	PETROLEUM CRUDE OIL	3	F1	II	3+(N1, N2, N3, CMR, F)	*	*	*	*	*	*		*	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	*	1	*see 3.2.3.3
1267	PETROLEUM CRUDE OIL	3	F1	III	3+(N1, N2, N3, CMR, F)	*	*	*	*	*	*		*	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	*	0	*see 3.2.3.3
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE	3	F1	I	3+CMR+F	C	1	1			95		1	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE BOILING POINT ≤ 60 °C	3	F1	II	3+CMR+F	C	1	1			95		1	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE BOILING POINT ≤ 60 °C	3	F1	II	3+CMR+F	C	2	2	3		95		2	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	23; 29; 38
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE 60 °C < BOILING POINT ≤ 85 °C	3	F1	II	3+CMR+F	C	2	2	3	50	95		2	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	23; 29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE 85 °C < BOILING POINT ≤ 115 °C	3	F1	II	3+CMR+F	C	2	2		50	95		2	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE BOILING POINT > 115 °C	3	F1	II	3+CMR+F	C	2	2		35	95		2	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	29

(1)	(2)	(3a)	(3b)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
UN No. or substance identification No.	Name and description	Class	Classification Code	Packing group	Dangers	Type of tank vessel	Cargo tank design	Cargo tank type	Cargo tank equipment	Opening pressure of the high-velocity vent valve in kPa	Max. degree of filling in %	Relative density at 20 °C	Type of sampling device	Pump room below deck permitted	Temperature class	Explosion group	Anti-explosion protection required	Equipment required	Number of blue cones/lights	Additional requirements/ remarks
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE 60 °C < BOILING POINT ≤ 85 °C	3	F1	III	3+CMR+F	C	2	2	3	50	95		2	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	23; 29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE 85 °C < BOILING POINT ≤ 115 °C	3	F1	III	3+CMR+F	C	2	2		50	95		2	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	29
1267	PETROLEUM CRUDE OIL WITH MORE THAN 10% BENZENE BOILING POINT > 115 °C	3	F1	III	3+CMR+F	C	2	2		35	95		2	yes	T4 <sup>3)</sup>	II B <sup>4)</sup>	yes	PP, EP, EX, TOX, A	1	29

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