



**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-seventh session**

Geneva, 21–30 June 2010

Item 3 of the provisional agenda

Listing, classification and packing**Portable tanks instructions for Division 4.3 liquids****Transmitted by the expert from the United States of America¹**

1. At its previous session, the Sub-Committee considered document ST/SG/AC.10/C.3/2009/44 which proposed a number of amendments to provisions for the transport of Division 4.3 liquids in portable tanks. As a result, the Sub-Committee agreed to amend the Guiding Principles for the assignment of portable tank provisions to such materials, and to make consequential amendments to the portable tank provisions for substances currently authorized for transport in portable tanks in the Dangerous Goods List (see ST/SG/AC.10/C.3/72, paras 23-27).

2. Following this discussion, the Sub-Committee also considered informal document INF.20 which proposed that portable tank provisions corresponding to the revised Guiding Principles also be assigned to Division 4.3 liquids not currently authorized for transport in portable tanks. While there was some support for the proposal in principle, some members of the Sub-Committee expressed an interest in reviewing the authorizations for the current authorizations for tanks found in other national and regional regulations. The results of a review of the tank authorizations currently found in the U.S. Hazardous Materials Regulations (49 CFR) and the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) are presented in the following table:

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).

UN No.	PSN	Class	SR	PG	49 CFR tank authorization (per column 8(c) of the 49 CFR DG List)	ADR tank authorization (per column 12 of the ADR DG List)
1389	ALKALI METAL AMALGAM, LIQUID	4.3		I	DOT Specification 51 and 60 portable tanks	L10BN(+)
1392	ALKALINE EARTH METAL AMALGAM, LIQUID	4.3		I	DOT Specification 51 and 60 portable tanks	L10BN(+)
1411	LITHIUM ALUMINIUM HYDRIDE, ETHEREAL	4.3	3	I	DOT Specification 51, 56, 57 and 60 portable tanks	
1420	POTASSIUM METAL ALLOYS, LIQUID	4.3		I	DOT Specification 51 and 60 portable tanks	L10BN(+)
1421	ALKALI METAL ALLOY, LIQUID, N.O.S.	4.3		I	DOT Specification 51 and 60 portable tanks	L10BN(+)
1928	METHYL MAGNESIUM BROMIDE IN ETHYL ETHER	4.3	3	I	DOT Specification 51 and 60 portable tanks	L10DH
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	I	DOT Specification 51 and 60 portable tanks	L10DH
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	II	DOT Specification 51 and 60 portable tanks	L4DH
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	III	DOT Specification 51, 56, 57 and 60 portable tanks	L4DH

3. As is evident from the above, all of the substances in question are currently authorized for land transport in portable tanks except for UN 1411, Lithium aluminium hydride, ethereal, which is not authorized for transport in tanks under the ADR (a review of data has not identified a clear reason for this prohibition). Therefore the review generally supports the addition of portable tank special provisions to these substances in line with other like substances for which portable tank provisions are already provided. On this basis, it is proposed that portable tank provisions be added taking into account the amended guiding principles agreed to at the previous session (Proposal 1).

4. The Sub-Committee will in addition recall that informal document INF.20 (thirty-sixth session) also addressed the fact that a number of Division 4.3 liquids are known to not only react with water to produce flammable gases, but also pose an additional hazard in that they may ignite in contact with water or moist air. This condition is generally caused by the heat of the reaction with water igniting the generated flammable gases. The portable tank assignments recommended within the Guiding Principles do not currently address this additional hazard; however it is considered an important issue to address particularly considering that the addition of a portable tank authorization to the UN Model Regulations will ultimately be considered by the International Maritime Organization for adoption within the IMDG Code. To address this additional hazard, it is proposed that Division 4.3 liquids which can ignite in the presence of water or moist air be assigned portable tank authorizations consistent with those assigned to pyrophoric liquids which pose similar auto-ignition hazards. This approach was discussed at the previous session and would ensure a high level of safety for the transport of such materials. An appropriate tank assignment is considered to be T21, which is currently assigned to liquids posing similar hazards such as UN3392, Organometallic substance, liquid, pyrophoric. To address the issue of n.o.s. entries which may or may not contain materials posing such ignition hazards, it is proposed that a portable tank special provision be assigned to Division 4.3 PG I liquid n.o.s. entries

indicating that for materials which may ignite in the presence of water or moist air, T21 applies rather than the T-Code indicated in the Dangerous Goods List (Proposal 2). If this approach is acceptable to the Sub-Committee, a minor amendment to the Guiding Principles would be necessary (Proposal 3), and a future proposal could consider consequential amendments to Division 4.3 PG I liquid n.o.s. entries currently assigned portable tank provisions and as such not considered in this paper.

Proposal 1

5. Add portable tank instructions and special provisions as follows to the below entries in the Dangerous Goods List:

UN No.	PSN	Class	SR	PG	T	TP
1389	ALKALI METAL AMALGAM, LIQUID	4.3		I	<u>T21</u>	<u>TP2 TP7</u>
1392	ALKALINE EARTH METAL AMALGAM, LIQUID	4.3		I	<u>T21</u>	<u>TP2 TP7</u>
1411	LITHIUM ALUMINIUM HYDRIDE, ETHEREAL	4.3	3	I	<u>T21</u>	<u>TP2 TP7</u>
1420	POTASSIUM METAL ALLOYS, LIQUID	4.3		I	<u>T21</u>	<u>TP2 TP7</u>
1421	ALKALI METAL ALLOY, LIQUID, N.O.S.	4.3		I	<u>T21</u>	<u>TP2 TP7</u>
1928	METHYL MAGNESIUM BROMIDE IN ETHYL ETHER	4.3	3	I	<u>T21</u>	<u>TP2 TP7</u>
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	I	<u>T14</u>	<u>TP2 TP7</u> <u>TP13 TPXX</u>
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	II	<u>T11</u>	<u>TP2 TP7</u>
3130	WATER-REACTIVE LIQUID, TOXIC, N.O.S.	4.3	6.1	III	<u>T7</u>	<u>TP2 TP7</u>

Proposal 2

6. Add the following new portable tank special provision to 4.2.5.3:

TPXX For Division 4.3 packing group I liquids capable of igniting in the presence of water or moist air, portable tank instruction T21 shall apply rather than the portable tank instruction shown in column (10) of the Dangerous Goods List.