



**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****Fortieth session**

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Item 4 (b) of the provisional agenda

**Miscellaneous proposals of amendments to the Model Regulations
on the Transport of Dangerous Goods: portable tanks****Internal inspection of portable tanks used for the transport of
water-reactive organometallic substances****Transmitted by the International Council of Chemical Associations
(ICCA)¹****Background**

1. Paragraph 6.7.2.19.5 requires that the intermediate 2.5 year periodic inspection of portable tanks used for the transport of liquid or solid substances include an internal examination of the portable tank “with due regard to the substances intended to be transported.” That paragraph also provides that the 2.5 year internal examination may be waived or substituted by other methods in the case of portable tanks dedicated to the transport “of a single substance.” However, this provision apparently does not extend to tanks dedicated to the transport of a family of chemically similar substances, such as organometallic substances, and, moreover, may only be invoked subject to the administrative burden of having sought and been granted approval by the competent authority or its authorized body.

2. Water-reactive organometallic substances transported in portable tanks normally require very high purity owing to their intended end use, and/or in order to preclude dangerous reactions. However, before an internal inspection can be performed on a portable tank employed for the transport of these substances, the tank must be opened and

¹ In accordance with the programme of work of the Sub-Committee for 2011-2012 approved by the Committee at its fifth session (refer to ST/SG/AC.10/C.3/76, para. 116 and ST/SG/AC.10/38, para. 16).

cleaned and purged. In this process, it is difficult to ensure that all water or other impurities or contaminants introduced during the cleaning are fully removed. Consequently, there is a risk any residual water or contaminants will initiate a dangerous reaction or adversely affect product purity when organometallic substances are again introduced into the tank.

3. At the same time, since these organometallic substances are fully compatible with, and, in particular, are not corrosive to the materials of construction used in such tanks, typically carbon steels, the likelihood that an internal inspection will reveal any corrosion, pitting or other deterioration of the tank is rather remote. Indeed, many years of experience in the inspection of portable tanks used to transport organometallic substances has confirmed this. In light of this experience, and in order to avoid the greater risk of a dangerous reaction with and/or product contamination by any residual water or other impurities or contaminants, ICCA believes that it is preferable from the safety point of view not to perform the required 2.5 year internal inspection.

4. Consequently, ICCA proposes that the Model Regulations be amended to waive the 2.5 year internal inspection for portable tanks used for the transport of liquid and solid organometallic substances provided that the portable tank remains in the dedicated service of transporting organometallic substances. However, all other required 2.5 year inspections and tests would still be performed, as well as the full 5 year periodic test and inspection (which would include an internal inspection). Internal inspection at five year intervals is considered sufficient, in light of the non-corrosive characteristics of the materials transported, to identify any internal deterioration of the tank before it would pose a significant risk in transport. On the other hand, safety will be enhanced by eliminating the potential for dangerous reaction of the contents by reducing the possibility that contamination or water may be introduced in the tank during the inspection process.

Proposals

5. Insert a reference to “TPXX” in column (11) of the Dangerous Goods List entry in Chapter 3.2 for the following water-reactive organometallic substances (all packing groups): UN 3393, UN 3394, UN 3395, UN 3396, UN 3397, UN 3398, and UN 3399.

6. Add a new portable tank special provision in 4.2.5.3 to read as follows:

“TPXX Portable tanks need not be subjected to the 2.5 year internal inspection required under 6.7.2.19.5 provided that the portable tank remains dedicated to the transport of the organometallic substances to which this tank special provision is assigned.”.