



**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****Fiftieth Session**

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Item 6 of the provisional agenda

New proposals for amendments to the Model**Regulations on the Transport of Dangerous Goods****Lead lining testing requirements for bromine portable tanks****Transmitted by the expert from the United States of America¹****Introduction**

1. The Model Regulations assign portable tank special provision TP10 to “UN 1744 Bromine or Bromine Solution.” This portable tank special provision requires portable tanks to have a lead lining not less than 5 mm thick, which shall be tested annually, or another suitable lining material approved by the competent authority. This document proposes to authorize the transportation of bromine portable tanks for the purposes of performing the next required test, after emptying, but before cleaning, for an additional three months.

Discussion

2. The requirement for a lead lining, or other suitable lining material approved by the competent authority, exists to prevent the bromine or bromine solution from contact with the tank shell. Bromine reacts with aluminium and other metals.

3. The Model Regulations contain authorizations for the transport of portable tanks that have passed the date of expiry of their last 5 year or 2.5 year periodic inspection and test in 6.7.2.19.6. These authorizations allow the transportation of portable tanks that have passed the date of expiry of their required testing for: (1) a portable tank filled prior to the date of

¹ In accordance with the programme of work of the Sub-Committee for 2015–2016 approved by the Committee at its seventh session (see ST/SG/AC.10/C.3/92, paragraph 95 and ST/SG/AC.10/42, para. 15).

expiry of the last periodic inspection and test to be transported for a period not to exceed three months; (2) after emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling; and (3) a portable tank to be transported for a period not to exceed six months, unless otherwise approved by the competent authority, beyond the date of expiry of the last periodic test or inspection to allow for the return of dangerous goods for proper disposal or recycling. No such relief is provided for the liner inspection requirement found in portable tank special provision TP10.

4. Bromine tanks encounter the same types of delays in transportation that necessitated the inclusion of extended periods of time for 5 year or 2.5 year periodic inspections. Some examples of situations encountered that may cause a bromine tank to need to be transported after the date of expiry of the inspection of its liner include; weather delays, missing a vessel loading, and customers maintaining tanks for storage and use at their facilities.

5. To assess the safety of allowing the transport of emptied but uncleaned bromine tanks in transportation for the purposes of performing the next required test for an additional three months lead lining inspection reports were obtained and reviewed. Annual inspection reports covering a 5 year period were obtained for 10 tanks in dedicated bromine service, and a further 5 lead lining inspection reports were obtained for tanks in dedicated bromine service that had been inspected after a year but no more than 15 months after the date of the last inspection. Each of these reports contains test results on the lead liner giving at least 67, but up to 1164, separate readings of lead lining thickness.

6. An analysis of the data provided shows that for the 10 portable tanks inspected within the normal one year period the percentage of readings falling within an acceptable range (5 mm or greater) to be 98.6%. For the 5 tanks that were inspected between 12 months but before 15 months the percentage of readings falling within an acceptable range (5 mm or greater) was 99.1%. The data indicates that an authorization to transport these empty but uncleaned tanks for an additional three months does not materially impact the ability of the lead liner to prevent the tanks contents from contacting the shell.

7. As an additional safety measure, this proposal is limited to portable tanks for bromine that are offered for transportation after emptying but before cleaning. This limitation restricts the amount of bromine in the tank and reduces the possibility of contact with the material and the shell.

Proposal

8. In 4.2.5.3 portable tank special provision TP10 is revised to read as follows:

TP10 A lead lining, not less than 5 mm thick, which shall be tested annually, or another suitable lining material approved by the competent authority is required. A portable tank may be offered for transport after the date of expiry of the last lining inspection for a period not to exceed three months beyond the of expiry of the last testing, after emptying but before cleaning, for purposes of performing the next required test or inspection prior to refilling.