Comments on ECE/TRANS/WP.15/AC.1/2016/37: Carriage of tanks for bromine after the expiry date of the annual test of the lining

Transmitted by the Government of the United States

1. With respect to the issues raised by France in ECE/TRANS/WP.15/AC.1/2016/37 regarding the transport of Bromine (UN 1744), the United States reproduces herewith a proposal submitted to the upcoming 50th Session of the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods.

2. The United States welcomes all comments in relation to the attached proposal in order to ensure comprehensive consideration at the upcoming TDG session.
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
Geneva, 28 November-6 December 2016
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 America

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

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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
eramples 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 or 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.