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**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****Forty-third session**

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Item 6 (g) of the provisional agenda

**Miscellaneous proposals for amendments to the Model Regulations  
on the Transport of Dangerous Goods: packagings****Interpretation concerning inspection and testing of  
packagings and IBCs in accordance with paragraphs 6.1.1.3  
and 6.5.4.4****Transmitted by the expert from Sweden<sup>1</sup>****Background**

1. The competent authority in Sweden has received some questions concerning inspection and testing of IBCs. While trying to answer these questions the expert from Sweden noted that there seem to be some uncertainties concerning the interpretation of the provisions for testing and inspection of IBCs in subparagraph 6.5.4.4. The intent of this paper is to gain information about how other countries and non-governmental organizations interpret these provisions. The expert from Sweden believe it is important that there are harmonized views concerning the requirements for testing and inspection of IBCs as well as for packagings.

2. In 6.5.4.4.2 it is stated that every metal, rigid plastics and composite IBC which are filled or discharged under pressure, shall undergo a suitable leakproofness test at least equally effective as the test prescribed in 6.5.6.7.3 and be capable of meeting the test level indicated in 6.5.6.7.3. The leakproofness test shall be performed before the IBCs are first used and thereafter at intervals of not more than two and a half years.

3. According to the information obtained, it seems to be common practice that composite IBCs are tested at the manufacturing site using an air-pressure differential test

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<sup>1</sup> In accordance with the programme of work of the Sub-Committee for 2013-2014 approved by the Committee at its sixth session (refer to ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

and applying a pressure of 0.02-0.03 bar (2 kPa-3 kPa) during approximately 90 seconds. The test is performed in the production line before the IBCs are completed for use and this test would constitute the leakproofness test which is required before the IBCs are first used for transport. The leakproofness test carried out every two and a half years (the periodic inspection) on the composite IBCs also appears to be performed at these pressure levels.

4. The reason presented for using a pressure of approximately 0.02 bar instead of 0.2 bar is that the composite IBC is not capable of withstanding higher pressures because the inner receptacle, as well as the metal casing, will be deformed. Furthermore, it is also considered to be inefficient and too time-consuming to test every IBC in the production line for 10 minutes (as indicated in 6.5.6.7.3).

5. According to the information received, the leakproofness test for metal IBCs is nonetheless carried out as stated in 6.5.6.7.3, i.e. during a period of at least 10 minutes using air pressure of not less than 20 kPa (0.2 bar) and leaks are detected by coating the seams and joints with a soap solution.

6. Similarly, it is stated for packagings in 6.1.1.3 that every packaging intended to contain liquids shall successfully undergo a suitable leakproofness test, and be capable of meeting the appropriate test level indicated in 6.1.5.4.3. This test shall be performed before the packagings are first used for transport and after remanufacturing or reconditioning.

7. The packagings are tested irrespectively of material at the manufacturing site using an air-pressure differential test and applying a pressure of 0.05-0.06 bar (5 kPa-6 kPa) during 10 seconds, according to information from a test institute. The test is performed in the production line and constitutes the leakproofness test which is required before the packagings are first used for transport.

## Interpretation

8. The expert from Sweden would like to hear the views of other delegates whether the requirements in 6.5.4.4.2 and 6.5.6.7.3 is considered fulfilled when the leakproofness test is carried out using an air-pressure differential test and applying a pressure of 0.02-0.03 bar (2 kPa-3 kPa). Depending on the view of the Sub-Committee, the expert from Sweden also would like to know if it would be appropriate to amend the testing provisions to differentiate between different types of IBCs (metal, plastics and composite) and possibly also between the leakproofness test carried out before the IBCs are first being used and the test used for the periodic inspection (every two and a half years).

9. It is unfortunate if the testing methods approved or recognized by different states significantly differ. A harmonized approach is important from the manufacturers' perspective, and a harmonized safety level for IBCs used for transport is also desirable. It could therefore be appropriate to describe and further exemplify methods that are considered to be equally effective as those mentioned in 6.5.6.7.3.

10. Lastly, in 6.5.4.4.1 it is stated that IBCs shall be inspected to the satisfaction of the competent authority. However, in the following subsection 6.5.4.4.2 concerning the leakproofness test, no corresponding reference is given to the competent authority. The expert from Sweden wonder if this reference to the competent authority is an omission in subsection 6.5.4.4.2, or if it is deliberately not mentioned for the leakproofness test.

11. As mentioned for IBCs, the expert from Sweden would also like to hear the views of other delegates whether the requirements in 6.1.1.3 and 6.1.5.4.3 are considered to be fulfilled when using an air-pressure differential test and applying a pressure of 0.05-0.06 bar (5 kPa-6 kPa) for a duration of 10 seconds.