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
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PACKAGINGS (INCLUDING IBCS AND LARGE PACKAGINGS)

Packaging
Liquid-tight closure test

Transmitted by the Expert from China

Background

In the Recommendation on the Transport of Dangerous Goods, the leakproofness test and the internal pressure (hydraulic) test are set for the packages of liquid dangerous goods. During the transportation of dangerous goods, many solid dangerous goods may also demand damp-proof packages, such as solid dangerous goods in Classes 4, 5, 6.1, 8 and 9. This is required in the IMDE CODE, DGR and RID. From this point, it is a common problem. But in the above codes and the Recommendation on the Transport of Dangerous Goods, there are no descriptions of how to carry out the damp-proof test of packages for solid dangerous goods. For this reason, we propose adding the requirement of the liquid-tight closure test of packages for solid dangerous goods (only for those solid dangerous goods requiring damp-proof packages of course) in the Recommendations on the Transport of Dangerous Goods Model Regulations, so as to normalize the requirement of liquid-tight closure test of packages for solid dangerous goods.

The liquid-tight closure test is also called the "effectively closed" test - in other words, the seal of the package is liquid-tight. In recent years, China has been carrying out the liquid-tight closure test of part of the packages for export solid dangerous goods lining in Classes 4, 5and 6.1, such as 1A2 for goods No. UN2946(class4.1) and UN1673(class6.1), so as to impel the manufacturers of this kind of package to improve the technological requirements of package closures, and ensure the storage and transport safety of solid dangerous goods requiring damp-proof.

Furthermore, it should be added in Chapter 4.1 (ST/SG/AC.10/Rer.11) demanding liquid-tight sealing test, if the expert cannot agree with the method of the liquid-tight sealing test. For this reason, we have prepared two kinds of proposal: Add liquid-tight sealing test for part of the packages for solid dangerous cargo in **6.1.5 test requirements for packaging**; Or, mention the demand of the appropriate sealing test for part of the packages for solid dangerous cargo in section 4.1.1.12.

Proposal 1

Add the following new section:

6.1.5.7   Liquid-tight closure test

Packing to be tested: Liquid-tight closure test should be carried on all design types of package containers intended for solid requiring damp-proof.

Quantity of test samples: Three test samples per design type and manufacturer.

Special preparation of packaging for testing: Drums, jerricans, composite packaging shall be filled to not less than 98% of their maximum capacity for water, the boxes bags shall be filled to not less than 95% of their maximum capacity solid succedaneum. Seal the packages, including internal packages, as for transportation.

Test method: For drums, jerricans and composite packaging, place them upside down or horizontal and keep the seals stay at the lowest position for 24 hours; For boxes and bags, immerse them in water and submerge the seals for 5 minutes.

6.5.1.7.5   Criterion for passing the test: The test samples should not leak out or leak in. For boxes and bags, the internal packages should not leak in at least.

Or proposal 2

Before amendment:

6.1.5.12   Every packaging, including IBCs, 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, or 6.5.4.7 for the various types of IBCs: ……

After amendment:

4.1.1.12   Every packaging, including IBCs, intended to contain liquids and a substance of Classes 4, 5, 8, and 9, divisions 6.1 shall successfully undergo a suitable leakproofness test, and be capable of meeting the appropriate test level indicated in 6.1.5.4.3, or 6.5.4.7 for the various types of IBCs: ……

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