
**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

Twenty-eighth session
Geneva, 28 November – 7 December 2005
Item 3 (c) of the provisional agenda

PACKAGES (INCLUDING IBCs AND LARGE PACKAGES)

Water Resistance of IBCs

Transmitted by the expert from Australia

SCOPE

This proposal aims to recommend that a definition of 'water resistant' be incorporated into section 1.2.1 and to recommend changes to the packing instruction to ensure water resistant packages are used where substances are likely to react with water.

RELATED DOCUMENTS

ST/SG/AC.10/C.3/2004/75 - (China) Packing instruction for DICHLOROISOCYANURIC ACID SALTS.

ST/SG/AC.10/C.3/2004/76 - (China) Waterproof Packaging.

UN/SCETDG/27/INF.16 - (Australia) Water Resistance of IBCs.

ST/SG/AC.10/C.3/54 - (Secretariat) Report of the Sub-Committee of Experts on its 27th session.

Introduction

1. China's paper ST/SG/AC.10/C.3/2004/76, tabled at the 27th session, appeared to highlight a problem in respect of determining the effectiveness of water resistance. Australia agreed with China that the issue warranted attention but proposed a different approach through UN/SCETDG/27/INF.16. The Chinese and Australian papers focused mainly on IBCs rather than the water resistance of packages as a whole.

2. During the 27th session both papers were discussed and some experts indicated more details on the incident described in paper ST/SG/AC.10/C.3/2004/75, which resulted in the proposals contained in paper ST/SG/AC.10/C.3/2004/76, would have been useful. However, as indicated in paragraph 26 and 27 of the report of the 27th session, it was also noted that members of the Sub-Committee were also of the opinion that:

- (i) it would be useful to define the term 'water resistant' with greater precision, since a water resistant bag did not necessarily prevent moisture from getting in; and
- (ii) it would be more appropriate to settle the matter globally by ensuring that non-waterproof packagings could not be used for substances likely to react dangerously with water.

Background

3. Australia notes that paragraph 27 of the report (item (ii) above) is addressed to an extent in respect of packages through entries related to water resistance for bags of type 5H3, 5L3 and 5M2 in sections 6.1.4.16.4, 6.1.4.15.3 and 6.1.4.18.2 of the 14th edition of the Model Regulations respectively. However, as noted in paper UN/SCETDG/27/INF.16, there are no similar provisions contained in the provisions related to IBCs of type 13H4 and 13L4. In paper UN/SCETDG/27/INF.16 Australia sought to resolve the issue globally by proposing that a new section be entered into Chapter 6.5 to address IBCs of type 13H4 and 13L4 but upon review accepts that this may not be sufficient to cover all situations and a better approach is required.

4. Despite being used in paragraph 27 of the report Australia does not believe the use of the term ‘waterproof’ should be employed for the purpose of a definition. When used as a definition it suggests the package should be resistant to complete immersion, which is not practically achievable for the bags and liners being considered. As such any definition should relate to ‘water resistance’ and the ability of the package to protect the contents from moisture. The term ‘waterproof’ is still relevant as used in the Model Regulations for packages containing liquids.

5. After considering the comments of the Sub-Committee, as noted in paragraph 26 and 27 of the report, Australia believes that the issue can be addressed through:

- (i) an effective definition for ‘water resistant’ in section 1.2.1;
- (ii) a defined expectation for the water resistance of packages in Chapter 6 of the Model Regulations; and
- (iii) changes to current special packing provisions for IBCs to refer to the definition and package design requirements of Chapter 6.

Proposal

6. As recommended in UN/SCETDG/27/INF.16 Australia recommends that a definition for ‘water resistant package’ incorporating the words ‘impervious to moisture’ be included in section 1.2.1 of the Model Regulations. In recognising that the scope of this definition must cover moisture on the package and laying under it, it is recommended the wording be to the effect that:

“packages that are impervious to moisture in the form of rain, spray, or condensation when closed and are also impervious to any resultant run off or pooling of moisture on or under the package”

7. Australia recommends that performance based requirements be included in Chapter 6.1 and 6.5 of the Model Regulations to define what is expected of a water resistant package.

“6.1.x.x Water Resistance

Packages required to be water resistant to prevent the entry of moisture should be capable of being effectively sealed when closed to prevent the ingress of water. When closed the package should be capable of preventing moisture in the form of rain, spray, and condensation, and any resultant run off or pooling of moisture on or under the package, coming into contact with its contents”

“6.5.3.x Water Resistance

IBCs required to be water resistant by packing instruction B3 and B4 should be capable of being effectively sealed when closed to prevent the ingress of water. When closed the package, or its liner, should be capable of preventing moisture in the form of rain, spray, and condensation, and any resultant run off or pooling of moisture on or under the package or liner, coming into contact with its contents.”

8. Australia notes that fitting a liner in an IBC will not necessarily make a package water resistant, as the liner must have particular properties to achieve this objective. In order to ensure that the requirement that IBCs, or their liners, are water resistant is clearly enunciated in the Model Regulations Australia recommends that references to the draft 6.5.3.x, described in paragraph 7 above, be incorporated in IBC special packing provisions B3 and B4:

“B3 Flexible IBCs shall be sift-proof and water resistant or shall be fitted with a sift-proof and water resistant liner (see 6.5.3.x in respect of water resistance).”

“B4 Flexible, fibreboard or wooden IBCs shall be sift-proof and water resistant or shall be fitted with a sift-proof and water resistant liner (see 6.5.3.x in respect of water resistance).”
