

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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Item 4 (c) of the provisional agenda

PACKAGINGS (INCLUDING IBCS AND LARGE PACKAGINGS)

Comments on ST/SG/AC.10/C.3/2005/2

UV Resistance of plastics used in IBCs

Transmitted by the expert from Canada

1. The Expert from Canada agrees with the technical aspects of the paper submitted by the Expert from Australia regarding the UV resistance of plastics used in IBCs and believes that the Expert from Australia has raised a pertinent issue.
2. The Expert from Canada is of the opinion, however, that restricting the transport of non UV protected plastic IBCs to closed transport units may not be entirely helpful since it is the Canadian experience that many of these IBCs are exposed to the sun in storage and so the transport cycle represents only a very small part of the of the IBC's total exposure time.
3. In addition, rather than requiring the marking of different levels of UV resistance the Expert from Canada would like to suggest that consideration be given to requiring rigid plastic IBCs and IBCs with plastics inner receptacles to have a level of UV resistance of at least 5 years resistance to weathering. If this were to be adopted marking in addition to the UN mark would not be necessary and the proposal in Item 8 of the paper from the Expert from Australia would not be needed. It should be noted that it is not always reasonable to expect a manufacturer of an IBC to know how or when the IBC will be exposed to UV rays or the level of the exposure.

The Expert from Canada is of the opinion that the cost for added UV resistance would provide real benefit for manufacturers and users.

4. Consequently, section 6.5.2.2.5 in the proposal submitted by the Expert from Australia could be re-numbered, for inclusion in the Specific requirements for rigid plastics IBCs and Specific requirements for composite IBCs with plastic inner receptacles, and modified as follows:

6.5.3.3.5 For rigid plastic IBCs, the level of UV resistance/protection, as determined by a weathering test, shall be at least 5 years resistance to weathering.

6.5.3.3.6 Resistance to weathering should be determined using one of the methods described in ISO 877:1994 to reproduce, or simulate, exposure up to 5 years or until degradation is noted in the sample of material tested. Assessment of the degradation of the material tested should be carried out in accordance with ISO 4582:1998 although the period where any reduction in strength or any evidence of cracking, crazing, deformation or delamination is noted should be considered the effective life of the material in respect of UV resistance. ”

AND

6.5.3.4.6.1 For plastic inner receptacles of composite IBCs, the level of UV resistance/protection, as determined by a weathering test, shall be at least 5 years resistance to weathering.

6.5.3.4.6.2 Resistance to weathering should be determined using one of the methods described in ISO 877:1994 to reproduce, or simulate, exposure up to 5 years or until degradation is noted in the sample of material tested. Assessment of the degradation of the material tested should be carried out in accordance with ISO 4582:1998 although the period where any reduction in strength or any evidence of cracking, crazing, deformation or delamination is noted should be considered the effective life of the material in respect of UV resistance. ”

5. The Expert from Canada is of the view that a requirement for UV resistance of 5 years would correlate well with the existing life limit of 5 years on plastic containers already in Section 4.1.1.15 of the UN Recommendations.
