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Working Party on the Transport of Dangerous Goods

(Geneva, 13-17 September 2004,
agenda item 5)

NEW PROPOSALS TO AMENDMENTS TO RID/ADR/ADN

Compatibility testing of plastics packaging

Transmitted by the Government of the Netherlands */

SUMMARY	
Executive Summary:	Updating of the present system of compatibility testing in RID/ADR.
Action to be taken:	Amendment to the relevant paragraphs of Part 4 and 6 of RID/ADR 2005.
Related documents:	See informal document INF.4 for more detailed results.

Introduction

In the period 1997-2000, a project was carried out with the support of the SMT (Standards, Measurements and Testing) programme of the European Commission (contract no. SMT 4-CT97-2175) called CHEMPACK. In this project, coordinated by TNO in the Netherlands, 4 European institutes acting as test institutes and competent authorities for matters concerning the packaging of dangerous goods cooperated with 9 industrial companies (manufacturers of the material polyethylene and manufacturers of packaging and IBCs).

*/ Circulated by the Central Office for International Carriage by Rail (OCTI) under the symbol OCTI/RID/GT-III/2004/19.

The objectives of the project CHEMPACK were twofold:

1. To investigate if the present system of compatibility testing of plastics packaging and IBCs with standard liquids as included in the regulations of RID/ADR for specific kinds of PE (polyethylene) can be applied to PE in general.
2. To evaluate the present procedure of testing with standard liquids and the assimilation of substances.

The results¹ showed that the present system of compatibility testing with standard liquids for specific kinds of PE can indeed be applied to packagings and IBCs manufactured from PE in general.

Also the assimilation procedures as given in Chapter 4.1 of the RID/ADR regulations and in more detail in the standard EN ISO 16101 can be applied more widely.

Further, it was shown that the standard liquid system can be simplified as follows:

- For the standard liquids wetting solution and acetic acid, it is not necessary to store the packaging/IBC for 3 weeks at 40 °C, as mentioned in 6.1.5.2.6, when the samples are subjected to a stacking test (performed with the standard liquid at 40 °C for 4 weeks);
- The best choice for the standard liquid wetting solution is an aqueous solution of alkyl benzene sulphonate in view of the temperature stability and required minimum concentration.

On the basis of these results, it is proposed to make some amendments to RID/ADR.

Apart from this proposal, which is a matter of change of contents of RID/ADR 2005, a further discussion is to be expected in the Joint Meeting in 2005, on the way of how to refer in RID/ADR to the standard EN ISO 16101, pending a discussion in the UN Sub-Committee in July 2004 (see informal document UN/SCETDG/25/INF.16). This discussion could lead to some editorial changes to this proposal.

Proposal

The following modifications are proposed:

- 4.1.1.2 Note delete “high and medium molecular mass”;
- 4.1.1.19.1 - 1st sentence delete “high and medium molecular mass”;
- 1st sentence delete “high molecular mass”;
- 6.1.5.2.5 Note delete “high or average molecular mass”;

¹ More detailed results are to be found in informal document INF.4.

- 6.1.5.2.6 - 1st sentence delete “high molecular mass” (2x).
- 1st sentence delete the text “conforming to the following specifications..... in accordance with ISO Standard 1133”;
- 2nd sentence delete “high or medium molecular mass”;
- Insert after 3rd sentence: “Storage is not required for test samples which are used for the stacking test in case of the standard liquids wetting solution and acetic acid”;
- Last sentence delete “high density, high or medium mass”.
- 6.1.5.2.7 1st sentence delete “high or medium molecular mass”.
- 6.1.6 Delete “high or medium molecular mass”.
- 6.1.6.1 (a) replace “1 to 10% of a wetting agent” by “alkyl benzene sulphonate”.
- 6.1.6.2 (f) Insert after 2nd sentence: “A design type test with water is not required if adequate chemical compatibility is proved with wetting solution or nitric acid”.
- 6.5.4.3.5 - 1st sentence delete “high molecular mass”;
- 1st sentence delete “conforming to the following specifications..... in accordance with ISO Standard 1133”;
- 2nd sentence delete “high or medium molecular mass”;
- last sentence delete “high density, high mass”;
- insert after 3rd sentence: “Storage is not required for test samples which are used for the stacking test in case of the standard liquids wetting solution and acetic acid”.
- 6.5.4.3.6 1st sentence delete “high molecular mass”.
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