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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

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Item 7 of the provisional agenda
New proposals for amendments to the Model Regulations on the Transport of Dangerous Goods

Compatibility tests of plastics packagings and plastics IBCs

Submitted by the expert from Germany[1]

Introduction

1. According to the United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations 6.1.5.2.4 and 6.5.6.3.2, it has to be ascertained that the plastics material used in the manufacture of plastics packagings, rigid plastics IBCs and composite IBCs intended to contain liquids complies with the requirements in 6.1.1.2, 6.1.4.8.1, 6.1.4.8.3; 6.5.5.3.2 to 6.5.5.3.4 and 6.5.5.4.6 to 6.5.5.4.9 respectively.

2. There are examples in 6.1.5.2.4 and 6.5.6.3.3 how this compliance may be checked. The packagings or IBCs may be submitted to a preliminary test during which the samples are stored, for example for six months, when they are filled with the liquids they are intended to contain. Afterwards these samples are submitted to the prototype tests listed in 6.1.5.3, 6.1.5.4, 6.1.5.5, 6.1.5.6 and in the table 6.5.6.3.5.

3. To give more guidance to the test labs the German expert propose referring to ISO 13274:2013 “Packaging - Transport packaging for dangerous goods - Plastics compatibility testing for packaging and IBCs” in a note following the texts of 6.1.5.2.4 and 6.5.6.3.3. This standard would help test labs to do chemical compatibility tests and provide acceptable guidance on procedures which may be followed.

[1] 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).

Proposal

4. Amend the text of 6.1.5.2.4 to read as follows:

"Additional steps shall be taken to ascertain that the plastics material used in the manufacture of plastics drums, plastics jerricans and composite packagings (plastics material) intended to contain liquids complies with the requirements in 6.1.1.2, 6.1.4.8.1 and 6.1.4.8.3. This may be done, for example, by submitting sample receptacles or packagings to a preliminary test extending over a long period, for example six months, during which the samples would remain filled with the substances they are intended to contain, and after which the samples shall be submitted to the applicable tests listed in 6.1.5.3, 6.1.5.4, 6.1.5.5 and 6.1.5.6. For substances which may cause stress-cracking or weakening in plastics drums or jerricans, the sample, filled with the substance or another substance that is known to have at least as severe a stress-cracking influence on the plastics material in question, shall be subjected to a superimposed load equivalent to the total mass of identical packages which might be stacked on it during transport. The minimum height of the stack including the test sample shall be 3 metres.

NOTE*: *Tests to check the chemical compatibility may be performed according to ISO 13274:2013 'Packaging - Transport packaging for dangerous goods - Plastics compatibility testing for packaging and IBCs.'"

5. Amend the text of 6.5.6.3.3 to read as follows:

"This may be done, for example, by submitting sample IBCs to a preliminary test extending over a long period, for example six months, during which the samples would remain filled with the substances they are intended to contain or with substances which are known to have at least as severe a stress-cracking, weakening or molecular degradation influence on the plastics materials in question, and after which the samples shall be submitted to the applicable tests listed on the table in 6.5.6.3.5.

NOTE: *Tests to check the chemical compatibility may be performed according to ISO 13274:2013 'Packaging - Transport packaging for dangerous goods - Plastics compatibility testing for packaging and IBCs.'* "