



**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****Fifty-seventh session**

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Item 6 (b) of the provisional agenda

**Miscellaneous proposals for amendments to the Model Regulations
on the Transport of Dangerous Goods:
packagings****Definition of recycled plastics material****Transmitted by the experts from International Confederation of
Plastics Packaging Manufacturers (ICPP) and the International
Confederation of Container Reconditioners (ICCR)*****Introduction**

1. At the fifty-sixth session ICPP and ICCR submitted ST/SG/AC.10/C.3/2019/51 and informal document INF.16 (56th session) to initiate discussions on how the definition of recycled plastics material in Chapter 1.2 of the Model Regulations could be modified to address current practise.
2. In the meeting most experts agreed that a minimum set of provisions is necessary to ensure a harmonized approach to quality assurance. We have considered this in our new proposal.
3. The definition of recycled plastic material, as set out in 1.2.1, is from the 1990s when the requirements were understandably conservative. In 2007, the definition was supplemented by the note, which provides more detailed information on the handling of recycled material. The text has not been modified in any other aspects and should therefore be brought into line with the current procedures.
4. The requirements for the properties of recycled resins (i.e., melt flow index, density and tensile strength) for plastic packaging of dangerous goods are very high. Experience has shown that only used industrial packagings from separate collections and sorting can ensure this, as plastics waste from household collections have very different properties which cannot be used for this purpose. As part of any quality assurance programme, a manufacturer must ensure the quality of materials that will be used. In the manufacture of plastic packagings, this would include ensuring that resin materials are within specifications for the particular

* 2020 (A/74/6 (Sect.20) and Supplementary, Subprogramme 2)

design type. This should be done irrespectively of whether the plastics material is new or recycled.

5. The production of the recycled material today is a continuous process in which large quantities are produced. In order to take into account this process and the very extensive experience from several countries that process recycled material, ICPP believes that the specific testing required for each batch of plastics material should be left to the respective competent authority to prescribe / accept a satisfactory quality assurance (QA) programme. ICPP therefore recommends deletion of “each batch of” from the definition of recycled plastics material as follows:

“The quality assurance programme shall include a record of proper pre-sorting and verification that ~~each batch of~~ recycled plastics material has the proper melt flow rate, density, and tensile yield strength, consistent with that of the design type manufactured from such recycled material.”

6. Experience has also shown that when recycled resin properties are within specifications through effective collection, sorting and processing, the resulting plastic packagings consistently comply with performance requirements. Thus, performance of UN packagings made from recycled resins have been shown to be consistent with that of packagings made from virgin resin materials.

7. Further, as with all packagings, packagings made from recycled resin material are subject to a quality assurance programme. Therefore, the provisions for the QA programme under 6.1.1.4 (packaging) and 6.5.4.1 (IBC) apply regardless of whether the plastics material is new or recycled.

8. In 2007, 6.1.1.4 and 6.5.4.1 were supplemented by a note, which provides more detailed guidance on the procedures that can be followed.

9. The same tests should be performed as for packagings made from virgin material and the test frequency for packagings made of recycled plastic material could be specified by the competent authority depending on the individual experience.

10. ICPP proposes that from the accumulated global experience of over 30 years of using recycled plastic in other regulated packagings and nonregulated containers that the required test frequency of packagings manufactured using recycled plastics material may be safely aligned with that for packagings made from resin materials not previously used. Therefore, the last two sentences in the definition are no longer appropriate and should be removed.

11. Due to the current situation (COVID-19), we have not yet received feedback from all the delegations requested. So, it is ICPP’s intention to provide additional information in advance of the 57th session of the Sub-Committee, if necessary.

Proposal

12. Modify the current wording of UN Model Regulation to read as follows (stricken out text is deleted):

“1.2.1 Definitions

Recycled plastics material means material recovered from used industrial packagings that has been cleaned and prepared for processing into new packagings. The specific properties of the recycled material used for production of new packagings shall be assured and documented regularly as part of a quality assurance programme recognized by the competent authority. The quality assurance programme shall include a record of proper pre-sorting and verification that ~~each batch of~~ recycled plastics material has the proper melt flow rate, density, and tensile yield strength, consistent with that of the design type manufactured from such recycled material. This necessarily includes knowledge about the packaging material from which the recycled plastics have been derived, as well as awareness of the prior contents of those packagings if those prior contents might reduce the capability of new packagings produced using that material. ~~In addition, the packaging manufacturer's quality~~

~~assurance programme under 6.1.1.4 shall include performance of the mechanical design type test in 6.1.5 on packagings manufactured from each batch of recycled plastics material. In this testing, stacking performance may be verified by appropriate dynamic compression testing rather than static load testing.~~

NOTE: ISO 16103:2005 “Packaging – Transport packages for dangerous goods – Recycled plastics material”, provides additional guidance on procedures to be followed in approving the use of recycled plastics material.”
