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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****Fifty-fifth session**

Geneva, 1-5 July 2019

Item 6 (b) of the provisional agenda

**Miscellaneous proposals for amendments to the Model****Regulations on the Transport of Dangerous Goods: packagings****Packaging performance testing for articles with the potential  
to produce excessive heat****Transmitted by the expert from the United Kingdom\*****Introduction**

1. The packaging performance tests are one of the fundamental principles of the Model Regulations and their origins can be traced back to the first edition. The tests that were mandated and their application to the various types of packaging were based on common usage of packaging at that time. The testing of the packagings demonstrated performance for the known hazards associated with the physical characteristics of the goods commonly being transported. Little has changed in regard to package testing over the last 50 years other than the removal of the cooperage test once it was established that wooden barrels were no longer used for the general transport of dangerous goods.

2. Developments in the types of dangerous goods over the years, particularly in relation to some articles, introduced a new hazard into the transport of dangerous goods most notably malfunction of the article leading to the development of excessive heat. Initially this hazard was not identified but after a number of accidents and incidents this particular hazard has come to the fore, particularly in the last 20 years. In addition, particularly in the case of lithium batteries, the number of movements has dramatically risen.

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\* In accordance with the programme of work of the Sub-Committee for 2019–2020 approved by the Committee at its ninth session (see ST/SG/AC.10/C.3/108, paragraph 141 and ST/SG/AC.10/46, paragraph 14).

3. Attempts to mitigate the hazard using the packaging have been piecemeal and have appeared as additional provisions written into packing instructions, for example, P500 (applied to UN 3356 OXYGEN GENERATOR, CHEMICAL) and P911 (applied to UN 3090, UN 3091, UN 3480 and UN 3481). Whilst this is clearly a step in the right direction it was recognised at an IATA Lithium Battery Workshop in 2016 that there was a significant deficiency. There was no easily established way of determining compliance with these additional provisions, such as finding out who did the package testing, what the results were or even if a particular package has had the additional testing.

## Discussion

4. To assist in responding to these issues whilst acknowledging the fundamental principles of the Model Regulations packaging system and the practicalities of accessible package testing, the expert from the United Kingdom would welcome comments on the possible means to address this issue through the following:

- (a) Consolidating and moving the appropriate package test text from the packing instructions to new sections in chapters 6.1 and 6.6;
- (b) To include where necessary pass/fail criteria for the tests;
- (c) To introduce a prefix or suffix in the packaging code indicating that the packaging has passed the tests;
- (d) To introduce some additional package marks to indicate the tested performance limits; and
- (e) Amend the packing instructions to delete duplicated text and create the link to the required performance tests.

5. For the detailed proposals with all the proposed changes listed in a) to e) above refer to informal documents INF.8 and INF.9.

## Justification

6. This proposal builds on the existing packaging testing regime and brings the verification of the testing into the Competent Authority remit, which facilitates greater control and scrutiny over package testing.

7. It would provide a mechanism for freight checkers to easily establish if the packaging has been tested for excessive heat and the ability to easily verify the authenticity of the packaging and would aid users in achieving compliance and make it harder to avoid compliance. Additionally, if adopted these proposals collectively provide the opportunity to substantially reduce the risk posed throughout the transport chain by the carriage of these articles.

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