

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

14 June 2016

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Geneva, 27 June – 6 July 2016

Item 4 (d) of the provisional agenda

Electric storage systems: miscellaneous

Large packagings for lithium batteries of small production runs, of prototype lithium batteries, or of prototype lithium batteries

Submitted by the expert of Germany

Introduction

1. At the forty-fifth session of the Sub-Committee, Germany submitted ST/SG/AC.10/C.3/2014/12 which subsequently led to a lunchtime working group and the development of informal documents INF.62 and INF.62/Rev. 1 on the issue of the transport of lithium batteries of small production runs or prototype lithium batteries contained in equipment. The Sub-Committee adopted the amended special provision 310 and its assignment to UN 3091 and UN 3481.

2. At the forty-sixth session of the Sub-Committee, United Kingdom submitted an alternative proposal where the text with the packaging requirements was presented in a packing instruction instead of being included in special provision 310 (ST/SG/AC.10/C.3/2014/105). The proposal to amend special provision 310 and to add a new packing instruction P910 was adopted and incorporated in the 19. edition of the UN Model Regulations.

3. The text as agreed during the forty-fifth session described also large packagings, this option was not retained in the text as agreed during the forty-sixth session.

4. Numerous batteries and devices transported in accordance with special provision 310 are of such a size so that they do not fit into a type approved packaging as described in P 910 (1) or (2). Consequently, they may be transported unpackaged under conditions specified by the competent authority only, see P 910 (3).

Proposal

5. The expert of Germany is of the view that it would be preferable to describe generally the requirements for large packagings in the provisions rather than to require competent authority approval for individual shipments. This was already accepted by the sub-committee at the forty-fifth session, see ST/SG/AC.10/C.3/90/Add.1.

6. Insert a new LP xxx as follows:

LP9XX	PACKING INSTRUCTION	LP9XX
<p>This instruction applies to UN Nos. 3090, 3091, 3480 and 3481 production runs consisting of not more than 100 cells and batteries and to pre-production prototypes of cells and batteries when these prototypes are transported for testing.</p>		
<p>The following large packagings are authorized for a single battery, including for a battery contained in equipment, provided that the general provisions of 4.1.1 and 4.1.3 are met.</p> <p>(1) For batteries</p> <p style="padding-left: 40px;">Rigid large packagings conforming to the packaging group II performance level, made of:</p> <p style="padding-left: 80px;">steel (50A) aluminium (50B) metal other than steel or aluminium (50N) rigid plastics (50H) natural wood (50C) plywood (50D) reconstituted wood (50F) rigid fibreboard (50G)</p> <p style="padding-left: 40px;">Packagings shall also meet the following requirements:</p> <p style="padding-left: 80px;">(a) Batteries and cells, including equipment, of different sizes, shapes or masses shall be packaged in an outer packaging of a tested design type listed above provided the total gross mass of the package does not exceed the gross mass for which the design type has been tested;</p> <p style="padding-left: 80px;">(b) Each cell or battery shall be individually packed in an inner packaging and placed inside an outer packaging;</p> <p style="padding-left: 80px;">(c) Each inner packaging shall be completely surrounded by sufficient non-combustible and nonconductive thermal insulation material to protect against a dangerous evolution of heat;</p> <p style="padding-left: 80px;">(d) Appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the cells or batteries within the package that may lead to damage and a dangerous condition during transport. When cushioning material is used to meet this requirement it shall be non-combustible and non-conductive;</p> <p style="padding-left: 80px;">(e) Non-combustibility shall be assessed according to a standard recognized in the country where the packaging is designed or manufactured;</p> <p>(2) For equipment containing batteries</p> <p style="padding-left: 40px;">Rigid large packagings conforming to the packaging group II performance level, made of:</p> <p style="padding-left: 80px;">steel (50A) aluminium (50B) metal other than steel or aluminium (50N) rigid plastics (50H) natural wood (50C) plywood (50D)</p>		

reconstituted wood (50F)
rigid fibreboard (50G)

Packagings shall also meet the following requirements:

- (a) Equipment of different sizes, shapes or masses shall be packaged in an outer packaging of a tested design type listed above provided the total gross mass of the package does not exceed the gross mass for which the design type has been tested;
- (b) The equipment shall be constructed or packaged in such a manner as to prevent accidental operation during transport.
- (c) Appropriate measures shall be taken to minimize the effects of vibration and shocks and prevent movement of the cells or batteries within the package that may lead to damage and a dangerous condition during transport. When cushioning material is used to meet this requirement it shall be non-combustible and non-conductive; and
- (d) Non-combustibility shall be assessed according to a standard recognized in the country where the packaging is designed or manufactured;

Additional requirements:

Batteries shall be protected against short circuit.