

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 4 (d) of the provisional agenda

Electric storage systems: miscellaneous

Classification of hybrid lithium ion and lithium metal batteries – results of the lunchtime working group

Transmitted by the expert from France

Introduction

1. The working group agreed after some discussions on the more general and theoretical subject of batteries containing an association of different technologies to concentrate on the current practical issue that has been brought to the knowledge of the Sub-Committee.
2. It was felt that a smaller part of the text belonged to a special provision to be assigned to all four existing entries concerning lithium batteries, and that the technical requirement concerning the battery design itself would be better placed in 2.9.4.
3. An additional sentence was proposed to be added to the special provision to clarify under which conditions these hybrid batteries could benefit from exemption under special provision 188. It has to be noted that the Sub-Committee has to make a decision on the reference either to the threshold values mentioned in SP 188 for cells or those for batteries. In the second case the value in Wh is 40 because by design the rechargeable cell shall not have a greater capacity as the primary. Because of the hybrid design it was difficult to on a global capacity or content value for the battery as a whole.

Proposal

Add a new special provision XXX in chapter 3.3 and assign it to UN 3090, 3091, 3480, and 3481

“XXX Lithium batteries in conformity with 2.9.4 f) containing both primary lithium metal cells and rechargeable lithium ion cells shall be assigned to UN3090 or 3091 as appropriate. [When such batteries are transported in accordance with Special Provision 188 the total lithium content of all lithium metal cells contained in the battery shall not exceed [1g/2g] and the total capacity of all lithium ion cells contained in the battery shall not exceed [20Wh/40Wh.]]”

Add a new paragraph f) at the end of 2.9.4

“(f) Lithium batteries, containing both primary lithium metal cells and rechargeable lithium ion cells, that are not designed to be externally charged (see special provision XXX) shall meet the following conditions:

- (i) the rechargeable lithium ion cells can only be charged from the primary lithium metal cells;
 - (ii) overcharge of the rechargeable lithium ion cells is precluded by design;
 - (iii) the battery has been tested as a lithium primary battery;
 - (iv) Component cells of the battery shall be of a type proved to meet the respective testing requirements of the Manual of Tests and Criteria, part III, sub-section 38.3.”
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