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 **10 December 2012**

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Item 2 (c) of the provisional agenda
Recommendations made by the Sub-Committee on its thirty-ninth, fortieth and forty-first sessions and pending issues: electric storage systems

FINAL - Special Provision and Packing Instructions for the transport of waste lithium batteries

SP 377 Lithium ion and lithium metal cells and batteries and equipment containing such cells and batteries transported for disposal or recycling, either packed together with or packed without non-lithium batteries, may be packaged in accordance with the packing instruction P903a.

These cells and batteries are not subject to the requirements of section 2.9.4. Additional exemptions may be provided under the conditions defined by modal transport regulations.

Packages shall be marked "LITHIUM BATTERIES FOR DISPOSAL" or "LITHIUM BATTERIES FOR RECYCLING".

Identified damaged or defective batteries shall be transported in accordance with SP 376 and packaged in accordance with P908 or LP904, as applicable.

P909	**Packing Instruction**	**P909**

This packing instruction applies to UN Nos. 3090, 3091, 3480 and 3481 transported for disposal or recycling, either packed together with or packed without non-lithium batteries:

(1) Cells and batteries shall be packed in accordance with the following:

(a) The following packagings are authorized, provided that the general provisions of **4.1.1** and **4.1.3,** are met:
Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G);
Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H2); and
Jerricans (3A2, 3B2, 3H2).

(b) Packagings shall conform to the packing group II performance level.

(c) Metal packagings shall be fitted with a non-conductive lining material (*e.g.*, plastics) of adequate strength for the intended use.

(2) However, lithium ion cells with a Watt-hour rating of not more than 20 Wh, lithium ion batteries with a Watt-hour rating of not more than 100 Wh, lithium metal cells with a lithium content of not more than 1 g and lithium metal batteries with an aggregate lithium content of not more than 2 g may be packed in accordance with the following:

(a) In strong outer packaging up to 30 kg gross mass meeting the general provisions of 4.1.1, except

4.1.1.3, and 4.1.3.

(b) Metal packagings shall be fitted with a non-conductive lining material (*e.g.*, plastics) of adequate strength for the intended use.

(3) For cells or batteries contained in equipment, strong outer packagings constructed of suitable material, and of adequate strength and design in relation to the packaging capacity and its intended use, may be used. Packagings need not meet the requirements of 4.1.1.3. Large equipment may be offered for transport unpackaged or on pallets when the cells or batteries are afforded equivalent protection by the equipment in which they are contained.

(4) In addition, for cells or batteries with a gross mass of 12 kg or more employing a strong, impact resistant outer casing, strong outer packagings constructed of suitable material and of adequate strength and design in relation to the packagings capacity and its intended use, may be used. Packagings need not meet the requirements of 4.1.1.3.

Additional requirements:

Cells and batteries shall be designed or packed to prevent short circuits and the dangerous evolution of heat.

Protection against short circuits and the dangerous evolution of heat includes, but is not limited to,

- individual protection of the battery terminals,
- inner packaging to prevent contact between cells and batteries,
- batteries with recessed terminals designed to protect against short circuits, or
- the use of a non-conductive and non-combustible cushioning material to fill empty space between the cells or batteries in the packaging.

Cells and batteries shall be secured within the outer packaging to prevent excessive movement during transport (*e.g.* by using a non-combustible and non-conductive cushioning material or through the use of a tightly closed plastics bag).