

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

22 November 2012

Forty-second session

Geneva, 3 – 11 December 2012

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**

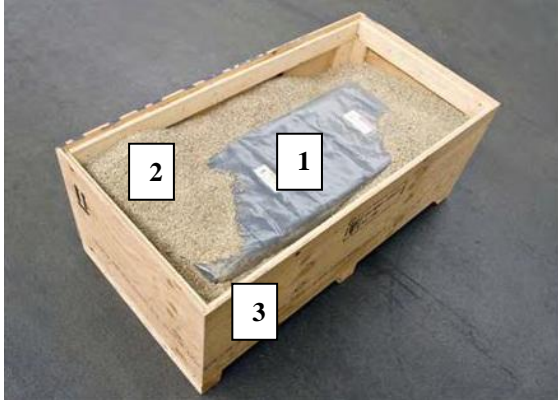
Illustrations of current practices for the packaging of damaged or defective lithium batteries

Transmitted by PRBA – The Rechargeable Battery Association and the International Association for the Promotion and Management of Portable Rechargeable Batteries (RECHARGE).

1. PRBA's and RECHARGE's working paper ST/SG/AC.10/C.3/2012/95 provides for a new Special Provision SP YYY and two new Packing Instructions P9XX and LP9XX for transporting damaged or defective lithium batteries.
2. ST/SG/AC.10/C.3/2012/95 also introduces the requirements that have been recently adopted in the ADR regarding the transport of damaged or defective Batteries.
3. This Information paper is intended to provide illustrations of packaging practices that could be used in accordance with the proposed provisions of the Packing Instructions P9XX and LP9XX.
4. We believe these illustrations will help to focus the discussion on practical requirements for the packaging of such damaged or defective batteries. The illustrations also comply with the proposed SP YYY and P9XX and LP9XX, which include inner packaging, non-combustible, non-conductive cushioning material around the inner packaging, leakage control (inner packaging and/or cushioning material) and strong outer packaging that meets PG II performance standard.
5. This paper has been prepared in cooperation with several partners from the Automotive Industry.

Transport of Damaged or Defective Batteries

**Example #1 of Proposed Packaging
- Electric Vehicle Battery -**



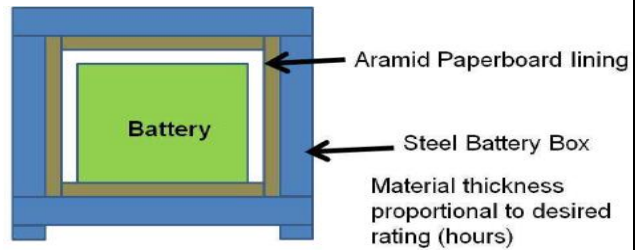
Inner packaging (1). Made of plastic or suitable material to protect against leakage and against exposure of battery to moisture.

Cushioning material (2). Type of material: vermiculite, sand, flame retardant material, etc. Function: Fills space between inner and outer packaging, reduces movement of battery during transport, barrier against heat transfer. Absorbs potential leakage.

Outer packaging (3). Strong resistant material made of metal, wood or plastics and meeting PG II performance standard.

Transport of Damaged or Defective Batteries

Example #2 of Proposed Packaging¹



Inner Packaging: Made of plastic or suitable material to protect against leakage and against exposure of battery to moisture.

Cushioning Material: Flame retardant aramid fiberboard that offers a very low heat transfer coefficient. Also fills space between the inner and outer packaging, reduces movement of battery during transport, barrier against heat transfer.

Outer Packaging: Steel battery box, lined with aramid fibreboard. Meets PG II packaging standard.

¹ Packaging design is subject to provisional patent.