

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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LISTING, CLASSIFICATION AND PACKING

Transport of large used or spent lithium cells or batteries for inspection, testing,
disposal or recycling

Transmitted by the expert from Germany

1. Introduction

In the proposals ST/SG/AC.10/C.3/2008/46 and ST/SG/AC.10/C3/2008/57 submitted by the PRBA reference is made to the global importance of the use and distribution of large lithium batteries for example as traction batteries for hybrid or electric road vehicles as well as to the resulting necessity to change the provisions for the transport of dangerous goods.

In addition to the transportation of new large lithium batteries within the framework of development and testing as well as the use as serial product, in the future it will also be necessary to transport used and spent batteries.

The purpose of the transport of used lithium batteries is to test or inspect the batteries in special testing laboratories and to ensure the environmentally rational recycling and disposal of the batteries.

The transport of used large lithium cells and batteries is necessary particularly due to the following aspects:

- In comparison to conventional battery systems, large lithium batteries are a innovative as well as elaborate and cost-intensive battery technology. Therefore, the possibility to repair and maintain these batteries is of great importance for economic reasons as well as for reasons of conserving resources.
- In the foreseeable future there will be a certain need for transporting used or spent cells and batteries for inspection and testing within the framework of

quality assurance programs. Only specialized testing laboratories of manufacturers or independent institutes are able to carry out these tests and inspections in the required quality.

- Recovering the reusable materials contained in the used batteries within the framework of recycling is indispensable from an ecological and economic point of view. Within the foreseeable future there will not be enough facilities required for an environmentally rational recycling and disposal so that there will be an urgent need to transport used batteries by surface and maritime transport.

2. Enhancement of the UN Model Provisions

In order to ensure the safe transport of large lithium batteries for these purposes, a special packing provision (P903a) should be included in the UN Model Provisions making it possible to transport large used lithium batteries in due form for inspection and testing as well as for environmentally rational recycling or disposal.

The packing provision to be created should contain requirements in line with ADR/RID packing instruction P903a or the general requirements for shipments and packagings containing lithium cells and batteries in accordance with §173.185 (d) Title 49 US Code of Federal Regulations.

The ADR/RID packing instruction P903a applies specifically to the transport of used batteries of UN-Nos. 3090 and 3091 and authorizes their transport

- (a) in packagings conforming to the conditions of packing group II, or
- (b) in packagings not approved by the UN, provided that
 - they meet the general provisions of 4.1.1 and 4.1.3;
 - the cells and batteries are packed and stowed so as to prevent any risk of short circuits;
 - the packages weigh not more than 30 kg.

In all cases, the batteries shall be protected against short circuit.

In § 173.185 (d), the CFR 49 describes the following conditions for the transport of used lithium cells and batteries by road for disposal and recycling:

“(d) Cells and batteries, for disposal or recycling. A lithium cell or battery offered for transportation or transported by motor vehicle to a permitted storage facility, disposal site or for purposes of recycling is excepted from the specification packaging requirements of paragraph (a)(4) of this section and the requirements of paragraphs (a)(1) and (a)(6) of this

section when protected against short circuits and packed in a strong outer packaging conforming to the requirements of §§ 173.24 and 173.24a.”

The new packing provision to be implemented should, in particular, make it possible to transport used large lithium cells and batteries in surface transport as well as in international maritime transport.

Germany intends to submit a corresponding proposal for the session of the Sub-Committee of Experts on the Transport of Dangerous Goods in December 2008.
