

Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

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Sub-Committee of Experts on the Transport of Dangerous Goods

Fifty-first session

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Item 3 of the provisional agenda

Listing, classification and packing

Revision of packing instruction P801

Transmitted by the expert from Canada

Objectives

1. To modify packing instruction P801 in an effort to improve compliance and the safe transport of damaged batteries (UN Nos. 2794, 2795 or 3028).
2. To add packing instruction P80X and clarify the transport of used or returned batteries in metal or solid plastics battery boxes.

Introduction

3. It is the experience of the expert of Canada that persons have trouble understanding and complying with the existing requirements of packing instruction P801. For instance, in Canada, there have been cases where persons have transported batteries loosely in open top bins, believing they were compliant with P801, yet not adhering to the additional requirements. This paper proposes changes to clarify and strengthen existing requirements.
4. Packing instruction P801 does not currently address batteries that are likely to leak electrolyte. The potential release of electrolyte should be minimized to promote the safe handling and transport of batteries.
5. Packing instruction P801 also puts forward the notion of transporting used batteries loosely in “battery boxes”. It is not clear to the expert of Canada how used batteries can be transported loose and still meet the additional requirements listed in P801 (e.g., packaged or secured to prevent inadvertent movement).

Context

6. The potential release of electrolyte from batteries should be minimized by requiring batteries likely to leak to be individually packaged. Other equally effective methods should be recognized, such as draining the electrolyte from the battery.
7. In Canada and the United States, major battery distributors have prepared detailed guidance on packing and handling used batteries on pallets for the purpose of shipping them for reclaiming the valuable lead contained in the batteries. For batteries that may leak,

these distributors recommend using heavyweight clear polyethylene plastic bags that are securely closed to limit the potential for leaking electrolyte.¹

8. Packing instruction P801 currently authorizes the transport of loose used batteries in "battery boxes". As it currently reads, packing instruction P801 would require a person to meet all four additional requirements regardless of the type of packaging used. If the intent of packing instruction P801 is to allow the transport of loose used batteries in battery boxes, then meeting the additional requirements may be unachievable. For instance, additional requirement (4) currently requires batteries to be packaged or secured to prevent inadvertent movement. This contradicts the notion that batteries can be transported loose.

9. In ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route), packing instructions for "battery boxes" have been removed from packing instruction P801 and separately placed with more detail in ADR's packing instruction P801a. The expert from Canada proposes a similar approach with this paper.

10. The expert from Canada understands that the intended use for battery boxes is to provide an efficient means for the transport of used or returned batteries from points of collection (such as retail store selling batteries, car repair shops and auto parts distributors) to sorting and repackaging facilities where the batteries are sorted and prepared for transport toward recycling facilities. The proposed P80X packing instruction would help clarify the applicable requirements that must be met in such cases.

11. In packing instruction P80X, individually wrapping batteries to limit the potential of leaking electrolyte is deemed unnecessary. The proposed packing instruction P80X has provisions for the box to be resistant to corrosive substances, capable of containing any corrosive substances that have leaked, and that the outside of the box shall be free of dangerous residues. The use of battery boxes minimizes the need for sorting and handling batteries at the collection points as these sites are generally not appropriate for such activities.

Proposal

12. The expert from Canada recommends revising the additional requirements of packing instruction P801 to address batteries that are at risk of releasing electrolyte. An additional requirement (i.e. #5) has been added to packing instruction P801. The term "leakproof" has been used; however, it is not meant to invoke the leakproofness test requirements.

13. The expert from Canada proposes moving packing instructions related to "battery boxes" from the existing P801 to the proposed P80X.

14. Building on ADR's existing P801a packing instruction, the expert from Canada proposes requiring batteries transported in battery boxes to be protected against short circuits. This addition addresses concerns that were raised at the forty-ninth session in response to the expert from Canada's ST/SG/AC.10/C.3/2016/25 proposal.

¹ *Packing and Securing Used Stationary Batteries/Cells*, www.eastpenmanufacturing.com/wp-content/uploads/Stationary-Power-Packaging-and-Securing-Stationary-Batteries-Cells.pdf

Packing instruction P801 would read as follows:

P801	PACKING INSTRUCTION	P801
This instruction applies to new and used batteries assigned to UN Nos. 2794, 2795 or 3028.		
<p>The following packagings are authorized, provided that the general provisions of 4.1.1, except 4.1.1.3, and 4.1.3 are met:</p> <ol style="list-style-type: none"> 1) Rigid outer packagings; 2) Wooden slatted crates; 3) Pallets. <p>Used storage batteries may also be transported loose in stainless steel or plastics battery boxes capable of containing any free liquid.</p>		
<p>Additional requirements:</p> <ol style="list-style-type: none"> 1) Batteries shall be protected against short circuits. 2) Batteries stacked shall be adequately secured in tiers separated by a layer of non-conductive material. 3) Battery terminals shall not support the weight of other superimposed elements. 4) Batteries shall be packaged or secured to prevent inadvertent movement. 5) Batteries must not leak or must be made leakproof by individually packaging them or by any other equally effective method to prevent the release of electrolyte. 		

Packing instruction P80X would read as follows:

P80X	PACKING INSTRUCTION	P80X
This instruction applies to used or returned batteries assigned to UN Nos. 2794, 2795 or 3028.		
<p>Metal or solid plastics boxes are authorized to transport used or returned batteries provided the following provisions are met:</p> <ol style="list-style-type: none"> (1) the boxes shall be resistant to the corrosive substances contained in the batteries; (2) batteries must be protected against short circuits; (3) under normal conditions of transport, no corrosive substance shall leak from the boxes; (4) the outside of the boxes shall be free of residues of corrosive substances contained in the batteries; (5) the boxes shall not be loaded with batteries to a height greater than the height of their sides; and (6) foreign substances shall be prevented from entering the boxes by: <ol style="list-style-type: none"> a. covering the boxes; or b. transporting the boxes inside a closed cargo transport unit. <p>The general provisions of 4.1.1, except 4.1.1.3, and 4.1.3 shall also be met.</p>		

Amend Table A of Chapter 3.2 to capture the changes to P801:

UN No.	Name and description	Class or division	Subsidiary hazard	UN packing group	Special provisions	Limited and excepted quantities		Packagings and IBCs		Portable tanks and bulk containers	
						(7a)	(7b)	Packing instruction	Special packing provisions	Instructions	Special provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7a)	(7b)	(8)	(9)	(10)	(11)
-	3.1.2	2.0	2.0	2.0.1.3	3.3	3.4	3.5	4.1.4	4.1.4	4.2.5/4.3.2	4.2.5
2794	BATTERIES, WET, FILLED WITH ACID, electric storage	8			295	1 L	E0	P801 P80X			
2795	BATTERIES, WET, FILLED WITH ALKALI, electric storage	8			295	1 L	E0	P801 P80X			
3028	BATTERIES, DRY, CONTAINING POTASSIUM HYDROXIDE SOLID, electric storage	8			295 304	2 kg	E0	P801 P80X			