



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
MEETING OF THE WORKING GROUP OF THE WHOLE**

Montréal, 15 to 19 October 2012

Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284)* for incorporation in the 2015-2016 Edition
2.4: Part 4 — Packing Instructions

LITHIUM ION AND LITHIUM METAL BUTTON CELLS INSTALLED IN EQUIPMENT

(Presented by PRBA – The Rechargeable Battery Association)

SUMMARY

This paper responds to the issues raised in WP/7 regarding lithium button cell batteries contained in equipment and includes a proposed “Note” for Packing Instructions 966, 967, 969 and 970.

Action by the DGP-WG is in paragraph 2.

1. INTRODUCTION

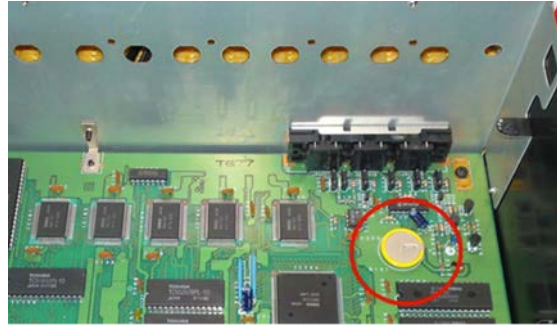
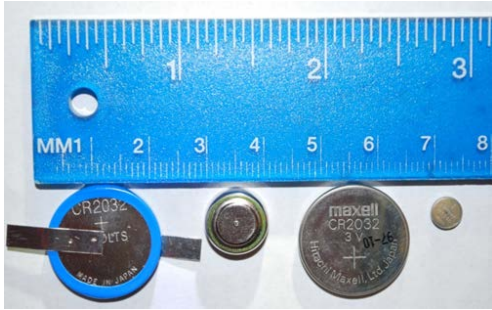
1.1 Lithium button cell batteries are found in thousands of electronic and electrical devices. The vast majority of these are nonrechargeable lithium metal cells. (Button cell batteries also are commonly referred to as “coin cells” and “coin cell batteries.”) Button cell or battery is defined in the *UN Manual of Tests and Criteria* as “a round small cell or battery when the overall height is less than the diameter.”

1.2 Lithium metal button cell batteries are found in cellular phones, notebook computers, tablets, desktop computers, printers, watches, cameras, calculators, projectors, networking products, servers and many other consumer and industrial products. When installed in these devices, they are generally designed to provide backup power for real time clocks and BIOS configuration data. Pictures of button cell batteries and devices containing them are provided on page 2.

1.3 When installed in equipment like those shown below, lithium metal button cell batteries present virtually no risk in transportation. The largest lithium metal button cell battery on the market

contains no more than 0.3 grams of lithium metal. Very small lithium metal button cell batteries can have as little as 0.07 grams of lithium metal and weigh just 1.4 grams.

EXAMPLES OF LITHIUM METAL BUTTON CELL BATTERIES



1.4 WP/7 correctly notes that Packing Instructions 966, 967, 969 and 970 do not clearly state whether information regarding the presence of button cell batteries installed in equipment must be indicated on the required shipping documentation. The battery and electronics industries generally do not identify the presence of button cell batteries installed in equipment like those shown in the pictures above for several reasons. First, it is often impossible for shippers to know if equipment contains a button cell battery. Second, button cell batteries installed in equipment present virtually no risk in transportation and identifying them on a shipping document creates conflicting safety information for package handlers and emergency responders. For example, a notebook computer may contain a very small button cell battery on a circuit board and be packed with an 80 Watt-hour lithium ion battery. Identifying both lithium ion and lithium metal batteries on a shipping document creates unnecessary confusion for package handlers and emergency responders.

2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to consider adding the “Note” at the end of Section “II.2 Additional requirements” of Packing Instructions 966, 967, 969 and 970. The proposed amendments are shown in the appendix to this working paper.

APPENDIX

PROPOSED AMENDMENT TO THE TECHNICAL INSTRUCTIONS

Part 4

PACKING INSTRUCTIONS

INTRODUCTORY NOTES

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Chapter 11

CLASS 9 — MISCELLANEOUS DANGEROUS GOODS

Parts of this Chapter are affected by State Variation US 2; see Table A-1

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Packing Instruction 966

Passenger and cargo aircraft for UN 3481 (packed with equipment) only

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II. SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents), 8;1.1 (Dangerous goods carried by passengers or crew) and paragraph 2 of this packing instruction, lithium ion cells and batteries packed with equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

...

II.2 Additional requirements

- Lithium ion cells and batteries must:
 - be placed in inner packagings that completely enclose the cell or battery, then placed in a strong outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong outer packaging.

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Note.-The lithium battery handling label, documentation and air wabill requirements do not apply to button cell batteries installed in equipment (including circuit boards).

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Packing Instruction 967

Passenger and cargo aircraft for UN 3481 (contained in equipment) only

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II. SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents), 8;1.1 (Dangerous goods carried by passengers or crew) and paragraph 2 of this packing instruction, lithium ion cells and batteries contained in equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

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II.2 Additional requirements

- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.

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Note.-The lithium battery handling label, documentation and air wabill requirements do not apply to button cell batteries installed in equipment (including circuit boards).

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Packing Instruction 969

Passenger and cargo aircraft for UN 3091 (packed with equipment) only

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II. SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents),8;1.1 (Dangerous goods carried by passengers or crew) and paragraph 2 of this packing instruction, lithium metal cells and batteries packed with equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

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II.2 Additional requirements

- Lithium metal cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery, then placed in a strong outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong outer packaging.

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Note.-The lithium battery handling label, documentation and air wabill requirements do not apply to button cell batteries installed in equipment (including circuit boards).

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Packing Instruction 970

Passenger and cargo aircraft for UN 3091 (contained in equipment) only

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II. SECTION II

With the exception of Part 1;2.3 (Transport of dangerous goods by post), 7;4.4 (Reporting of dangerous goods accidents and incidents), 8;1.1 (Dangerous goods carried by passengers or crew) and paragraph 2 of this packing instruction, lithium metal cells and batteries contained in equipment offered for transport are not subject to other additional requirements of these Instructions if they meet the requirements of this section.

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