



DANGEROUS GOODS PANEL (DGP) WORKING GROUP MEETING (DGP-WG/16)

Montreal, 17 to 21 October 2016

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 2019-2020 Edition

IDENTIFYING BATTERY-POWERED EQUIPMENT CAPABLE OF GENERATING EXTREME HEAT WHICH COULD CAUSE A FIRE IF ACTIVATED

(Presented by J.H. Jin)

SUMMARY

This paper invites the working group to consider how to identify battery-powered equipment capable of generating extreme heat, which could cause a fire if activated.

Action by the DGP: The DGP is invited to consider how to distinguish battery-powered equipment capable of generating extreme heat which could cause a fire if activated from portable electronic devices.

1. INTRODUCTION

1.1 An incident which was caused by battery-powered equipment occurred on a Chinese flight in 2015. Passenger luggage emitted an odor during the taking-off stage of the flight. The examination after the incident found that there were four lifejacket lights, one of which was turned on and very hot. The outer plastic casing of the turned-on lamp had thermalized partly, and the lithium battery contained in it exposed obviously.

1.2 The lifejacket lights were allowed to be carried on aboard the plane as portable electronic devices when they proceeded through security check. The heat-producing component and the battery in the portable electronic devices are not required to be isolated from each other according to provisions. If the lifejacket lights were identified as battery-powered equipment capable of generating extreme heat, which could cause a fire if activated, the heat-producing component and the battery in it must be isolated from each other according to provisions, then it would avoid the danger effectively that the equipment generates extreme heat if activated.

1.3 There is no identified criteria for battery-powered equipment capable of generating extreme heat, which could cause a fire if activated in the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284). It is also difficult to distinguish battery-powered equipment capable of generating extreme heat which could cause a fire if activated from portable electronic devices in actual work. Due to the different damage of the two kinds of goods and the different restrictions for them when carried by passengers or crew, it is necessary to clarify the identified criteria for battery-powered equipment capable of generating extreme heat, which could cause a fire if activated in order to control safety-risk more effectively.

1.4 Nowadays, the energy in the battery of battery-powered equipment sold on the market is large and some batteries do not proceed with UN 38.3 testing (see “Appendix”). Although this situation is an individual case, a safety risk still exists. Therefore, the DGP is invited to consider adding the restrictions for battery-powered equipment capable of generating extreme heat which could cause a fire if activated.

2. ACTION BY THE DGP-WG

2.1 The DGP is invited to discuss the identified criteria to distinguish battery-powered equipment capable of generating extreme heat which could cause a fire if activated from portable electronic devices.

APPENDIX

BATTERIES FOR DIVING LAMPS ON THE MARKET

1. Batteries for diving lamps on the market

- a) Nickel-metal hydride batteries, Watt-hour rating: 162 Wh; 54 Wh.



NiMH Battery Pack: 12V 13.5Ah
for Salvo / Halcyon HID Diving
Light

Your Price: \$159.95



NiMH Battery Pack: 12V 4500mAh
(54Wh) for Diving light

Your Price: \$53.95

- b) Lithium ion batteries, Watt-hour rating: 253 Wh; 44.4 Wh; 112 Wh; 187 Wh; 84 Wh.

**30%
Capacity**

ICAO/IATA Air Regulations – Li
Ion State of Charge at 30%
Capacity

Your Price: From \$3.00 to \$15.00



Li-Ion 18650 Battery: 10.8V
23.4Ah (253Wh, 9A rate,
ICR18650B4) for HID Light

Your Price: \$289.95



Smart Charger (3.0A) for 14.8V
Li-ion/Polymer Rechargeable
Battery - CE Listed

**Your Price: From \$36.95 to
\$46.95**



Custom Li-ion 18650 Battery:
14.4V 7.8Ah (112Wh, 7A rate,
ICR18650B4) for Diving Light

Your Price: \$130.00



Li-Ion 18650 Battery: 14.4V 13Ah
(187Wh, 14A rate, ICR18650B4)
for Diving Light

Your Price: \$269.95



LiFePO4 26650 Battery: 12.8V
6.6Ah (84Wh, 16A rate) for
Diving light (7.92)

**Your Price: From \$94.80 to
\$104.95**

2. Battery (a Watt-hour rating of 150 Wh) for diving lamps on the market which has not passed the UN 38.3 test yet.

Li-ion 18650 Battery: 14.4V 10.4Ah (150Wh, 14A rate, 4x4SQ, ICR18650B4) for Diving Light

Your Price: \$174.95

In Stock

Product ID # 3065

Part Number: LCH4P4S4B2I4WR

Lead Time: 5 Business Days

Quantity: [Buy](#)

[Add to a new shopping list](#)

[Email this page to a friend](#)

Quantity Discounts

Quantity	Amount
5 to 20	\$169.70
21 to 50	\$166.20
51 to 100	\$162.70
101 or more	\$157.46

*Important Shipping Regulation	This pack is for testing (prototype) only. It has not been UN38.3 tested yet. Read more...
Packing	<ul style="list-style-type: none">Li-ion Battery: 14.4V 10.4Ah (150Wh) for Diving Light

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