

Lithium Batteries Best Practice - 010

Important Notes for All Lithium Cells / Batteries of All Sections:

- Each cell and battery must have completed the UN38.3 test.
- Cells and batteries must be manufactured under a quality management programme.
- Waste cells and batteries, cells and batteries being shipped for recycling or disposal, and / or cells and batteries that have been damaged or identified by the manufacturer as defective for safety reasons are forbidden for transport.
- Cells and batteries must be protected so as to prevent short circuits.
- Shippers / forwarders must make all relevant supporting documents (i.e. UN38.3 test report, MSDS, etc) available to individual carrier upon request. Individual carrier reserves the right to request and review any related supporting document of the shipment.

Best Practice for Consigning Lithium Cells / Batteries in Hong Kong

Following the latest changes on Lithium Cells / Batteries shipment as per the 54th edition of IATA Dangerous Goods Regulations, the Lithium Battery Best Practice 010 will replace Best Practice 009 and with effect from 1 January 2013. Shippers consigning Lithium Cells and / or Batteries from 1 January 2013 and onwards are required to follow the best practice as stated below.

Part 1 - Cells / Batteries Shipped as “Not Restricted” Dangerous Goods [Section II]

54th edition of IATA Dangerous Goods Regulations (DGR) highlights the following criteria:

A. Identification of Cells / Batteries

1. Lithium Ion Cells / Batteries

- Must comply with Dangerous Goods Regulations “Section II” of PI965, PI966, and PI967.

Table 1: Section II - Lithium Ion Cells / Batteries

PI	965			966	967
Description	Lithium Ion Batteries			Lithium Ion Batteries <u>Packed with Equipment</u>	Lithium Ion Batteries <u>Contained in Equipment</u>
Cells / Batteries Capacity	<u>Per Cell / Battery:</u> Not more than 2.7Wh	<u>Per Cell:</u> ① Greater than 2.7Wh but not more than 20Wh	<u>Per Battery:</u> ② Greater than 2.7Wh but not more than 100Wh	<u>Per Cell:</u> Not more than 20Wh <u>Per Battery:</u> Not more than 100Wh	<u>Per Cell:</u> Not more than 20Wh <u>Per Battery:</u> Not more than 100Wh
Package Limit	2.5kg	8 Cells	2 Batteries	5kg	5kg

2. Lithium Metal Cells / Batteries

- Must comply with Dangerous Goods Regulations “Section II” of PI968, PI969, and PI970.

Table 2: Section II – Lithium Metal Cells / Batteries

PI	968			969	970
Description	Lithium Metal Batteries			Lithium Metal Batteries <u>Packed with Equipment</u>	Lithium Metal Batteries <u>Contained in Equipment</u>
Cells / Batteries Capacity	<u>Per Cell / Battery:</u> Not more than 0.3g lithium	<u>Per Cell:</u> ① Greater than 0.3g but not more than 1g lithium	<u>Per Battery:</u> ② Greater than 0.3g but not more than 2g lithium	<u>Per Cell:</u> Not more than 1g lithium <u>Per Battery:</u> Not more than 2g lithium	<u>Per Cell:</u> Not more than 1g lithium <u>Per Battery:</u> Not more than 2g lithium
Package Limit	2.5kg	8 Cells	2 Batteries	5kg	5kg

IMPORTANT:

Item ① , ② and ③ of Table 1 and Table 2 must not be combined in the same package.

B. Documentation Requirements

Step 1) Information on MAWB in “Nature and Quantity of Goods” Box

- The type of batteries: “Lithium ion batteries” / “Lithium metal batteries”
- The text: “in compliance with Section II of”
- The relevant Packing Instruction: PI965 / PI966 / PI967 / PI968 / PI969 / PI970
Example: Lithium metal batteries in compliance with Section II of PI969.

Step 2) Information on a Separate Document (see sample)

The lithium battery declaration document must be signed and stamped, and must include the following information:

- Shipper’s name, address and job title.
- Consignee’s name and address.
- House air waybill number if applicable.
- UN number.
- The type of cells or batteries: “The package contains ‘Lithium ion cells’ / ‘Lithium ion batteries’ / ‘Lithium metal cells’ / ‘Lithium metal batteries’.
- The Packing Instruction (PI) that the shipment has been complied with.
Example: “In compliance with **Section II** of PI965”
- The number of packages, and the net weight of each package or (declare) the net weight of each package does not exceed the maximum net quantity limitation of the relevant Packing Instruction.
Example for Section II PI965: 2 packages, each package contains 8 cells or less.
Example for Section II PI966: 5 packages, 3 x 2kg and 2 x 3kg or each package contains 5kg or less nett.
- A declaration that the consignment does not contain any recalled and / or defective batteries.
- The text: “The package must be handled with care, and a flammability hazard exists if the package is damaged.”
- (Specify) the special procedures to be followed in the event the package is damaged, to include inspection and repacking if necessary.
- A telephone number for additional information.

** Should the shipment under the same shipper contains packages prepared in compliance with more than one Packing Instruction (PI), a single declaration is also acceptable provided that the shipper clearly lists out items with relevant PI for referencing.

C. Labelling Requirements

Each package must be labelled with a lithium battery handling label.

D. Please Observe

- Individual carrier requirements.
- States and operators variations.

E. Exceptional Handling

[PI967 / PI970] For package containing not more than 4 cells or not more than 2 batteries installed in equipment under **Section II** of PI967 / PI970:

- Lithium battery handling label is NOT REQUIRED to be affixed on the package.
- Part 1 (B) – Step 2 – “Information on a Separate Document” does not apply here.
- Declare on MAWB or an alternate document with the following:
 - Package contains 4 cells or less; or
 - Package contains 2 batteries or less.

Part 2 - Cells / Batteries shipped as Dangerous Goods, Class 9 [Section IB / Section IA / Section I]

54th edition of IATA Dangerous Goods Regulations (DGR) highlights the following criteria:

✚ Type One: Lithium Cells / Batteries Shipped as Partially Regulated Class 9 [Section IB]

A. Identification of Cells / Batteries

1.	Lithium Ion Cells / Batteries	2.	Lithium Metal Cells / Batteries																
<p>Table 3: Section IB Lithium Ion Cells / Batteries</p> <table border="1"> <tr> <td>PI</td> <td>965</td> </tr> <tr> <td>Description</td> <td>Lithium Ion Batteries</td> </tr> <tr> <td>Cells / Batteries Capacity</td> <td> <u>Per Cell:</u> Not more than 20Wh <u>Per Battery:</u> Not more than 100Wh </td> </tr> <tr> <td>Package Limit</td> <td>10kgG (Gross Weight)</td> </tr> </table>		PI	965	Description	Lithium Ion Batteries	Cells / Batteries Capacity	<u>Per Cell:</u> Not more than 20Wh <u>Per Battery:</u> Not more than 100Wh	Package Limit	10kgG (Gross Weight)	<p>Table 4: Section IB Lithium Metal Cells / Batteries</p> <table border="1"> <tr> <td>PI</td> <td>968</td> </tr> <tr> <td>Description</td> <td>Lithium Metal Batteries</td> </tr> <tr> <td>Cells / Batteries Capacity</td> <td> <u>Per Cell:</u> Not more than 1g lithium <u>Per Battery:</u> Not more than 2g lithium </td> </tr> <tr> <td>Package Limit</td> <td>2.5kgG (Gross Weight)</td> </tr> </table>		PI	968	Description	Lithium Metal Batteries	Cells / Batteries Capacity	<u>Per Cell:</u> Not more than 1g lithium <u>Per Battery:</u> Not more than 2g lithium	Package Limit	2.5kgG (Gross Weight)
PI	965																		
Description	Lithium Ion Batteries																		
Cells / Batteries Capacity	<u>Per Cell:</u> Not more than 20Wh <u>Per Battery:</u> Not more than 100Wh																		
Package Limit	10kgG (Gross Weight)																		
PI	968																		
Description	Lithium Metal Batteries																		
Cells / Batteries Capacity	<u>Per Cell:</u> Not more than 1g lithium <u>Per Battery:</u> Not more than 2g lithium																		
Package Limit	2.5kgG (Gross Weight)																		
<p>➤ Must comply with Dangerous Goods Regulations “Section IB” of PI965.</p>		<p>➤ Must comply with Dangerous Goods Regulations “Section IB” of PI968.</p>																	

B. Documentation Requirements

Step 1) Information on MAWB in “Nature and Quantity of Goods” Box

- The type of batteries: “Lithium ion batteries” / “Lithium metal batteries”
 - The text: “in compliance with Section IB of”
 - The relevant Packing Instruction: PI965 / PI968
- Example: Lithium metal batteries in compliance with Section IB of PI968.

Step 2) Information on a Separate Document (see sample)

The lithium battery declaration document must be signed and stamped, and must include the following information:

- Shipper’s name, address and job title.
- Consignee’s name and address.
- House air waybill number if applicable.
- UN number.
- The type of cells or batteries: “The package contains ‘Lithium ion cells’ / ‘Lithium ion batteries’ / ‘Lithium metal cells’ / ‘Lithium metal batteries’”.
- The Packing Instruction (PI) that the shipment has been prepared in compliance with.
Example: “In compliance with **Section IB** of PI968”
- The number of packages, and the gross weight of each package.
- A declaration that the consignment does not contain any recalled and / or defective batteries.
- The text: “The package must be handled with care, and a flammability hazard exists if the package is damaged.”
- (Specify) the special procedures to be followed in the event the package is damaged, to include inspection and repacking if necessary.
- A telephone number for additional information.

** Should the shipment under the same shipper contains packages prepared in compliance with more than one Packing Instruction (PI), a single declaration is also acceptable provided that the shipper clearly lists out items with relevant PI for referencing.

C. Labelling Requirements

1. Each package must be labelled with a Class 9 hazard label.
2. Each package must also be labelled with a lithium battery handling label.

D. Please Observe

1. Individual carrier requirements.
2. States and operators variations.

✚ **Type Two: Lithium Cells / Batteries Shipped as Fully Regulated Class 9 [Section IA / Section I]**

A. Identification of Cells / Batteries

1. Lithium Ion Cells / Batteries

Table 5: Section IA & Section I Lithium Ion Cells / Batteries

PI	965		966		967	
Description	Lithium Ion Batteries [Section IA]		Lithium Ion Batteries <u>Packed with Equipment</u> [Section I]		Lithium Ion Batteries <u>Contained in Equipment</u> [Section I]	
Cells / Batteries Capacity	Per Cell: Greater than 20Wh Per Battery: Greater than 100Wh		Per Cell: Greater than 20Wh Per Battery: Greater than 100Wh		Per Cell: Greater than 20Wh Per Battery: Greater than 100Wh	
Package Limit	<u>PAX Limit</u> 5kg	<u>CAO Limit</u> 35kg	<u>PAX Limit</u> 5kg	<u>CAO Limit</u> 35kg	<u>PAX Limit</u> 5kg	<u>CAO Limit</u> 35kg

➤ Must comply with **Section IA** of PI965 or **Section I** of PI966 / PI967.

2. Lithium Metal Cells / Batteries

Table 6: Section IA & Section I Lithium Metal Cells / Batteries

PI	968		969		970	
Description	Lithium Metal Batteries [Section IA]		Lithium Metal Batteries <u>Packed with Equipment</u> [Section I]		Lithium Metal Batteries <u>Contained in Equipment</u> [Section I]	
Cells / Batteries Capacity	Per Cell: Greater than 1g lithium Per Battery: Greater than 2g lithium		Per Cell: Greater than 1g lithium Per Battery: Greater than 2g lithium		Per Cell: Greater than 1g lithium Per Battery: Greater than 2g lithium	
Package Limit	<u>PAX Limit</u> 2.5kg	<u>CAO Limit</u> 35kg	<u>PAX Limit</u> 5kg	<u>CAO Limit</u> 35kg	<u>PAX Limit</u> 5kg	<u>CAO Limit</u> 35kg

➤ Must comply with **Section IA** of PI968 or **Section I** of PI969 / PI970.

B. Documentation requirement

Valid and duly completed Shipper’s Declaration for Dangerous Goods (DGD) form.

C. Packaging & Labelling Requirements

1. UN Specification packaging that meets the Packing Group II performance standards must be used.
2. Each package must be labelled with a Class 9 hazard label.

D. Please Observe

1. Individual carrier requirements.
2. States and operators variations.

Part 3 – Completing the “Shipper’s Letter of Instruction – SLI”

Shippers must clearly indicate below information on SLI:

1. The type of cells or batteries:
 - Lithium ion cells / Lithium ion batteries / Lithium metal cells / Lithium metal batteries
2. The relevant Packing Instruction: “PI965 / PI966 / PI967 / PI968 / PI969 / PI970”
3. Section of Packing Instruction referring: “Section I / Section IA / Section IB / Section II”

– END –

Issued by:

Carrier Liaison Group - Dangerous Goods Working Group (CLG-DGWG) / HAFFA

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