



# New Requirements on Shipping Lithium Batteries

Presented by  
Civil Aviation Department



# Overview

- ICAO Working Group on Lithium Batteries
- New PI 965 & 968
- Affected Parties
- Training Requirements
- Packing Requirements
- Document Requirements
- Acceptance Checks
- Pilot's Notification

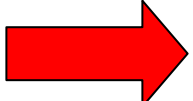


# ICAO Working Group on Lithium Batteries

- Meeting held in February 2012
- To address the risks associated with transporting lithium batteries
- Reduce the maximum quantities of lithium ion and lithium metal batteries currently permitted under Section II of PI 965 and 968
- Effective date: 1 January 2013
- Transition period: 30 days


# New PI 965 & 968

- Re-categorized PI 965 & 968 into three sections

Section I  Section IA

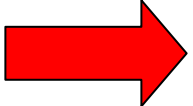
- Lithium cells or batteries which exceeded the Watt-hour rating or lithium content specified in Section II
- Subject to the full requirements

# New PI 965 & 968

Section II  Section IB

- Lithium cells or batteries which exceeded the quantities but not the Watt-hour ratings/lithium metal content limits in Section II
- Subject to most of the requirements
- Non-UN specification packagings
- Alternative written documentation, i.e. DGD not required
- Lithium battery handling label + Class 9 hazard label

# New PI 965 & 968

Section II  Section II

- A package with maximum 8 lithium cells each not exceeding 20 Wh or 1 g lithium content
- A package with maximum 2 batteries each not exceeding 100 Wh or 2 g lithium content
- Excepted from most of the requirements



# Affected Parties

- Shippers
- Freight Forwarders
- Aircraft Operators



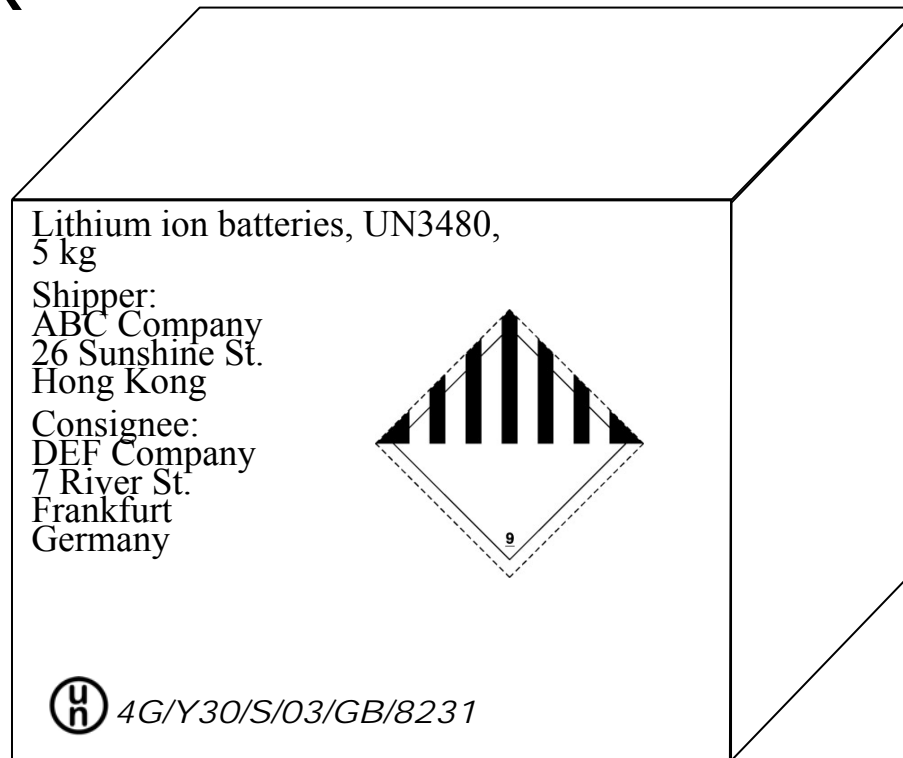
# Training Requirements

- Shippers & Forwarders consign lithium batteries under Section IA & IB
  - Full dangerous goods training
- Shippers & Forwarders consign lithium batteries under Section II
  - Adequate instruction



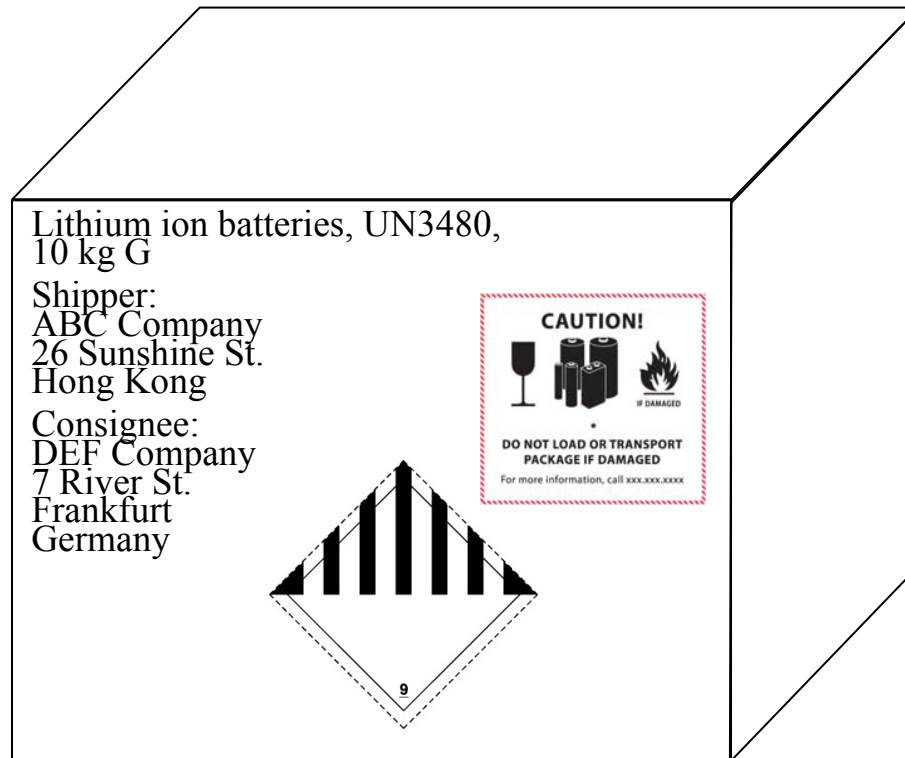
# Packing Requirements

- Section IA
- UN box



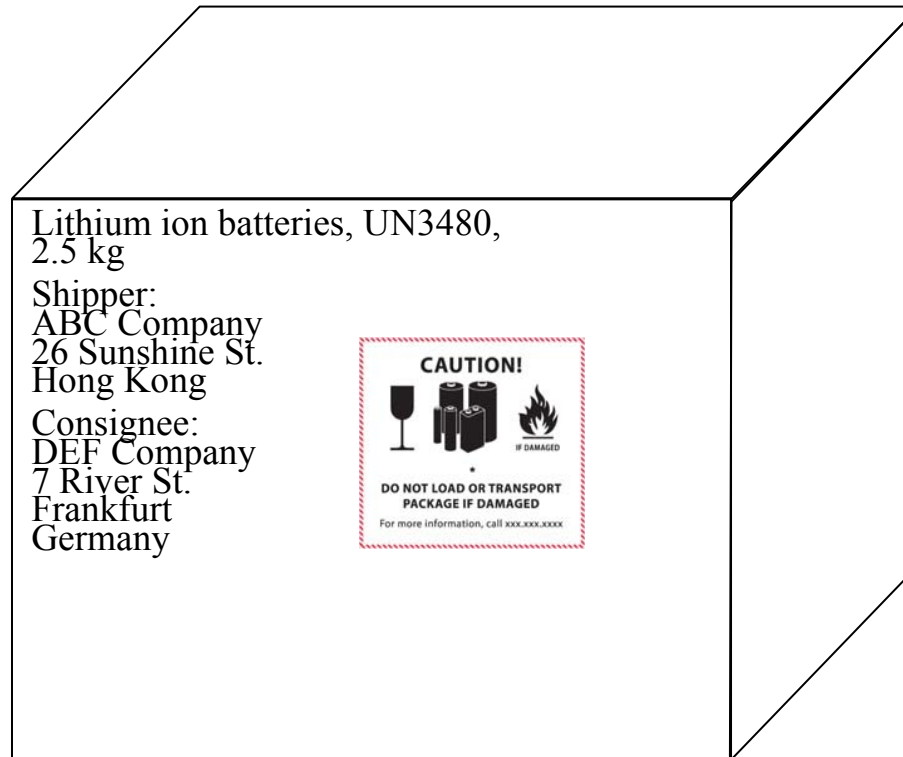
# Packing Requirements

- Section IB
- Non-UN box withstanding a 1.2 m drop test



# Packing Requirements

- Section II
- Non-UN box withstanding a 1.2 m drop test



# Packing Requirements

	PI 965		PI 968	
	PAX	CARGO	PAX	CARGO
Section IA	5 kg net	35 kg net	2.5 kg net	35 kg net
Section IB	10 kg G	10 kg G	2.5 kg G	2.5 kg G
Section II	2 batteries $\leq$ 100 Wh 8 cells $\leq$ 20 Wh 2.5 kg net $\leq$ 2.7 Wh		2 batteries $\leq$ 2 g 8 cells $\leq$ 1 g 2.5 kg net $\leq$ 0.3 g	

\* 5 kg net for Section II of PI 966, 967, 969 & 970

# Document Requirements

- Section IA
- DGD

SHIPPER'S DECLARATION FOR DANGEROUS GOODS						
Shipper General Chemicals Ltd. 2/F West Star Building 40 Market Road Shatin, Hong Kong			Air Waybill No. 160 1234 9876 Page 1 of 1 Pages Shipper's Reference Number <i>(Optional)</i>			
Consignee North Co Ltd. Rm. 222, 2/F, 1 Tsin-Hon Avenue Tokyo, Japan						
Two completed and signed copies of this Declaration must be handed to the operator			<b>WARNING</b>			
<b>TRANSPORT DETAILS</b>			Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.			
This shipment is within the limited prescribed for: <i>(delete non-applicable)</i>		Airport of Departure				
<input type="checkbox"/> PASSENGER AND CARGO AIRCRAFT <input checked="" type="checkbox"/> <del>CARGO AIRCRAFT ONLY</del>		Hong Kong				
Airport of Destination: Japan			Shipment type: <i>(delete non-applicable)</i> <input type="checkbox"/> NON-RADIOACTIVE <input checked="" type="checkbox"/> RADIOACTIVE			
NATURE AND QUANTITY OF DANGEROUS GOODS						
UN or ID No.	Dangerous Goods Identification Proper Shipping Name	Class or Division (Subsidiary Risk)	PG	Quantity and type of packing	Packing Inst	Authorization
UN 3480	Lithium ion batteries	9	II	5 kg	965	
Addition Handling Information						
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations. I declare that all of the applicable air transport requirements have been met.			Name / Title of Signatory: Chan Tai Man, Export Manager Place and Date: Hong Kong Signature (see warning above): <i>Chan</i>			

# Document Requirements

- Section IB
- AWB

Airport of Destination			Requested Flight/Date		Amount of Insurance		INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Handling Information								SCI
No. of Pieces RCP	Gross Weight	kg lb	Rate Class Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions of Volume)	
							UN3480 Lithium ion batteries PI 965 IB 5 packages x 10 kg G	



# Document Requirements

- Section IB
- A document with an indication that:
  - the package contains lithium metal cells or batteries
  - the package must be handled with care and that a flammability hazard exists if the package is damaged
  - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary
  - a telephone number for additional information

# Document Requirements

- Section II
- AWB

Airport of Destination		Requested Flight/Date		Amount of Insurance		INSURANCE - If carrier offers insurance, and such insurance is requested in accordance with the conditions thereof, indicate amount to be insured in figures in box marked "Amount of Insurance".	
Handling Information							SCI
No. of Pieces RCP	Gross Weight	kg lb	Rate Class Commodity Item No.	Chargeable Weight	Rate / Charge	Total	Nature and Quantity of Goods (incl. Dimensions of Volume)
							Lithium ion batteries in compliance with Section II of PI 965





# Document Requirements

- Section II
- A document with an indication that:
  - the package contains lithium metal cells or batteries
  - the package must be handled with care and that a flammability hazard exists if the package is damaged
  - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary
  - a telephone number for additional information

# Acceptance Checks

- On Section IA & IB lithium batteries
- DG Checklist

DANGEROUS GOODS ACCEPTANCE CHECK LIST FOR NON-RADIOACTIVE SHIPMENT						
AWB NO.	ORIGIN	DESTINATION	CLASS / DIV	UN / ID NO.	PACKING INSTRUCTION	
SHIPPER :						
AGENT :						
<b>AIR WAYBILL</b>						
1. "Dangerous goods as per attached (Shipper's Declaration) shown?" (8.2.1(a))						Yes No N/A
2. "Cargo Aircraft Only" or "CAO" shown, if required? (8.2.1(b))						
3. Where non-dangerous goods are included, the number of pieces of dangerous goods shown (8.2.2)						
<b>SHIPPER'S DECLARATION</b>						
4. Is the Shipper's Declaration in duplicate and in English? (8.1.1 and 8.1.2.1)						
5. Full names and addresses of shipper and consignee shown? (8.1.6.1 and 8.1.6.2)						
6. If the AWB Number is not shown, enter 8. (8.1.6.3)						
7. Is the number of pages shown? (8.1.6.4)						
8. If the full name of Airport or City of Departure or Destination is not shown, enter 8. (8.1.6.6 and 8.1.6.7)						
9. Is the non-specific aircraft type deleted and the word "Radioactive" deleted? (8.1.6.5 and 8.1.6.8)						
<b>Dangerous Goods Identification</b>						
10. UN or ID number, preceded by prefix (8.1.6.9.1, Step 1)						
11. Is Proper Shipping Name and the technical name in parentheses for authorized entries? (8.1.6.9.1, Step 2)						
12. Class or Division, and Compatibility Group for Class 1 shown? (8.1.6.9.1, Step 3)						
13. Subsidiary risk (if required) is identified shown? (8.1.6.9.1, Step 4)						
14. Packing Group shown? (8.1.6.9.1, Step 5)						
<b>Quantity and type of Packing</b>						
15. Number and Title of Packages shown? (8.1.6.9.2, Step 6)						
16. Quantity and unit of measure (net, or gross followed by 'G', as applicable) within per package limit (8.1.6.9.2, Step6)						
17. Different dangerous goods packed in same package						
a. Compatible according to Table 9.3.A.						
b. For UN packages containing Div. 5.2. (5.0.2.1(c))						
c. "A" packed in one type of packaging? shown? (8.1.6.9.2, Step 6f)						
d. Calculation of 'Q' value. (5.0.2.1(g)(i)&(ii); 5.0.3.2 and 8.1.6.9.2, Step 6(g))						
18. Overpack						
a. Indication "Overpack used" (8.1.6.9.2, Step 7)						
b. Compatible according to Table 9.3.A. (5.0.3.1) and 5.0.3.2						
c. Multi-overpack marks and quantity per overpack (Fig. 8.1.1 and 8.1.6.1(a)). (8.1.6.9.2, Step 7)						
<b>Packing Instruction</b>						
19. Packing instruction number shown? (8.1.6.9.3, Step 8)						
<b>Authorization</b>						
20. The Special Provision number (A1, A2, A3, A4, A5, A6, A8, A9 or A10) is applied. (8.1.6.9.4, Step 9)						
21. Indication that government authorization is attached including a copy in English. (8.1.6.9.4, Step 9)						
22. Additional approvals for other items under (8.1.6.9.4, Step 9)						
<b>Additional Handling Information</b>						
23. For oxygen generators contained in Protective Breathing Equipment (PBE) under A144, is the mandatory statement shown. (8.1.6.11.2)						
24. For explosives of Div. 1 and Div 5.2, is the mandatory statement shown. (8.1.6.11.1 and 8.1.6.11.2)						
25. The shipper must provide a 24-hour emergency telephone number of a person who is knowledgeable of the hazard, characteristics and actions to be taken in case of an accident or incident. (2.8, LO-04)						
26. The air transport statement included. (8.1.6.12)						
27. Name and Title of Signatory, Print and Date, Signature entered. (8.1.6.13-8.1.6.16)						
28. Amendment or alteration, if any, has been signed by shipper. (8.1.6.16)						
<b>PACKAGE(S) AND OVERPACKS</b>						
29. Packages conform with packing instruction and is free from damage or leakage (8.1.30) and the relevant PI (8.1.3)						
30. Same number and type of packages and overpacks delivered as shown on DGD. (8.1.3)						
<b>Marking</b>						
31. For UN Specification Packaging, are they marked according to 6.0.4 and 6.0.5:						
a. Symbol and Specification Code						
b. X, Y or Z, agrees with Packing Group / Packing instruction						
c. Gross Weight within limits (Solids, Inner Packaging or IBCs) (SPA173)						
d. Intrinsic substance package marking. (8.1.3.1)						
32. Proper Shipping Name(s) including technical name where required, and UN / ID number marked. (7.1.5.1.a)						
33. Full names and addresses of shipper and consignee marked? (7.1.5.1.b)						
34. For consignments of more than one package of all classes, except Class 8, the net quantity or gross weight followed by 'G', as applicable, unless contents are identical, must marked on the packages (7.1.5.1.c)						
35. Cannon Disks, (Bolt) (Dry) net quantity marked on the packages. (7.1.5.1.d)						
36. For Intrinsic Substances of Div.2, is the name and telephone of responsible person marked? (7.1.5.1)(e)						
37. For Intrinsic Substances shown for Packing Instruction 202. (7.1.5.1)(f)						
38. Limited Quantities mark. (7.1.5.3)						
39. For Solange Packagings, is the "SALVAGE" marked? (7.1.5.4)						
40. For Overpack, are marking requirements complied with? (7.1.6)						
41. Environmentally Hazardous Substances marked accordingly. (7.1.6.3)						
<b>Labelling</b>						
42. The label(s) identifying the Primary risk as per 4.2, Column D (7.2.3.2; 7.2.3.3)(b)						
43. The label(s) identifying the Subsidiary risk next to Primary risk label(s), as per 4.2, Column D (7.2.3.2 and 7.2.6.2.3)						
44. "CAO" label adjacent to hazard label(s). (7.2.4.2 and 7.2.6.3)						
45. "Orientation" labels on two opposite sides, if applicable (7.2.4.4)						
46. The "Magnetized Material" label is used for magnetized material? (7.2.4.1)						
47. The "Cryogenic Liquid" label is used if applicable (7.2.4.3)						
48. The "Keep Away From Heat" label is used if applicable (7.2.4.5)						
49. All required labels correctly placed (7.2.5) and all treatment marks and labels removed (7.1.10); 7.2.5)(a)						
<b>OTHERS</b>						
50. State and Operator variations complied with? (8.6)						
51. For LO-03 & OXKA-05, subject to approved exemption, packing requirement must be done by forwarder / shipper						
52. Special provisions in Section 4 complied with? (4.2.4)						
53. For Cargo Aircraft Only consignments, a cargo aircraft operates on all sectors.						
<b>COMMENTS</b>						
CHECKED BY						
STATION CODE		SIGNATURE		NAME-BLOCK CAPITAL		
<b>NOTES</b>						
If any box is answered 'No', do not accept the shipment & give the original copy of this form back to the shipper or agent together with the shipment.						
Never reject a shipment until all items have been checked.						
<b>DISTRIBUTION</b>						
Accepted Items						
1. Original with AWB to go forward (2 extra copies for transhipping station)						
Rejected Items						
1. Original to shipper						
2. Cargo Manager/ Supt. at Station of origin for action with shipper						



# Pilot's Notification

- Section IA & IB lithium batteries
- Location and quantity of lithium batteries on board
- NOTOC



Thank You