

Summary of Changes for Lithium **metal** or Lithium alloy Cells and Batteries

Developed by NCA, March, 2012

PI 968 Lithium metal or Lithium alloy Cells and Batteries (UN3090)

		Cells or Batteries as Class 9 Dangerous Goods		Excepted Cells or Batteries
		Section IA	Section IB	Section II
Types of cells or batteries		Types of cells or batteries 1) Cells with a lithium content more than 1g. 2) Batteries with a lithium content more than 2g. 3) Types of cells or batteries subject to Section II or Section IB but exceed the both limitations of Section II and Section IB.	Types of cells or batteries 1) Cells with a lithium content not more than 1g. 2) Batteries with a lithium content not more than 2g.	Types of cell or battery 1) Cells or batteries with a lithium content not more than 0.3g. 2) Cells with a lithium content not more than 1g. 3) Batteries with a lithium content not more than 2g.
Limitations	Number of cells or batteries per package	N/A	If the numbers of cells or batteries in a package exceed the limitation for Section II, those can be transported under the provision of Section IB (Class 9 Dangerous Goods).	Above 1), 2) and 3) 1) No Limit 2) 8 Cells. 3) 2 Batteries. Note: Different types of cells or batteries must not be packed together in one outer packaging.
	Net Quantity (Mass) of cells or batteries per package	PAX aircraft: 2.5kg CAO aircraft: 35kg	Gross weight of the package must not exceed 2.5kgG.	Above 1), 2) and 3) 1) 2.5kg per package 2) N/A 3) N/A
UN Test		Cells and batteries must pass the 38.3 UN Test.	Cells and batteries must pass the 38.3 UN Test.	Cells and batteries must pass the 38.3 UN Test.
Shipper's Declaration for Dangerous Goods (DGD)		Yes, required.	Not required.	Not required.
AWB Indication		"Dangerous Goods as per attached Shipper's Declaration" and "Cargo Aircraft Only" if applicable.	<ul style="list-style-type: none"> The name and address of the shipper and consignee. UN3090 Lithium metal cells or batteries PI 968 IB The number of packages and the gross mass of each package. 	"Lithium metal Batteries in compliance with Section II of PI 968".
Other Document		N/A	<ul style="list-style-type: none"> 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 procedure must be followed in the event the package is damaged, to include inspection and repacking if necessary. A telephone number for additional information. 	<ul style="list-style-type: none"> 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 procedure must be followed in the event the package is damaged, to include inspection and repacking if necessary. A telephone number for additional information. <p style="text-align: right;">To be continued.</p>

	Section IA	Section IB	Section II
UN Specification Packaging	Yes , UN specification packagings meeting PG II performance standard, must be used. However, lithium metal batteries with a mass of 12kg or greater and having a strong, impact-resistant outer casing, or assembles of such batteries, may be transported when packed in strong outer packagings under the approval of the state of origin. A copy of approval must accompany.	No , UN specification packaging is not required. But the packaging must be test for 1.2m drop test .	No But the packaging must be test for 1.2m drop test .
Class 9 Hazard Label	Yes	Yes	Not required.
Lithium Battery Handling Label	No.	Yes	Yes , must be affixed on the Package.
NOTOC (requirement for Airlines)	Yes , required.	Yes , Required.	Not required.
All other requirements in DGR	Must be applied.	Must be applied.	Not applicable. (must meet requirements in PI968 and applicable Special Provisions must be observed.)
Training Requirement.	Yes , required including shippers	Yes , required including shippers	Necessary instruction must be given to the handling personnel but training is not a mandatory.
Acceptance Check by using check list (requirement for Airlines)	Yes, a full acceptance check by using normal check list is required.	Yes , but dedicated check list for Section IB batteries like Dry Ice can be used. The IATA will develop it.	Not Required.
Shipper Built ULD	Must not be included in BUP	Must not be included in BUP	Can be included in BUP

Section IA, other changes and additional items.

1. Another type of UN specification packaging, 4N (other metal, other than steel or aluminium) can be used as Outer Packaging.
2. There are some changes in Additional Requirements – Section IA, please see IATA DGR 54th edition.
3. The following requirement (in bold type) will be added to “Lithium metal and lithium alloy cells and batteries prepared for transport on Passenger Aircraft as Class 9;”
 - must be packed in either a rigid metal intermediate or a metal outer packaging;
 - cells and batteries must be surrounded by cushioning material that is non-combustible and non-conductive before being placed in either the metal intermediate or metal outer packaging;
 - **when the package does not meet the above requirements, the package(s) must bear the “Cargo Aircraft Only” label and the Shipper’s Declaration must indicate “Cargo Aircraft Only”.**

PI 969 Lithium metal or lithium alloy cells and batteries packed with equipment (UN3091)

Section I, Change and additional requirements.

1. Another type of UN specification packaging, 4N (other metal, other than steel or aluminium) can be used as Outer Packaging.
2. The following requirement (in bold type) will be added to “Lithium metal and lithium alloy cells and batteries prepared for transport on Passenger Aircraft as Class 9;”
 - must be packed in either a rigid metal intermediate or a metal outer packaging;
 - cells and batteries must be surrounded by cushioning material that is non-combustible and non-conductive before being placed in either the metal intermediate or metal outer packaging;
 - when the package does not meet the above requirements, the package(s) must bear the “Cargo Aircraft Only” label and the Shipper’s Declaration must indicate “Cargo Aircraft Only”.

3. Table 969-I will be modified as follows;

UN number	Net quantity per package Passenger aircraft	Net quantity per package Cargo Aircraft Only
UN3091, Lithium metal batteries packed with equipment	5kg	35kg

Section II, change and additional requirements.

1. AWB requirement will be modified as;
The words “Lithium metal batteries in compliance with Section II of PI 969” must be shown on the AWB.
2. The limitation of Section II batteries will be added as follows;

Table 969-II

	Passenger aircraft	Cargo Aircraft Only
Net quantity of Lithium metal cells or batteries per package.	5kg	5kg

PI 970 Lithium metal or lithium alloy cells and batteries contained in equipment (UN3091)

Section I, Table 970-I will be modified as follows;

Table 970-I

UN number	Net quantity per package Passenger aircraft	Net quantity per package Cargo Aircraft Only
UN3091, Lithium metal batteries contained in equipment	5kg	35kg

Section II, change and additional requirements.

1. AWB requirement will be modified as;
The words “Lithium metal batteries in compliance with Section II of PI 970” must be shown on the AWB.
2. The limitation of Section II batteries will be added as follows;

Table 970-II

	Passenger aircraft	Cargo Aircraft Only
Net quantity of Lithium metal cells or batteries per package	5kg	5kg

Other change and additional requirements.

General requirements in PI 968, 969 and 970, there are some changes and additional requirements as follows.

- Cells and batteries must be manufactured under a quality management program as described in 3.9.2.6(e) of 54th edition of DGR.
- Each cell and battery is of the type proven to meet the requirements of each test in the UN Manual of Tests and Criteria, Part III, subsection 38.3. However, batteries and cells manufactured before 1 January 2014 conforming to a design type tested according to the requirements of the fifth revised edition of the UN Manual of Tests and Criteria, Part III, subsection 38.3 may continue to be transported.

Note: NCA is not in a position to take any responsibility for the accuracy of the table above.

The IATA Dangerous Goods Regulations must be observed.