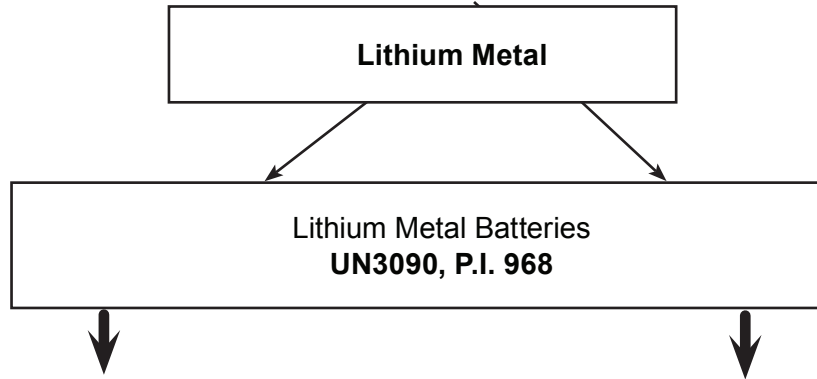


# LITHIUM METAL BATTERIES



**Section IA**  
Acceptable to dangerous goods locations Only.  
Cells greater than 1g and Batteries with an aggregate lithium content in excess of 2g.<sup>1</sup>

- Shipper's Declaration required in net weight KG.
- UN number, proper shipping name and shipper/consignee name and address on the package
- UN specification packaging required (PGII standards)
- Lithium Battery Class 9 Hazard label (See Figure 1)
- Cargo Aircraft Only (CAO) label required (See Figure 3)
- Dangerous goods surcharge
- Shipper must be on Section I (IA/IB) preapproval list (FX-05B)

**Limit per package:**  
Must be on CAO = 35kg

**Section IB**  
Acceptable to dangerous goods locations Only.  
Cells equal to or less than 1g; and Batteries the aggregate lithium content is not more than 2g.<sup>1</sup>

- Shipper's Declaration required in net weight KG.
- IB on Shipper's Declaration after packing instruction
- UN number, proper shipping name and shipper/consignee name and address on the package
- Strong rigid outer packaging.
- Lithium Battery Class 9 Hazard label (See Figure 1)
- Completed Lithium Battery Mark (See Figure 2)
- Cargo Aircraft Only (CAO) label required (See Figure 3)
- Shipper must be on Section I (IA/IB) preapproval list (FX-05B)
- Dangerous goods surcharge

**Limit per package:**  
Must be CAO = 2.5kg

~ Or ~

**Section II**

- Not accepted per IATA operator variation FX-05A; must be offered as Section IA or IB.

<sup>1</sup> **AGGREGATE LITHIUM CONTENT** - The sum of the grams of lithium content contained by the cells comprising a battery. [IATA Appendix A]

FedEx Express does not provide these DG Labels. Customers may order these labels from vendors, such as those at [www.iata.org/labels](http://www.iata.org/labels).

Figure 1



Lithium Battery Class 9 Hazard Label

**NOTE:** No text other than the Class "9" must be included in the bottom part of the Lithium Battery Class 9 label. IATA 7.2.2.4

Figure 2



Lithium Battery Mark

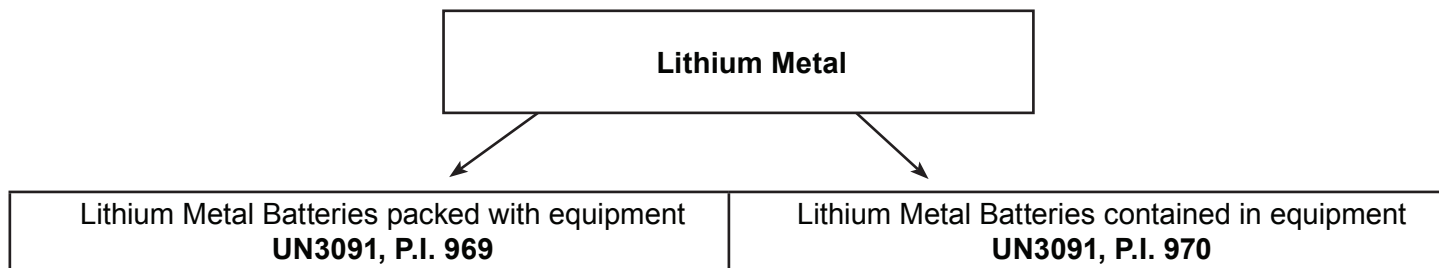
- \* Shipper must add UN number(s). It should be 12 mm high **AND**
- \*\* Shipper must complete phone number portion of label.

Figure 3



Cargo Aircraft Only Label

# LITHIUM METAL BATTERIES



**Section I**  
Acceptable to Dangerous goods locations Only.  
Cells greater than 1g; and Batteries with an aggregate lithium content greater than 2g.<sup>1</sup>

- Shipper's Declaration required in net weight KG.
- UN number, proper shipping name and shipper/consignee name and address on the package
- UN specification packaging required (PGII standards)
- Lithium Battery Class 9 Hazard label (See Figure 1)
- Dangerous goods surcharge
- The number of cells or batteries in each package must not exceed the number required for each equipment's operation plus two spare sets.
- A set of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment

**Limit per package (excludes equipment):**  
PAX = 5kg  
CAO = 35kg

~ Or ~

**Section II**  
Acceptable to most locations.  
Cells equal to or less than 1g; and Batteries equal to or less than 2g

- No Shipper's Declaration
- Strong rigid outer packaging
- Completed Lithium Battery Mark (See Figure 2)
- No Dangerous goods surcharge
- The number of cells or batteries in each package must not exceed the number required for each equipment's operation plus two spare sets.
- A set of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment
- If Special Provision A213 is applicable, 1.5 g and 10 Wh limits per battery apply.

**Limit per package (excludes equipment):**  
PAX = 5kg  
CAO = 5kg

**Section I**  
Acceptable to dangerous goods locations Only.  
Cells greater than 1g; and Batteries with an aggregate lithium content greater than 2g. <sup>1</sup>

- Shipper's Declaration required in net weight KG.
- UN number, proper shipping name and shipper/consignee name and address on the package
- Strong rigid outer packaging
- Lithium Battery Class 9 Hazard label (See Figure 1)
- Dangerous goods surcharge

**Limit per package (excludes equipment):**  
PAX = 5kg  
CAO = 35kg

~ Or ~

**Section II**  
Acceptable to most locations.  
Cells equal to or less than 1g; and Batteries equal to or less than 2g

- No Shipper's Declaration
- Strong rigid outer packaging
- Completed Lithium Battery Mark if more than 4 cells and 2 batteries per package (See Figure 2)

**Exception**  
The completed Lithium Battery Mark requirement does not apply to:

- packages containing only button cell batteries installed in equipment (including circuit boards) or
- consignments of two packages or less where each package contains no more than 4 cells or 2 batteries installed in equipment

- If Special Provision A213 is applicable, 1.5 g and 10 Wh limits per battery apply.
- No Dangerous goods surcharge

**Limit per package (excludes equipment):**  
PAX = 5kg  
CAO = 5kg

<sup>1</sup> **AGGREGATE LITHIUM CONTENT** - The sum of the grams of lithium content contained by the cells comprising a battery. [IATA Appendix A]

# LITHIUM ION BATTERIES

Lithium Ion

Lithium Ion Batteries  
UN3480, P.I. 965

## Section IA

Acceptable to dangerous goods locations Only.  
Cells greater than 20Wh; and Batteries greater than 100Wh

- Shipper's Declaration required in net weight KG.
- UN number, proper shipping name and shipper/consignee name and address on the package
- UN specification packaging required (PGII standards)
- Lithium Battery Class 9 Hazard label (See Figure 1)
- Cargo Aircraft Only (CAO) label required (See Figure 3)
- Dangerous goods surcharge
- State of charge (SoC) not exceeding 30% of their rated design capacity for cells and batteries without competent authority approval of both the state of origin and state of the operator

**Limit per package:**  
CAO = 35kg

~ or ~

## Section II

- Not accepted per IATA operator variation FX-05A; must be offered as Section IA or IB.

## Section IB

Acceptable to dangerous goods locations Only.  
Cells equal to or less than 20Wh; and Batteries equal to or less than 100Wh

- Shipper's Declaration required in net weight KG.
- IB on Shippers Declaration after packing Instruction
- UN number, proper shipping name and shipper/consignee name and address on the package
- Strong rigid outer packaging
- Lithium Battery Class 9 Hazard label (See Figure 1)
- Completed Lithium Battery Mark (See Figure 2)
- Cargo Aircraft Only (CAO) label required (See Figure 3)
- Dangerous goods surcharge
- State of charge (SoC) not exceeding 30% of their rated design capacity for cells and batteries without competent authority approval of both the state of origin and state of the operator

**Limit per package:**  
CAO = 10kg

# LITHIUM ION BATTERIES

## Lithium Ion

Lithium Ion Batteries packed with equipment  
**UN3481, P.I. 966**

Lithium Ion Batteries contained in equipment  
**UN3481, P.I. 967**

### Section I

Acceptable to dangerous goods locations Only.

Cells greater than 20Wh; and Batteries greater than 100Wh

- Shipper's Declaration required in net weight KG.
- UN number, proper shipping name and shipper/consignee name and address on the package
- UN specification packaging required (PGII standards)
- Lithium Battery Class 9 Hazard label (See Figure 1)
- Dangerous goods surcharge
- The number of cells or batteries in each package must not exceed the number required for each equipment's operation plus two spare sets.
- A set of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment.

#### Limit per package (excludes equipment):

PAX = 5kg  
CAO = 35kg

~ or ~

### Section II

Acceptable to most locations.

Cells equal to or less than 20Wh; and Batteries equal to or less than 100Wh

- No Shipper's Declaration
- Strong rigid outer packaging
- Completed Lithium Battery Mark (See Figure 2)
- No Dangerous goods surcharge
- The number of cells or batteries in each package must not exceed the number required for each equipment's operation plus two spare sets.
- A set of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment.

#### Limit per package (excludes equipment):

PAX = 5kg  
CAO = 5kg

### Section I

Acceptable to dangerous goods locations Only.

Cells greater than 20Wh; and Batteries greater than 100Wh

- Shipper's Declaration required in net weight KG.
- UN number, proper shipping name and shipper/consignee name and address on the package
- Strong rigid outer packaging
- Lithium Battery Class 9 Hazard label (See Figure 1)
- Dangerous goods surcharge

#### Limit per package (excludes equipment):

PAX = 5kg  
CAO = 35kg

~ or ~

### Section II

Acceptable to most locations

Cells equal to or less than 20Wh; and Batteries equal to or less than 100Wh

- No Shipper's Declaration
- Strong rigid outer packaging
- Completed Lithium Battery Mark if more than 4 cells and 2 batteries per package (See Figure 2)

#### Exception

The completed Lithium Battery Mark requirement does not apply to:

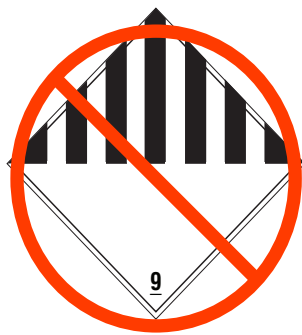
- packages containing only button cell batteries installed in equipment (including circuit boards) or
  - consignments of two packages or less where each package contains no more than 4 cells or 2 batteries installed in equipment
- No Dangerous goods surcharge

#### Limit per package (excludes equipment):

PAX = 5kg  
CAO = 5kg

**Note:**

- FedEx Express will not accept any item with an A183 Special Provision, even with a Competent Authority approval unless specifically preapproved. [FX-04E]
- All Lithium Batteries (Section I/IA/IB and Section II) in all packing instructions must not be shipped in the same package with the following Hazard Classes/Divisions:  
1.4, 2.1, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 8, or 2.2 with a Cargo Aircraft Only label. This includes All Packed in One and Overpacks.  
**Exception:** If the only lithium batteries are Section II and are those in packages that are excepted from having the Lithium Battery Mark then do not select UN 3481 PI 967 or UN 3091 PI 970 in the FedEx automation system (so ELB does not appear on the automation label) for devices such as temperature control devices. [FX-05C]
- Shippers sending any data loggers which remain active in flight (other than FedEx SenseAware) must be pre-approved. This includes data loggers that do not transmit in flight. Contact the FedEx Dangerous Goods/Hazardous Materials hotline at (901)375-6806 or email: dghotline@fedex.com to begin the approval process Devices are approved by manufacturer and model number, and a shipper may request the approval. [FX-05D]
- Hoverboards or similar self-balancing vehicles will only be accepted from companies if new, in unopened original packaging. Used, refurbished self-balancing vehicles shipments from individuals, resellers or third party shipments will not be accepted. [FX-04F]
- Call FedEx customer service and ask for the International Hotline/ Specialist to check on commodity acceptability for international shipments
- Select ELB in your FedEx automation device, if selection is available for any Section II UN3091 or UN3481 required to be labeled with the Lithium Battery Mark.



**Class 9 Miscellaneous Dangerous Goods Hazard Label**

The Class 9 label **cannot** be used as the hazard label for Section I/IA/IB shipments effective 01/01/19.

The Lithium Battery Class 9 hazard label must be used instead.



**Lithium Battery Label**

**Obsolete effective 01/01/19**

If you have questions please contact the Dangerous Goods/Hazardous Materials Hotline at (800) GOFEDEX and press “81” or say dangerous goods. Press “4” to reach next available agent.

**DISCLAIMER:**

This guide is based upon the 2021 IATA Dangerous Goods Regulations and provides a general overview of lithium battery shipping requirements. It does not provide complete shipping information. Consult the packing instruction and all applicable Special Provisions for the product being shipped.

These materials are provided as a courtesy, to be used as guidelines to assist properly trained shippers. These materials do not alter, satisfy, or influence any governmental requirements. The contents of these materials are subject to change due to constant changes in government regulations. FedEx Express accepts no liability for loss or damage resulting from changes, errors, omissions, or misinterpretations of these materials.

# Lithium Battery Mark

Figure 2



This mark can be printed in color, completed as shown in the example on the right, and affixed to the package. When printing, be sure to select "No" for "Expand/reduce page."

Please understand that FedEx Express accepts no liability for loss or damage caused by using this data.

## 【Minimum size】

The mark must be in the form of a rectangle with hatched edging.

The mark must be a minimum dimension of 100 mm wide × 100 mm high and the minimum width of the hatching must be 5 mm.

If the size of the package so requires, the dimensions/line thickness may be reduced to not less than 100 mm wide × 70 mm high.

## 【Color】

The hatching must be red.

The symbol must be black on white or suitable contrasting background.

## 【Markings on the lithium battery mark】

The mark must indicate as below:

- **The appropriate UN number preceded by the letters "UN" and it should be at least 12mm high**
  - "UN3090" for lithium metal cells or batteries;
  - "UN3480" for lithium ion cells or batteries;
  - "UN3091" for lithium metal cells or batteries contained in, or packed with, equipment; or
  - "UN3481" for lithium ion cells or batteries contained in, or packed with, equipment.
  - Where a package contains lithium cells or batteries assigned to different UN numbers, all applicable UN numbers must be indicated on one or more marks.
- **A telephone number for additional information**

The telephone number required on the lithium battery mark can be a 24-hour monitored number, or other normal office hour number provided a person knowledgeable of the lithium batteries being shipped is readily available. The telephone number must start with the country code.

## 【On your Air Waybill】

Where a consignment includes packages bearing the lithium battery mark for Section II, the words must be included on the air waybill as below:

- "Lithium metal batteries in compliance with Section II of PI969" for UN3091 lithium metal cells or batteries packed with equipment;
- "Lithium metal batteries in compliance with Section II of PI970" for UN3091 lithium metal cells or batteries contained in equipment;
- "Lithium ion batteries in compliance with Section II of PI966" for UN3481 lithium ion cells or batteries packed with equipment;
- "Lithium ion batteries in compliance with Section II of PI967" for UN3481 lithium ion cells or batteries contained in equipment.

## Example





# Lithium Metal Batteries UN 3090 Section IA and Section IB

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Due to an IATA regulation to prohibit transport of lithium metal batteries on passenger aircraft effective as of January 1, 2015, there will be certain restrictions in destinations where FedEx is able to accept lithium metal battery shipments

FedEx will limit transport of UN3090 shipments to locations where Dangerous Goods are accepted via FedEx International Priority Service. However, depending on required routing, these shipments may need to be returned to shippers due to prohibitions on carrying such shipments aboard passenger aircraft.

This restriction only applies to lithium metal batteries when shipped by themselves, and does not apply to batteries packed with equipment or contained in equipment.

## How to obtain preapproval

Shippers must be preapproved by FedEx Express Dangerous Goods Administration in order to ship lithium metal batteries, UN 3090 Section IA and Section IB.

### Note:

Effective Jan. 1, 2017, FedEx Express will no longer accept UN 3090 or UN 3480 lithium batteries tendered to us as IATA Section II. Instead, these shipments must be tendered as fully regulated Section I (either Section IA or Section IB).

Shippers who are on the UN 3090 Section II preapproved list will automatically be placed on the UN 3090 Section I list. You will not need to reapply for preapproval. The Section II Exception Label can no longer be used effective Jan. 1, 2017.

## Obtain Preapproval

Shippers must submit the following information to be considered by FedEx Express Dangerous Goods Administration for approval to ship lithium metal batteries.

1. FedEx account number
2. Company name and complete address (include country for orders outside the U.S.)
3. Contact name(s) and phone number (in case of questions related to the preapproval)
4. Type of preapproval requested (fully regulated UN 3090, lithium metal batteries)
5. A detailed description and digital photos or diagrams of your inner packaging. Packaging must be designed to protect the battery terminals from contact with another lithium battery or cell (or metal or any item that is capable of conducting electricity) in order to prevent short-circuiting.
6. Proof of UN38.3 test

Submit the above information to [UN3090preapprovalrequest@fedex.com](mailto:UN3090preapprovalrequest@fedex.com). **Information must be submitted in English.**

**Please allow two business days for a response from FedEx.** If you are unable to send your request via email, please contact the Customer Service Hotline at **0120-003200** to discuss other means to submit your request for approval.

### DISCLAIMER:

This guide is based upon the 2020 "IATA Dangerous Goods Regulations" and provides a general overview of lithium battery shipping requirements. It does not provide complete shipping information. Consult the packing instruction and all applicable Special Provisions for the product being shipped.

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