



Lithium Battery Information January 2019

Advisory Information for the Transport of Lithium Batteries by AIR

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| <p>All referenced through CASA and the Current IATA Dangerous Goods Regulations</p> <p>60th Edition 2019</p> | |
| <p>Packing Instruction 965</p> <p>Packing Instruction 966</p> <p>Packing Instruction 967</p> <p>Packing Instruction 968</p> <p>Packing Instruction 969</p> <p>Packing Instructions 970</p> | <p>Lithium Ion Batteries <i>(on their own) - Forbidden on Passenger Aircraft</i></p> <p>Lithium Ion Batteries packed with equipment</p> <p>Lithium Ion Batteries contained within equipment</p> <p>Lithium Metal Batteries <i>(on their own)- Forbidden on Passenger Aircraft</i></p> <p>Lithium Metal Batteries packed with equipment</p> <p>Lithium Metal Batteries contained in equipment</p> |

The above is from the current IATA regulations - See page 8 for all Toll restrictions as they may differ

NOTE:

The following batteries or cells are **FORBIDDEN** to travel by Air

- **Damaged / Being recalled by the manufacture for safety reasons / Defective / Waste / shipped for Recycling or Disposal**

Shippers of lithium batteries prepared in accordance with Section II of the lithium battery packing instructions are not subject to the formal dangerous goods training requirements, however, persons preparing such shipments must be provided with “adequate instruction” See page 9 for more information.

PI 965 & 968 cells/batteries must not be packed with or in an Overpack with Class 1, except 1.4S, Div 2.1, Class 3, Div 4.1 & Div 5.1

If an overpack is used, all labels must be clearly visible or affixed to the outside of the overpack with the word “Overpack” clearly marked durably and legibly in lettering at least 12mm high

Disclaimer: The intent of this document is not to replace the IATA or CASA regulations, merely to aid with the interpretation of the new 2019 Lithium Battery requirements. No reader should act on such information without reference to the applicable regulations. Every effort has been made to avoid any errors or omissions in this document and this is only to be used as a **guide only**. The sole reference sources are IATA and CASA. Toll will not be liable or held responsible for any loss, damage, or legal action due to omissions or errors.

Lithium ION Batteries / Cells - Only transported by Toll under strict conditions and prior approval - see page 8 for all Toll restrictions

| Lithium ION Batteries (rechargeable) UN 3480 – PI 965 | Section I FULLY DECLARED DG | Section IB Restricted | Section II Not subject to all aspects of the Regulations |
|--|---|--|--|
| Applicable to: Lithium ION Batteries on their own | <ul style="list-style-type: none"> Batteries over 100 Watts per hour (Wh) Cells over 20W/h | <ul style="list-style-type: none"> Batteries no more than 100 Wh Cells no more 20 Wh <p>NOTE: Use “IB” if package exceeds Section II limits or more than 1 package.</p> | <ul style="list-style-type: none"> Batteries no more than 100Wh Cells no more than 20Wh |
| Packaging and marking requirements for the outside of packages | <ul style="list-style-type: none"> UN Specification packaging Protection against short circuit or arching UN Number – UN3480 Proper Shipping Name | <ul style="list-style-type: none"> Strong RIGID outer packaging, e.g. wooden boxes, fibreboard boxes, fibre drums etc. Protection against damage or compression to batteries UN number – UN 3480 Proper Shipping Name | <ul style="list-style-type: none"> Strong RIGID outer packaging, e.g. wooden boxes, fibreboard boxes, fibre drums etc. Inner packaging’s must completely enclose cells/batteries Protection against short circuit or arching Cells and batteries must not be packed in the same outer packaging with other dangerous goods |
| Label required |   <p>Class 9 CAO</p> |    <p>Class 9 Lithium Battery Mark CAO</p> |   <p>Lithium Battery Mark CAO</p> <ul style="list-style-type: none"> When package dimensions are adequate, both labels must be located on the same surface |
| Quantity Allowed <i>(each battery limited to a maximum of 30% SoC)</i> | <ul style="list-style-type: none"> 35kg Net - Cargo Aircraft Only | <ul style="list-style-type: none"> Maximum Net quantity per package is 10kg Cargo Aircraft Only | <ul style="list-style-type: none"> Maximum Net quantity of cells or batteries of 2.7Wh or less) = 2.5 kg per package Maximum Net quantity of cells under 20Wh and batteries under 100Wh= 8 cells or 2 batteries per package. Only one package per consignment or overpack allowed |
| Shippers Declaration required | <ul style="list-style-type: none"> YES | <ul style="list-style-type: none"> YES (IB in PI column after number or authorisation column on declaration) | <ul style="list-style-type: none"> NO |
| Air waybill/con note or Transport document statement requirements | <ul style="list-style-type: none"> Dangerous Goods as per attached Shippers Declaration CAO | <ul style="list-style-type: none"> Dangerous Goods as per attached Shipper Declaration CAO | <ul style="list-style-type: none"> C/note statement - The words “Lithium Ion Batteries in compliance with Section II of PI 965” CAO |
| Airline requirements | <ul style="list-style-type: none"> Restricted Lithium Ion Full Acceptance checklist must be completed Required on NOTOC | <ul style="list-style-type: none"> Restricted Lithium Ion Full Acceptance checklist must be completed Required on NOTOC | <ul style="list-style-type: none"> No Acceptance checklist is required Not required on the NOTOC |

Lithium ION Batteries / Cells packed with Equipment

| Lithium Ion Batteries packed with equipment UN 3481 – PI 966 | Section I Fully declared DG | Section II Not subject to all aspects of the Regulations |
|---|--|--|
| Applicable to: Lithium Ion Batteries / Cells packed with Equipment | <ul style="list-style-type: none"> Batteries over 100 Watts per hour (Wh) Cells over 20 Wh | <ul style="list-style-type: none"> Batteries no more than 100Wh Cells no more than 20 Wh <p>Note: The maximum number of batteries allowed in the package is the minimum number required to power the equipment plus 2 spare battery sets.</p> |
| Packaging and marking requirements for the outside of packages | <ul style="list-style-type: none"> UN specification package Protection against short circuit or arcing UN Number – UN 3481 Proper Shipping Name: | <ul style="list-style-type: none"> Strong RIGID outer packaging e.g. wooden boxes, fibreboard boxes, fibre drums etc. Inner packaging's must completely enclose Battery/Cell Protection against short circuit or arcing |
| Label required |  Class 9 |  Lithium Battery Mark |
| Quantity Allowed | <ul style="list-style-type: none"> 5kg Net batteries – Passenger Aircraft 35kg Net batteries – Cargo Aircraft Only | <ul style="list-style-type: none"> Maximum Net quantity of batteries = 5kg per package for Passenger and Cargo Aircraft Only |
| Shippers Declaration required | <ul style="list-style-type: none"> YES | <ul style="list-style-type: none"> NO |
| Airwaybill/con note or Transport document statement requirements | <ul style="list-style-type: none"> Dangerous Goods as per attached shippers declaration CAO (if applicable) | <ul style="list-style-type: none"> C/note statement - Lithium Ion Batteries in compliance with section II of PI 966 |
| Airline requirements | <ul style="list-style-type: none"> Restricted Lithium Ion Full Acceptance checklist must be completed Required on NOTOC | <ul style="list-style-type: none"> Exempt Lithium Ion Batteries No Acceptance checklist is required Not required on the NOTOC |

Lithium ION Batteries contained in Equipment

| Lithium Ion Batteries contained in equipment UN 3481 – PI 967 | Section I Fully declared DG | Section II Not subject to all aspects of the Regulations |
|--|--|--|
| Applicable to: Lithium Ion Batteries / Cells contained in Equipment | <ul style="list-style-type: none"> Batteries over 100 Watts per hour (Wh) Cells over 20 Wh | <ul style="list-style-type: none"> Batteries no more than 100Wh Cells no more than 20 Wh <p>Note: The maximum number of batteries allowed in the package is the minimum number required to power the equipment</p> |
| Packaging and marking requirements for the outside of packages | <ul style="list-style-type: none"> Strong RIGID outer packaging e.g. wooden boxes, fibreboard boxes, fibre drums etc. Protection against short circuit or arching UN Number – UN 3481 Proper Shipping Name | <ul style="list-style-type: none"> Strong RIGID outer packaging e.g. wooden boxes, fibreboard boxes, fibre drums etc. Inner packaging's must completely enclose Battery/Cell Protection against short circuit or arching |
| Label required |  <p>Class 9l</p> |  <p>Lithium Battery Mark</p> <p>Note: each package must be labelled with a Lithium Battery Mark except as follows;</p> <ul style="list-style-type: none"> Packages containing only button cell batteries installed in equipment Consignments of two (2) or less packages where each package contains no more than four cells or two batteries |
| Quantity Allowed | <ul style="list-style-type: none"> 5kg Net batteries – Passenger Aircraft 35kg Net batteries – Cargo Aircraft Only | <ul style="list-style-type: none"> Maximum Net quantity = 5kg per package for Passenger and Cargo Aircraft Only |
| Shippers Declaration required | <ul style="list-style-type: none"> YES | <ul style="list-style-type: none"> NO |
| Air waybill/con note or Transport document statement requirements | <ul style="list-style-type: none"> Dangerous Goods as per attached shippers declaration CAO (if applicable) | <ul style="list-style-type: none"> C/note statement (whenever the Lithium Battery Mark is used) - "Lithium Ion Batteries in compliance with section II of PI 967" |
| Airline requirements | <ul style="list-style-type: none"> Restricted Lithium Ion Full Acceptance checklist must be completed Required on NOTOC | <ul style="list-style-type: none"> Exempt Lithium Ion Batteries No Acceptance checklist is required Not required on the NOTOC |

Lithium METAL Batteries - Fully restricted on all Toll aircraft -See page 8 for all Toll restrictions

| Lithium METAL Batteries (non rechargeable) UN 3090 – PI 968 | Section 1 Fully declared DG | Section 1B Restricted | Section II Not subject to all aspects of the Regulations |
|--|---|--|--|
| Applicable to: Lithium Metal Batteries / Cells on their own | <ul style="list-style-type: none"> Batteries over 2 grams (g) of Lithium Metal Cells over 1 gram (g) of Lithium metal content | <ul style="list-style-type: none"> Batteries no more than 2g of lithium metal content Cells no more than 1g of Lithium metal content | <ul style="list-style-type: none"> Batteries no more than 2g of Lithium metal content Cells no more than 1g of Lithium metal content |
| Packaging and marking requirements for the outside of packages | <ul style="list-style-type: none"> UN Specification package Protection against short circuit or arching UN Number – UN 3090 Proper Shipping Name | <ul style="list-style-type: none"> Strong RIGID outer packaging, e.g. wooden boxes, fibreboard boxes, fibre drums etc. Protection against short circuit or arching UN Number – UN 3090 Proper Shipping Name | <ul style="list-style-type: none"> Strong RIGID outer packaging e.g. wooden boxes, fibreboard boxes, fibre drums etc. Inner packaging's must completely enclose Battery/Cell Protection against short circuit or arching |
| Label required |   <p>Class 9 L Cargo Aircraft Only (CAO)</p> |    <p>Class 9 Lithium Battery Mark CAO</p> |   <p>Lithium Battery Mark CAO</p> <ul style="list-style-type: none"> When package dimensions are adequate, both mark & label must be located on the same surface |
| Quantity Allowed | <ul style="list-style-type: none"> Forbidden on Passenger 35 kgs Net – Cargo Aircraft Only | <ul style="list-style-type: none"> Maximum Net quantity per package 2.5kgs on Cargo Aircraft Only | <ul style="list-style-type: none"> Maximum Net quantity for batteries 0.3g or less = 2.5kgs per package Maximum Net quantity of cells under 1 gram or batteries under 2g = 8 cells or 2 batteries per package Only one package per consignment or overpack allowed |
| Shippers Declaration required | <ul style="list-style-type: none"> YES | <ul style="list-style-type: none"> Yes (1B in PI column after number or in Authorisation column on the declaration) | <ul style="list-style-type: none"> NO |
| Airwaybill/con note or Transport document statement requirements | <ul style="list-style-type: none"> Dangerous Goods as per attached Shippers Declaration CAO | <ul style="list-style-type: none"> Dangerous Goods as per attached Shippers Declaration CAO | <ul style="list-style-type: none"> C/note statement - Lithium Metal Batteries in compliance with section II of PI 968 CAO |
| Airline requirements | <ul style="list-style-type: none"> Full Acceptance checklist must be completed Required on the NOTOC | <ul style="list-style-type: none"> Full Acceptance checklist must be completed Required on the NOTOC | <ul style="list-style-type: none"> Exempt Lithium Metal Battery No Acceptance checklist required Not required on NOTOC |

Lithium METAL Batteries packed with Equipment

| Lithium METAL Batteries packed with equipment UN 3091 – PI 969 | Section I Fully declared DG | Section II Not subject to all aspects of the Regulations |
|--|---|--|
| <p>Applicable to:</p> <p>Lithium Metal Batteries and Cells packed with Equipment</p> | <ul style="list-style-type: none"> Batteries over 2 grams (g) of Lithium metal content Cells over 1g of Lithium metal content | <ul style="list-style-type: none"> Batteries no more than 2g of Lithium metal content Cells no more than 1g of Lithium metal content <p>Note: The maximum number of batteries allowed in the package is the minimum number required to power the equipment plus 2 spare batteries</p> |
| <p>Packaging and marking requirements for the outside of packages</p> | <ul style="list-style-type: none"> UN specification package Protection against short circuit or arcing UN Number – UN 3091 Proper Shipping Name | <ul style="list-style-type: none"> Strong RIGID outer packaging e.g. wooden boxes, fibreboard boxes, fibre drums etc. Inner packaging's must completely enclose Battery/Cell Protection against short circuit or arcing |
| <p>Label required</p> |  <p>Class 9 label</p> |  <p>Lithium Battery Mark</p> |
| <p>Quantity Allowed</p> | <ul style="list-style-type: none"> 5Kg Net (batteries) – Passenger Aircraft 35Kg Net (batteries) – Cargo Aircraft Only | <ul style="list-style-type: none"> Maximum Net quantity = 5kg per package for Passenger and Cargo Aircraft Only |
| <p>Shippers Declaration required</p> | <ul style="list-style-type: none"> YES | <ul style="list-style-type: none"> NO |
| <p>Airwaybill/con note or Transport document statement requirements</p> | <ul style="list-style-type: none"> Dangerous Goods as per attached shippers declaration CAO (if applicable) | <ul style="list-style-type: none"> C/note statement - Lithium Metal Batteries in compliance with section II of PI 969 |
| <p>Airline requirements</p> | <ul style="list-style-type: none"> Restricted Lithium Ion Full Acceptance checklist must be completed Required on NOTOC | <ul style="list-style-type: none"> Exempt Lithium Metal Batteries No Acceptance checklist is required Not required on the NOTOC |

Lithium METAL Batteries contained in Equipment

| Lithium METAL Batteries contained in equipment UN 3091 – PI 970 | Section I Fully declared DG | Section II Not subject to all aspects of the Regulations |
|--|--|---|
| Applicable to: Lithium Metal Batteries / Cells contained in Equipment | <ul style="list-style-type: none"> Batteries over 2 grams (g) of Lithium metal content Cells over 1g of Lithium metal content | <ul style="list-style-type: none"> Batteries no more than 2g of Lithium metal content Cells no more than 1g of Lithium metal content <p>Note: The maximum number of batteries allowed in the package is the minimum number required to power the equipment</p> |
| Packaging and marking requirements for the outside of packages | <ul style="list-style-type: none"> Strong RIGID outer packaging e.g. wooden boxes, fibreboard boxes, fibre drums etc. Protection against short circuit or arching UN Number – UN 3091 Proper Shipping Name | <ul style="list-style-type: none"> Strong RIGID outer packaging e.g. wooden boxes, fibreboard boxes, fibre drums etc. Inner packaging's must completely enclose Battery/Cell Protection against short circuit or arching |
| Label required |  Class 9 |  Lithium Battery Mark Note: each package must be labelled with Lithium Battery mark except as follows; <ul style="list-style-type: none"> Packages containing only button cell batteries installed in equipment Consignments of two (2) or less where each package contains no more than four cells or two batteries |
| Quantity Allowed | <ul style="list-style-type: none"> 5kg Net batteries – Passenger Aircraft 35kg Net batteries – Cargo Aircraft Only | <ul style="list-style-type: none"> Maximum Net quantity of batteries per package = 5kg for passenger and cargo aircraft only |
| Shippers Declaration required | <ul style="list-style-type: none"> YES | <ul style="list-style-type: none"> NO |
| Airwaybill/con note or Transport document statement requirements | <ul style="list-style-type: none"> Dangerous Goods as per attached shippers declaration CAO (if applicable) | <ul style="list-style-type: none"> C/note statement (whenever the Lithium Battery Mark is used) - Lithium Metal Batteries in compliance with section II of PI 970 |
| Airline requirements | <ul style="list-style-type: none"> Restricted Lithium Ion Full Acceptance checklist must be completed Required on NOTOC | <ul style="list-style-type: none"> Exempt Lithium Metal Batteries No Acceptance checklist is required Not required on the NOTOC |

LITHIUM BATTERY RESTRICTIONS

The following restrictions apply to Lithium Batteries and must be strictly adhered to.

| UN Number | Proper Shipping Name | Packing Instruction Number | Operator (Airline) Restriction |
|-----------|-------------------------|----------------------------|---|
| UN 3480 | Lithium Ion Batteries | PI 965 | <p>Fully Restricted on all Passenger aircraft</p> <p>Fully Restricted on all Toll 737 / ATR aircraft <i>Note 1.</i></p> <p>Fully Restricted on all Qantas / Virgin CAO aircraft</p> |
| UN 3090 | Lithium Metal Batteries | PI 968 | <p>Fully Restricted on all Passenger aircraft</p> <p>Fully Restricted on all Toll 737 / ATR aircraft</p> <p>Fully Restricted on all Qantas / Virgin CAO aircraft</p> |

Note 1

- Unless package/s containing UN3480 are placed into fire containment bag/s (used and marked as an overpack) by the shipper.
- Shipper must be pre authorised to use this service by the National Dangerous Goods manager and provide full information on the fire containment bags to be used.
- Maximum of 30kg per fire containment bag.
- It will be the responsibility of the shipper to organise with the consignee for the return of any fire containment bags.

Note 2 Metro aircraft are not considered cargo aircraft only (CAO) so therefore the above lithium batteries must never be carried on these aircraft.

The following UN and Packing Instruction numbers are not affected by the above restrictions and may be transported on all aircraft as long as all the requirements of the current IATA Dangerous Goods Regulations are met.

- UN 3481 Packing Instructions 966 & 967
- UN 3091 Packing Instructions 969 & 970

Adequate Instruction for Shipping Section II Lithium Batteries

At a minimum, a shipper should consider the following as being adequate instruction:

1. The following is offered as a starting point for an employer on what could be considered as being adequate instruction.
2. The employer must identify the different configurations of lithium batteries that they ship, i.e. lithium ion or metal batteries and /or lithium batteries packed with or contained in equipment
3. The employer must document the procedures that apply to the configurations and battery types that they ship as determine in 1, above
4. The procedures should be written up as a clear work instruction or other information that is available to all employees responsible for the preparation of lithium battery shipments
5. All employees that are involved in the process of preparing lithium battery shipments must be taken through the procedure to ensure that they understand and can demonstrate the correct application of documented procedures for the packing, labelling, marking and documentation requirements, as applicable to their job function.
6. A record must be maintained that identifies each applicable employee and the date(s) that this instruction was provided
7. Employees should be given periodic refresher, or at least demonstrate that they remain “adequately” instructed on how to perform the task. This should be done at least every two years or whenever the procedure is revised, or regulations are changed, whichever is sooner.
8. Companies that are involved in reverse logistics, i.e. arranging for returns of lithium batteries, lithium batteries with or packed in equipment must develop a clear instruction for consumers on the process to be followed for returning products. This instruction must include packaging materials and lithium battery mark, as necessary. The instruction must also include the transport method and mode of transport that must be followed; this must include a clear statement on applicable prohibitions.