

LITHIUM BATTERIES GUIDANCE

IN ACCORDANCE WITH THE

IATA DANGEROUS GOODS REGULATIONS 59TH EDITION 2018

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2018 Lithium Batteries Regulations

Defective / Damaged Batteries:

DHL will **NOT** accept any cells or batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit (e.g. those being returned to the manufacturer for safety reasons).

DHL will **NOT** accept any waste batteries meant for recycling or disposal purposes (regardless of condition).

→ **A defective battery may not exhibit any damage at all!*

Any equipment packed with or containing lithium batteries (in particular equipment returned for repair purposes as part of reverse logistics/service parts program) exhibiting above mentioned condition, must have the **batteries removed** from the equipment in order to be accepted for carriage with DHL.

Important Disclaimer:

Please note that the information contained in this Guide is purely illustrative and does not replace the study of the Dangerous Goods Regulations to perform any tasks related to the preparation of shipments containing Lithium Batteries.

DHL will not be held responsible for any inaccuracy, error or omission, regardless of cause.

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2018 Lithium Batteries Regulations: Battery Types

Step 1 – What type of battery are you shipping?

**Lithium Ion
Batteries or cells**



Rechargeable (secondary) lithium ion or lithium polymer cells or batteries.

Very commonly found in portable consumer electronics such as laptops, mobile phones, MP3 players, camcorders, cordless power tools, etc. .

**Lithium Metal
Batteries or cells**



Non-rechargeable (primary) lithium metal or lithium alloy cells or batteries

Longer life than standard alkaline batteries / cells, and commonly used in cameras, smoke detectors, etc.

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2018 Lithium Batteries Regulations: Lithium Ion Batteries



Step 2 – How are you shipping them?

Batteries / cells only



Batteries / cells
packed with
equipment
(separately in the
same package)



Batteries / cells
contained in
equipment



2018 Lithium Batteries Regulations: Lithium Metal Batteries



Step 2 – How are you shipping them?

Batteries / cells only



Batteries / cells
packed with
equipment
(separately in the
same package)



Batteries / cells
contained in
equipment



2018 Lithium Batteries Regulations: Watt Hours



Step 3 – What is the capacity (Watt Hour* rating) of your battery?



If shipped without equipment, cells and /or batteries of these three types must not be combined in the same package!

Cell → a single electrochemical unit

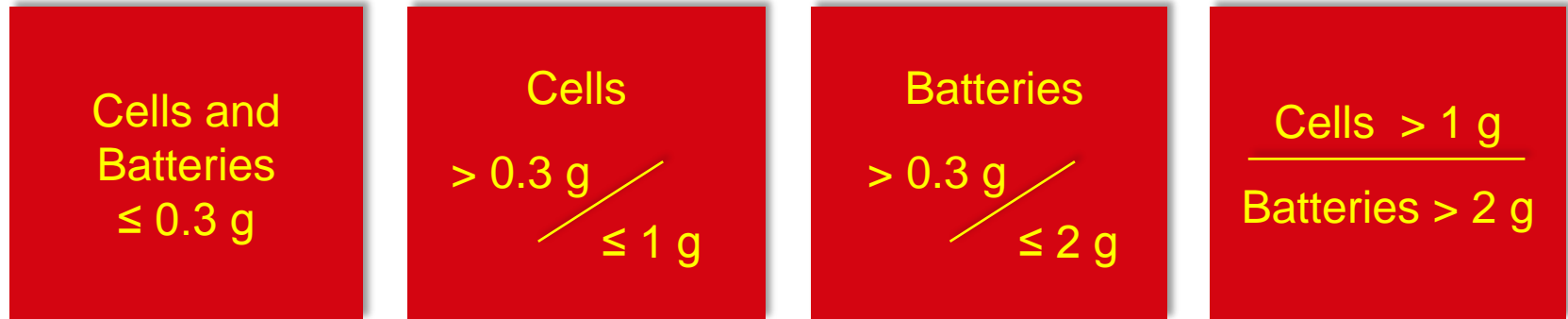
Battery → a number of cells electrically connected to each other and packed together in a common housing

*The Watt Hours must be indicated on the outside of the battery, for batteries manufactured as of January 2009. Laptops, mobile phones and other small consumer electronics usually have batteries with less than 100 Watt Hours (except for perhaps some extra duration batteries). Use the formula **Ampere Hours x Voltage** in case the Watt Hour rating is not marked on the battery.

2018 Lithium Batteries Regulations: Lithium Content



Step 3 – How much lithium does your battery / cell contain?



If shipped without equipment, cells and /or batteries of these three types must not be combined in the same package!

Cell → a single electrochemical unit
Battery → a number of cells electrically connected to each other and packed together in a common housing

2018 Lithium Batteries Regulations: Lithium Ion Batteries



Step 4 – How many cells does your package contain in total?

≤ 8 Cells

> 8 Cells

Please note:

Do not confuse package with overpack. The above refers to the number of cells or batteries per individual package regardless of whether the package is contained in an overpack.

2018 Lithium Batteries Regulations: Lithium Ion Batteries



Step 4 – How many batteries does your package contain in total?

≤ 2 Batteries

> 2 Batteries

Please note:

Do not confuse package with overpack. The above refers to the number of cells or batteries per individual package regardless of whether the package is contained in an overpack.

2018 Lithium Batteries Regulations: Lithium Metal Batteries



Step 4 – How many cells does your package contain in total?

≤ 8 Cells

> 8 Cells

Please note:

Do not confuse package with overpack. The above refers to the number of cells or batteries per individual package regardless of whether the package is contained in an overpack.

2018 Lithium Batteries Regulations: Lithium Metal Batteries



Step 4 – How many batteries does your package contain in total?

≤ 2 Batteries

> 2 Batteries

Please note:

Do not confuse package with overpack. The above refers to the number of cells or batteries per individual package regardless of whether the package is contained in an overpack.

2018 Lithium Batteries Regulations: Watt Hour Rating



Step 3 – What is the capacity (Watt Hour* rating) of your battery?

Cells
 $\leq 20 \text{ Wh}$
or Batteries
 $\leq 100 \text{ Wh}$

Cells
 $> 20 \text{ Wh}$
or Batteries
 $> 100 \text{ Wh}$

*The Watt Hours must be indicated on the outside of the battery, for batteries manufactured as of January 2009. Laptops, mobile phones and other small consumer electronics have batteries with less than 100 Watt Hours (except perhaps some extra duration batteries). Use the formula **Ampere Hours x Voltage** in case the Watt Hour rating is not marked on the battery).

→ **Cell**
a single encased electrochemical unit

→ **Battery**
a number of cells electrically connected to each other and packed together in a common housing

2018 Lithium Batteries Regulations: Watt Hour Rating



Step 3 – What is the capacity (Watt Hour* rating) of your battery?

Cells
 $\leq 20 \text{ Wh}$
or Batteries
 $\leq 100 \text{ Wh}$

Cells
 $> 20 \text{ Wh}$
or Batteries
 $> 100 \text{ Wh}$

*The Watt Hours must be indicated on the outside of the battery, for batteries manufactured as of January 2009. Laptops, mobile phones and other small consumer electronics have batteries with less than 100 Watt Hours (except perhaps some extra duration batteries). Use the formula **Ampere Hours x Voltage** in case the Watt Hour rating is not marked on the battery).

→ **Cell**
a single encased electrochemical unit

→ **Battery**
a number of cells electrically connected to each other and packed together in a common housing



2018 Lithium Batteries Regulations: Lithium Content

Step 3 – How much lithium does your battery / cell contain?

Cells
 ≤ 1 g
or Batteries
 ≤ 2 g

Cells
 > 1 g
or Batteries
 > 2 g



2018 Lithium Batteries Regulations: Lithium Content

Step 3 – How much lithium does your battery / cell contain?

Cells
 ≤ 1 g
or Batteries
 ≤ 2 g

Cells
 > 1 g
or Batteries
 > 2 g



2018 Lithium Batteries Regulations: Lithium Ion Batteries

Step 4 – How many cells or batteries does your package contain in total?

≤ 4 Cells
or
 ≤ 2 Batteries

> 4 Cells
or
 > 2 Batteries

Please note:

Do not confuse package with overpack. The above refers to the number of cells or batteries per individual package regardless of whether the package is contained in an overpack.

2018 Lithium Batteries Regulations: Lithium Ion Batteries



Step 4 – How many packages are in the consignment?

≤ 2 packages

> 2 packages

2018 Lithium Batteries Regulations: Lithium Metal Batteries



Step 4 – How many cells or batteries does your package contain in total?

**≤ 4 Cells
or
≤ 2 Batteries**

**> 4 Cells
or
> 2 Batteries**

Please note:

Do not confuse package with overpack. The above refers to the number of cells or batteries per individual package regardless of whether the package is contained in an overpack.

2018 Lithium Batteries Regulations: Lithium Metal Batteries



Step 4 – How many packages are in the consignment?

≤ 2 packages

> 2 packages



UN3480, Lithium Ion Batteries / Cells – PI965 Section II

Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

Cells and batteries must not be packed in the same outer packaging with other dangerous goods.

State of Charge (SoC) of the battery or cell must not exceed 30%.

If part of a consolidation, packages and/or overpacks containing batteries assigned to this section must be offered to DHL separately from the goods in the consolidation that are not subject to the ICAO / IATA DGR. Furthermore only one package is accepted per each single consignment and / or overpack. These batteries will not be accepted if tendered in a customer pre-built ULD.

The overpack may also contain packages of dangerous goods, other than those classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1, or goods not subject to IATA DGR.

Maximum **2.5 kg** net quantity per package. **Cargo Aircraft Only (CAO)**

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

„Lithium ion batteries in compliance with Section II of PI965”

„Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Separate account approval required. The service is limited due to CAO restrictions.

ACS - Select **”LB”** and mention **”CAO”** in the restricted commodity type

UN3480, Lithium Ion Batteries / Cells – PI965 Section IA



Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

State of Charge (SoC) of the battery or cell must not exceed 30%.

Cells and batteries must not be packed in the same outer packaging, or placed in an overpack with, dangerous goods classified in Class 1 (except 1.4S), Division 2.1 (flammable gases), Class 3 (flammable liquids), Division 4.1 (flammable solids) and Division 5.1 (oxidizers).

Maximum **35 kg** net quantity per package. **Cargo Aircraft Only (CAO)**

Package test: Packing Group II performance standards. **UN specification packaging is required.**

Labeling / Marking:



Documentation:

Shipper's Declaration is required. The following statement must be mentioned on the (air)waybill:

- „Dangerous Goods as per Attached DGD” or „Dangerous Goods as per attached Shipper's Declaration”
- „Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

ADR

TDI – Account must be approved. Lithium ion batteries/cells packed according to this section are not accepted in TDI Express when transported via road to, from, or transiting an ADR member state.

ACS - Select "DG" and mention "CAO" in the restricted commodity type.

UN3480, Lithium Ion Batteries / Cells – PI965 Section II



Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

Cells and batteries must not be packed in the same outer packaging with other dangerous goods.

State of Charge (SoC) of the battery or cell must not exceed 30%.

If part of a consolidation, packages and/or overpacks containing batteries assigned to this section must be offered to DHL separately from the goods in the consolidation that are not subject to the ICAO / IATA DGR. Furthermore only one package is accepted per each single consignment and / or overpack. These batteries will not be accepted if tendered in a customer pre-built ULD.

The overpack may also contain packages of dangerous goods, other than those classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1, or goods not subject to IATA DGR.

Maximum **8 cells** per package. **Cargo Aircraft Only (CAO)**

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

„Lithium ion batteries in compliance with Section II of PI965”

„Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Separate account approval required. The service is limited due to CAO restrictions.

ACS - Select "LB" and mention "CAO" in the restricted commodity type.

UN3480, Lithium Ion Batteries / Cells – PI965 Section II



Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

Cells and batteries must not be packed in the same outer packaging with other dangerous goods.

State of Charge (SoC) of the battery or cell must not exceed 30%.

If part of a consolidation, packages and/or overpacks containing batteries assigned to this section must be offered to DHL separately from the goods in the consolidation that are not subject to the ICAO / IATA DGR. Furthermore only one package is accepted per each single consignment and / or overpack. These batteries will not be accepted if tendered in a customer pre-built ULD.

The overpack may also contain packages of dangerous goods, other than those classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1, or goods not subject to IATA DGR.

Maximum **2 batteries** per package. **Cargo Aircraft Only (CAO)**

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

„Lithium ion batteries in compliance with Section II of PI965”

„Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Separate account approval required. The service is limited due to CAO restrictions.

ACS - Select "LB" and mention "CAO" in the restricted commodity type.

UN3480, Lithium Ion Batteries / Cells – PI965 Section IB



Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

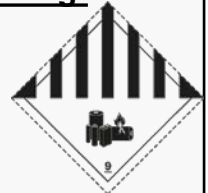
Cells and batteries must not be packed in the same outer packaging, or placed in an overpack with, dangerous goods classified in Class 1 (except 1.4S), Division 2.1 (flammable gases), Class 3 (flammable liquids), Division 4.1 (flammable solids) and Division 5.1 (oxidizers).

State of Charge (SoC) of the battery or cell must not exceed 30%.

Maximum **10 kg** net quantity per package. **Cargo Aircraft Only (CAO)**

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is required. The following statement must be mentioned on the (air)waybill:

- „Dangerous Goods as per Attached DGD” or „Dangerous Goods as per attached Shipper's Declaration”
- „Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Account must be approved. The service is limited due to CAO restrictions

ACS - Select "DG" and mention "CAO" in the restricted commodity type

UN3481, Lithium Ion Batteries / Cells – PI966 Section II



Packaging:

Cells and/or batteries must be completely enclosed in inner packaging then placed in a strong rigid outer packaging; or must be completely enclosed in inner packaging then placed with equipment in a strong rigid outer packaging.

The equipment must be secured against any movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.

Maximum number of batteries /cells per package = **those necessary to power the equipment plus 2 spares.**

Maximum net quantity of lithium batteries or cells per package is **5 kg** per package for either „**Passenger and Cargo Aircraft**” or „**Cargo Aircraft Only**” shipments.

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

„**Lithium ion batteries in compliance with Section II of PI966**”

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Account must be approved.

ACS - Select "LB" and mention "**Section II**" in the restricted commodity type.

UN3481, Lithium Ion Batteries / Cells – PI966 Section I



Packaging:

Cells and/or batteries must be completely enclosed in inner packaging then placed in a strong rigid outer packaging; or must be completely enclosed in inner packaging then placed with equipment in a strong rigid outer packaging. The equipment must be secured against any movement within the outer packaging and must be equipped with an effective means of preventing accidental activation. Maximum number of batteries /cells per package = **those necessary to power the equipment plus 2 spares.**

Maximum net quantity of lithium batteries or cells per package is **5 kg** for „**Passenger and Cargo Aircraft**” (PAX) and **35 kg** for „**Cargo Aircraft Only**“ (CAO) shipments.

As a DHL requirement cells and batteries must not be packed in the same outer packaging, or placed in an overpack, with dangerous goods classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1.

Package test: Packing Group II performance standards. **UN specification packaging is required.**

Labeling / Marking:



When CAO used:



Documentation:

Shipper's Declaration is required. The following statement must be mentioned on the (air)waybill:

- „**Dangerous Goods as per Attached DGD**” or „**Dangerous Goods as per attached Shipper's Declaration**”
- „**Cargo Aircraft Only**“ or „**CAO**“ (only when CAO was chosen)

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Account must be approved. Lithium ion batteries / cells packed according to this section are not accepted in TDI Express when transported via road to, from, or transiting an ADR member state.

ADR

ACS - Select “DG” and mention “PAX” or “CAO” as applicable, in the restricted commodity type.

UN3481, Lithium Ion Batteries / Cells – PI967 Section II



<p><u>Packaging:</u></p> <p>The equipment must be packed in strong rigid outer packaging constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the cell or battery is afforded equivalent protection by the equipment in which it is contained.</p> <p>Maximum 5 kg net qty of Lithium-Ion cells/ batteries per package (excl. of equipment).</p> <p>Maximum 2 packages per shipment (consignment).</p> <p>Package test: No requirements.</p>	<p><u>Labeling / Marking:</u></p> <p>No requirements.</p>
<p><u>Documentation:</u></p> <p>No requirements</p>	
<p><u>DHL Services:</u> (TDI = Time Definite International , ACS = Air Capacity Sales)</p> <p>TDI – No requirements.</p> <p>ACS – No requirements.</p>	

UN3481, Lithium Ion Batteries / Cells – PI967 Section II



Packaging:

The equipment must be packed in strong rigid outer packaging constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the cell or battery is afforded equivalent protection by the equipment in which it is contained.

Maximum net quantity of lithium batteries or cells per package is **5 kg** per package (excluding of equipment) for either „**Passenger and Cargo Aircraft**” or „**Cargo Aircraft Only**” shipments.

Package test: Strong rigid outer packaging equivalent to its capacity and intended use.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

„**Lithium ion batteries in compliance with Section II of PI967**”

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Account must be approved.

ACS - Select "**LB**" and mention "**Section II**" in the restricted commodity type.

UN3481, Lithium Ion Batteries / Cells – PI967 Section I



Packaging:

The equipment must be packed in strong rigid outer packaging constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the cell or battery is afforded equivalent protection by the equipment in which it is contained.

Maximum net quantity of lithium batteries or cells per package (excluding of equipment) is **5 kg** for „**Passenger and Cargo Aircraft**” (PAX) and **35 kg** for „**Cargo Aircraft Only**” (CAO) shipments.

As a DHL requirement cells and batteries must not be packed in the same outer packaging, or placed in an overpack, with dangerous goods classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1.

Package test: Strong rigid outer packaging equivalent to its capacity and intended use.

Labeling / Marking:



When CAO used:



Documentation:

Shipper's Declaration is required. The following statement must be mentioned on the (air)waybill:

- „**Dangerous Goods as per Attached DGD**” or „**Dangerous Goods as per attached Shipper's Declaration**”
- „**Cargo Aircraft Only**” or „**CAO**” (only when CAO was chosen)

DHL Services (TDI = Time Definite International , ACS = Air Capacity Sales):

ADR

TDI – Account must be approved. **Lithium ion batteries / cells packed according to this section are not accepted in TDI Express when transported via road to, from, or transiting an ADR member state.**

ACS - Select“**DG**” and mention “**PAX**” or “**CAO**” as applicable, in the restricted commodity type.



UN3090, Lithium Metal Batteries / Cells – PI968 Section II

Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

Cells and batteries must not be packed in the same outer packaging with other dangerous goods.

If part of a consolidation, packages and/or overpacks containing batteries assigned to this section must be offered to DHL separately from the goods in the consolidation that are not subject to the ICAO / IATA DGR. Furthermore only one package is accepted per each single consignment and / or overpack. These batteries will not be accepted if tendered in a customer pre-built ULD.

The overpack may also contain packages of dangerous goods, other than those classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1, or goods not subject to IATA DGR.

Maximum **2.5 kg** net quantity per package. **Cargo Aircraft Only (CAO)**

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

- „Lithium metal batteries in compliance with Section II of PI968”
- „Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Forbidden.

ACS - Select "LB" and mention "CAO" in the restricted commodity type Shipping ACS consignments to, from or within the Asia Pacific region is possible for RCG approved shipments on approved routings only.

UN3090, Lithium Metal Batteries / Cells – PI968 Section IA



Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

Cells and batteries must not be packed in the same outer packaging, or placed in an overpack with, dangerous goods classified in Class 1 (except 1.4S), Division 2.1 (flammable gases), Class 3 (flammable liquids), Division 4.1 (flammable solids) and Division 5.1 (oxidizers).

Maximum **35 kg** net quantity per package. **Cargo Aircraft Only (CAO)**

Package test: Packing Group II performance standards. **UN specification packaging is required.**

Labeling / Marking:



Documentation:

Shipper's Declaration is required. The following statement must be mentioned on the (air)waybill:

- „Dangerous Goods as per Attached DGD” or „Dangerous Goods as per attached Shipper's Declaration”
- „Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

ADR

TDI – Account must be approved. **Lithium metal batteries/cells packed according to this section are not accepted in TDI Express when transported via road to, from, or transiting an ADR member state.**

ACS - Select "DG" and mention "CAO" in the restricted commodity type. **Shipping ACS consignments to, from or within the Asia Pacific region is possible for RCG approved shipments on approved routings only.**

UN3090, Lithium Metal Batteries / Cells – PI968 Section II



Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

Cells and batteries must not be packed in the same outer packaging with other dangerous goods.

If part of a consolidation, packages and/or overpacks containing batteries assigned to this section must be offered to DHL separately from the goods in the consolidation that are not subject to the ICAO / IATA DGR. Furthermore only one package is accepted per each single consignment and / or overpack. These batteries will not be accepted if tendered in a customer pre-built ULD.

The overpack may also contain packages of dangerous goods, other than those classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1, or goods not subject to IATA DGR.

Maximum **8 cells** per package. **Cargo Aircraft Only (CAO)**

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

- „Lithium metal batteries in compliance with Section II of PI968”
- „Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Forbidden.

ACS - Select "LB" and mention "CAO" in the restricted commodity type Shipping ACS consignments to, from or within the Asia Pacific region is possible for RCG approved shipments on approved routings only.

UN3090, Lithium Metal Batteries / Cells – PI968 Section II



Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

Cells and batteries must not be packed in the same outer packaging with other dangerous goods.

If part of a consolidation, packages and/or overpacks containing batteries assigned to this section must be offered to DHL separately from the goods in the consolidation that are not subject to the ICAO / IATA DGR. Furthermore only one package is accepted per each single consignment and / or overpack. These batteries will not be accepted if tendered in a customer pre-built ULD.

The overpack may also contain packages of dangerous goods, other than those classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1, or goods not subject to IATA DGR.

Maximum **2 batteries** per package. **Cargo Aircraft Only (CAO)**

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

„Lithium metal batteries in compliance with Section II of PI968”

„Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Forbidden.

ACS - Select "LB" and mention "CAO" in the restricted commodity type Shipping ACS consignments to, from or within the Asia Pacific region is possible for RCG approved shipments on approved routings only.

UN3090, Lithium Metal Batteries / Cells – PI968 Section IB



Packaging:

Each battery /cell must be protected against a short circuit and placed in an inner packaging that completely encloses the battery /cell, then placed in a strong rigid outer packaging.

Cells and batteries must not be packed in the same outer packaging, or placed in an overpack with, dangerous goods classified in Class 1 (except 1.4S), Division 2.1 (flammable gases), Class 3 (flammable liquids), Division 4.1 (flammable solids) and Division 5.1 (oxidizers).

Maximum **2.5 kg** net quantity per package. **Cargo Aircraft Only (CAO)**

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is required. The following statement must be mentioned on the (air)waybill:

- „Dangerous Goods as per attached DGD” or „Dangerous Goods as per attached Shipper's Declaration”
- „Cargo Aircraft Only“ or „CAO“

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Account must be approved. **Forbidden in TDI Express to, from or within the Asia Pacific region due to air carriers restrictions.**

ACS - Select "DG" and mention "CAO" in the restricted commodity type. **Shipping ACS consignments to, from or within the Asia Pacific region is possible for RCG approved shipments on approved routings only.**

UN3091, Lithium Metal Batteries / Cells – PI969 Section II



Packaging:

Cells and/or batteries must be completely enclosed in inner packaging then placed in a strong rigid outer packaging; or must be completely enclosed in inner packaging then placed with equipment in a strong rigid outer packaging.

The equipment must be secured against any movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.

Maximum number of batteries /cells per package = **those necessary to power the equipment plus 2 spares.**

Maximum net quantity of lithium batteries or cells per package is **5 kg** per package for either „**Passenger and Cargo Aircraft**” or „**Cargo Aircraft Only**” shipments.

Package test: 1.2 m drop test.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

„**Lithium metal batteries in compliance with Section II of PI969**”

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Account must be approved.

ACS - Select "**LB**" and mention "**Section II**" in the restricted commodity type.

UN3091, Lithium Metal Batteries / Cells – PI969 Section I



Packaging:

Cells and/or batteries must be completely enclosed in inner packaging then placed in a strong rigid outer packaging; or must be completely enclosed in inner packaging then placed with equipment in a strong rigid outer packaging.

The equipment must be secured against any movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.

Maximum number of batteries /cells per package = **those necessary to power the equipment plus 2 spares.**

Maximum net quantity of lithium batteries or cells per package is **5 kg** for „Passenger and Cargo Aircraft” (PAX) and **35 kg** for „Cargo Aircraft Only” (CAO) shipments.

As a DHL requirement cells and batteries must not be packed in the same outer packaging, or placed in an overpack, with dangerous goods classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1.

Package test: Packing Group II performance standards. **UN specification packaging is required.**

Labeling / Marking:



When CAO used:



Documentation:

Shipper's Declaration is required. The following statement must be mentioned on the (air)waybill:

- „Dangerous Goods as per attached DGD” or „Dangerous Goods as per attached Shipper's Declaration”
- „Cargo Aircraft Only” or „CAO” (only when CAO was chosen)

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Account must be approved. Lithium metal batteries / cells packed according to this section are not accepted in TDI Express when transported via road to, from, or transiting an ADR member state.

ADR

ACS - Select “DG” and mention “PAX” or “CAO” as applicable, in the restricted commodity type.

UN3091, Lithium Metal Batteries / Cells – PI970 Section II



<p><u>Packaging:</u></p> <p>The equipment must be packed in strong rigid outer packaging constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the cell or battery is afforded equivalent protection by the equipment in which it is contained.</p> <p>Maximum 5 kg net qty of Lithium-metal cells/ batteries per package (excl. of equipment).</p> <p>Maximum 2 packages per shipment (consignment).</p> <p>Package test: No requirements.</p>	<p><u>Labeling / Marking:</u></p> <p>No requirements.</p>
<p><u>Documentation:</u></p> <p>No requirements</p>	
<p><u>DHL Services:</u> (TDI = Time Definite International , ACS = Air Capacity Sales)</p> <p>TDI – No requirements.</p> <p>ACS – No requirements.</p>	

UN3091, Lithium Metal Batteries / Cells – PI970 Section II



Packaging:

The equipment must be packed in strong rigid outer packaging constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the cell or battery is afforded equivalent protection by the equipment in which it is contained.

Maximum net quantity of lithium batteries or cells per package is **5 kg** per package (excluding of equipment) for either „**Passenger and Cargo Aircraft**” or „**Cargo Aircraft Only**” shipments.

Package test: Strong rigid outer packaging equivalent to its capacity and intended use.

Labeling / Marking:



Documentation:

Shipper's Declaration is not required. The following statement must be mentioned on the (air)waybill:

„**Lithium metal batteries in compliance with Section II of PI970**”

DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales)

TDI – Account must be approved.

ACS - Select "LB" and mention "**Section II**" in the restricted commodity type.

UN3091, Lithium Metal Batteries / Cells – PI970 Section I



Packaging:

The equipment must be packed in strong rigid outer packaging constructed of suitable material of adequate strength and design in relation to the packaging's capacity and its intended use unless the cell or battery is afforded equivalent protection by the equipment in which it is contained.

The quantity of lithium metal contained in any piece of equipment must not exceed 500 g per battery and 12 g per cell.

Maximum net quantity of lithium batteries or cells per package (excluding of equipment) is **5 kg** for „**Passenger and Cargo Aircraft**“ (PAX) and **35 kg** for „**Cargo Aircraft Only**“ (CAO) shipments.

As a DHL requirement cells and batteries must not be packed in the same outer packaging, or placed in an overpack, with dangerous goods classified in Class 1 (except 1.4S), Division 2.1, Class 3, Division 4.1 and Division 5.1.

Package test: Strong rigid outer packaging equivalent to its capacity and intended use.

Labeling / Marking:



When CAO used:



Documentation:

Shipper's Declaration is required. The following statement must be mentioned on the (air)waybill:

- „**Dangerous Goods as per Attached DGD**“ or „**Dangerous Goods as per attached Shipper's Declaration**“
- „**Cargo Aircraft Only**“ or „**CAO**“ (only when CAO was chosen)

DHL Services (TDI = Time Definite International , ACS = Air Capacity Sales):

ADR

TDI – Account must be approved. **Lithium metal batteries / cells packed according to this section are not accepted in TDI Express when transported via road to, from, or transiting an ADR member state.**

ACS - Select“**DG**” and mention “**PAX**” or “**CAO**” as applicable, in the restricted commodity type.



ADR Member States

A – Albania, Andorra, Austria, Azerbaijan;
B – Belarus, Belgium, Bosnia and Herzegovina, Bulgaria;
C – Croatia, Cyprus, Czech Republic;
D – Denmark;
E - Estonia;
F – Finland, France;
G – Germany, Greece;
H – Hungary;
I – Iceland, Ireland, Italy;
K – Kazakhstan;
L – Latvia, Liechtenstein, Lithuania, Luxembourg;
M – Malta, Montenegro, Morocco, Republic of Moldova, Republic of Macedonia;
N – Netherlands, Norway;
P – Poland, Portugal;
R – Romania, Russian Federation;
S – Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland;
T – Tajikistan, Tunisia, Turkey;
U – Ukraine, United Kingdom