LITHIUM BATTERIES
GUIDANCE

IN ACCORDANCE WITH THE

IATA DANGEROUS GOODS REGULATIONS 61ST EDITION 2020
2020 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.
As of 1st of January 2020 producers and subsequent distributors of cells or batteries manufactured after 30 June 2003 must make available the test summary as specified in the UN Manual of Tests and Criteria, Part III, sub-section 38.3, paragraph 38.3.5.

DHL Express will not request the test summary for shipment acceptance, but customers must have the document available upon request.
2020 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.
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
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
Step 3 – What is the capacity (Watt Hour* rating) of your battery?

Cells and Batteries
≤ 2.7 Wh

Cells
> 2.7 Wh
≤ 20 Wh

Batteries
> 2.7 Wh
≤ 100 Wh

Cells
> 2.7 Wh
Batteries
> 100 Wh

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

*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.
2020 Lithium Batteries Regulations: Lithium Content

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

Cells and Batteries ≤ 0.3 g

Cells > 0.3 g ≤ 1 g

Batteries > 0.3 g ≤ 2 g

Cells > 1 g

Batteries > 2 g

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
2020 Lithium Batteries Regulations: Lithium Ion Batteries

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

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.
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.
2020 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.
Step 4 – How many batteries does your package contain in total?

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

- **Cells** ≤ 20 Wh or **Batteries** ≤ 100 Wh
- **Cells** > 20 Wh or **Batteries** > 100 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
Step 3 – What is the capacity (Watt Hour* rating) of your battery?

Cells
≤ 20 Wh
or Batteries
≤ 100 Wh

Cells
> 20 Wh
or Batteries
> 100 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
Step 3 – How much lithium does your battery / cell contain?

Cells
≤ 1 g
or Batteries
≤ 2 g

Cells
> 1 g
or Batteries
> 2 g
Step 3 – How much lithium does your battery / cell contain?

Cells
≤ 1 g
or Batteries
≤ 2 g

Cells
> 1 g
or Batteries
> 2 g
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.
Step 4 – How many packages are in the consignement?

≤ 2 packages

> 2 packages
Step 4 – How many cells or batteries does your package contain in total?

- \( \leq 4 \) Cells or \( \leq 2 \) 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.
Step 4 – How many packages are in the consignment?

≤ 2 packages

> 2 packages
**UN3480, Lithium Ion Batteries / Cells – PI965 Section II**

<table>
<thead>
<tr>
<th>Packaging:</th>
<th>Labeling / Marking:</th>
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<tr>
<td>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 <strong>2.5 kg</strong> net quantity of lithium batteries or cells per package. <strong>Cargo Aircraft Only (CAO)</strong> Package test: 1.2 m drop test.</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Documentation:</th>
<th></th>
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<tr>
<td>Shipper’s Declaration is not required. The following statement must be mentioned on the (air)waybill:</td>
<td></td>
</tr>
<tr>
<td>☐ „Lithium ion batteries in compliance with Section II of PI965”</td>
<td></td>
</tr>
<tr>
<td>☐ „Cargo Aircraft Only” or „CAO”</td>
<td></td>
</tr>
</tbody>
</table>

| DHL Services: (TDI = Time Definite International , ACS = Air Capacity Sales) | |
| DTD – Separate account approval required. The service is limited due to CAO restrictions. **Service Code “HB”** |
| 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 of lithium batteries or cells per package. **Cargo Aircraft Only (CAO)**

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

### 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. **Lithium ion batteries/cells packed according to this section are not accepted in TDI Express when transported via road to/from an ADR member state. Service Code “HE”**

**ACS** - Select “DG” and mention “CAO” in the restricted commodity type.
**UN3480, Lithium Ion Batteries / Cells – PI965 Section II**

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<td>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. <strong>Cargo Aircraft Only (CAO)</strong></td>
<td>UN3480</td>
</tr>
<tr>
<td><strong>Package test:</strong> 1.2 m drop test.</td>
<td></td>
</tr>
</tbody>
</table>

| **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. **Service Code “HB”** | |
| ACS – Select ”LB” and mention “CAO” in the restricted commodity type. | |
**UN3480, Lithium Ion Batteries / Cells – PI965 Section II**

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<th><strong>Packaging:</strong></th>
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<td>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. <strong>Cargo Aircraft Only (CAO)</strong> Package test: 1.2 m drop test.</td>
<td><strong>UN3480</strong></td>
</tr>
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<thead>
<tr>
<th><strong>Documentation:</strong></th>
<th><strong>DHL Services:</strong> (TDI = Time Definite International, ACS = Air Capacity Sales)</th>
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<tbody>
<tr>
<td>Shipper’s Declaration is not required. The following statement must be mentioned on the (air)waybill:</td>
<td><strong>TDI</strong> – Separate account approval required. The service is limited due to CAO restrictions. <strong>Service Code “HB”</strong></td>
</tr>
<tr>
<td>❑ „Lithium ion batteries in compliance with Section II of PI965“</td>
<td><strong>ACS</strong> – Select &quot;LB&quot; and mention “CAO” in the restricted commodity type.</td>
</tr>
<tr>
<td>❑ „Cargo Aircraft Only“ or „CAO“</td>
<td></td>
</tr>
</tbody>
</table>

**January 2020**
**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 of lithium batteries or cells per package. **Cargo Aircraft Only (CAO)**

**Package test:** 1.2 m drop test.

**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. **Service Code “HE”**
- **ACS** – Select ”DG” and mention “CAO” in the restricted commodity type
### 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 or cells per package = **those necessary to power the equipment plus 2 spares sets.** (A “set” of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment)

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

**Package test:** 1.2 m drop test.

### Labeling / Marking:

**UN3481**

### 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. **Service Code “HD”**
- **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 sets.** (A “set” of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment). 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 an ADR member state. Service Code “HE”**

ACS – Select “DG” and mention “PAX” or “CAO” as applicable, in the restricted commodity type.
<table>
<thead>
<tr>
<th><strong>Packaging:</strong></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>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.</td>
<td><strong>Labeling / Marking:</strong></td>
</tr>
<tr>
<td>Maximum 5 kg net qty of lithium batteries or cells per package (excluding the equipment).</td>
<td>No requirements.</td>
</tr>
<tr>
<td><strong>Maximum 2 packages per shipment (consignment).</strong></td>
<td></td>
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</tbody>
</table>

| **Package test:** | No requirements. |
| **Documentation:** | No requirements |

<table>
<thead>
<tr>
<th><strong>DHL Services:</strong> (TDI = Time Definite International, ACS = Air Capacity Sales)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>TDI – No requirements.</td>
<td></td>
</tr>
<tr>
<td>ACS – No requirements.</td>
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</table>
### UN3481, Lithium Ion Batteries / Cells – PI967 Section II

<table>
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<tr>
<th>Packaging:</th>
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</thead>
<tbody>
<tr>
<td>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.</td>
<td><img src="https://example.com/un3481_mark.png" alt="UN3481" /></td>
</tr>
<tr>
<td>Maximum net quantity of lithium batteries or cells per package is <strong>5 kg</strong> (excluding the equipment) for either „Passenger and Cargo Aircraft“ or „Cargo Aircraft Only“ shipments.</td>
<td>Note: The mark is not required for packages containing only button cell batteries installed in equipment (including circuit boards).</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Documentation:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Shipper’s Declaration is not required. The following statement must be mentioned on the (air)waybill:</td>
<td></td>
</tr>
<tr>
<td>☐ „Lithium ion batteries in compliance with Section II of PI967“</td>
<td>Note: The statement is not required for packages containing only button cell batteries installed in equipment (including circuit boards).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DHL Services:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>(TDI = Time Definite International, ACS = Air Capacity Sales)</td>
<td></td>
</tr>
<tr>
<td>TDI – Account must be approved. Service Code “HV”</td>
<td></td>
</tr>
<tr>
<td>ACS – Select ”LB” and mention “Section II” in the restricted commodity type.</td>
<td></td>
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January 2020
**UN3481, Lithium Ion Batteries / Cells – PI967 Section I**

<table>
<thead>
<tr>
<th><strong>Packaging:</strong></th>
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<tr>
<td>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 the equipment) is 5 kg for „Passenger and Cargo Aircraft“ (PAX) and 35 kg for „Cargo Aircraft Only“ (CAO) shipments.</td>
<td></td>
</tr>
<tr>
<td><strong>Labeling / Marking:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>As a DHL requirement</strong> 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.</td>
<td></td>
</tr>
<tr>
<td><strong>Package test:</strong> Strong rigid outer packaging equivalent to its capacity and intended use.</td>
<td></td>
</tr>
<tr>
<td><strong>Documentation:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Shipper’s Declaration is required.</strong> 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)</td>
<td></td>
</tr>
<tr>
<td><strong>DHL Services</strong> (TDI = Time Definite International, ACS = Air Capacity Sales):</td>
<td></td>
</tr>
<tr>
<td><strong>TDI</strong> – Account must be approved. <strong>Lithium ion batteries / cells packed according to this section are not accepted in TDI Express when transported via road to/from an ADR member state. Service Code “HE”</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ACS</strong> - Select „DG“ and mention „PAX” or „CAO” as applicable, in the restricted commodity type.</td>
<td></td>
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January 2020
### 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 of lithium batteries or cells per package. **Cargo Aircraft Only (CAO)**

**Package test:** 1.2 m drop test.

### Labeling / Marking:

- **UN3090**

### 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**

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<td></td>
</tr>
<tr>
<td>Maximum <strong>35 kg</strong> net quantity of lithium batteries or cells per package. <strong>Cargo Aircraft Only (CAO)</strong></td>
<td></td>
</tr>
</tbody>
</table>

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

**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. **Lithium metal batteries/cells packed according to this section are not accepted in TDI Express when transported via road to/from an ADR member state. Service Code “HE”**

- **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.**

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January 2020
**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.

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**Labeling / Marking:**

- **UN3090**

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**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 outher 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:

![UN3090](image)

### 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.**
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 of lithium batteries or cells per package. Cargo Aircraft Only (CAO)

Package test: 1.2 m drop test.

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. Service Code “HE”

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.
### 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 sets**. (A “set” of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment)

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

**Package test:** 1.2 m drop test.

### 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”

### Labeling / Marking:

- **UN3091**

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**DHL Services:**

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

- **TDI** – Account must be approved. **Service Code “HM”**
- **ACS** – Select “LB” and mention “**Section II**” in the restricted commodity type.
### 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 sets. (A “set” of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment)

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 an ADR member state. Service Code “HE”**

- **ACS** – Select “DG” and mention “PAX” or “CAO” as applicable, in the restricted commodity type.
UN3091, Lithium Metal Batteries / Cells – PI970 Section II

<table>
<thead>
<tr>
<th>Packaging:</th>
<th>Labeling / Marking:</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>No requirements.</td>
</tr>
<tr>
<td>Maximum net quantity of of lithium batteries or cells per package (excluding the equipment) is <strong>5 kg</strong>.</td>
<td></td>
</tr>
<tr>
<td><strong>Maximum 2 packages per shipment (consignment).</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Package test:** No requirements.

**Documentation:**
No requirements

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

TDI – No requirements.
ACS – No requirements.
# UN3091, Lithium Metal Batteries / Cells – PI970 Section II

<table>
<thead>
<tr>
<th>Packaging:</th>
<th>Labeling / Marking:</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>[UN3091]</td>
</tr>
<tr>
<td>Maximum net quantity of lithium batteries or cells per package is <strong>5 kg</strong> (excluding the equipment) for either “<strong>Passenger and Cargo Aircraft</strong>” or “<strong>Cargo Aircraft Only</strong>” shipments.</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Documentation:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipper’s Declaration is not required. The following statement must be mentioned on the (air)waybill:</td>
<td></td>
</tr>
<tr>
<td>☑ „<strong>Lithium metal batteries in compliance with Section II of PI970</strong>”</td>
<td></td>
</tr>
<tr>
<td><strong>Note:</strong> The statement is not required for packages containing only <strong>button cell batteries</strong> installed in equipment (including circuit boards).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DHL Services:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TDI</strong> = Time Definite International , <strong>ACS</strong> = Air Capacity Sales</td>
<td></td>
</tr>
<tr>
<td><strong>TDI</strong> – Account must be approved. <strong>Service Code “HW”</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ACS</strong> - Select ”<strong>LB</strong>” and mention “<strong>Section II</strong>” in the restricted commodity type.</td>
<td></td>
</tr>
</tbody>
</table>

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January 2020
# UN3091, Lithium Metal Batteries / Cells – PI970 Section I

<table>
<thead>
<tr>
<th>Packaging:</th>
<th>Labeling / Marking:</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 the equipment) is 5 kg for &quot;Passenger and Cargo Aircraft&quot; (PAX) and 35 kg for &quot;Cargo Aircraft Only&quot; (CAO) shipments. <strong>As a DHL requirement</strong> 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. <strong>Package test:</strong> Strong rigid outer packaging equivalent to its capacity and intended use.</td>
<td>When CAO used:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Documentation:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipper’s Declaration is required.</strong> The following statement must be mentioned on the (air)waybill:</td>
<td></td>
</tr>
<tr>
<td>☐ „Dangerous Goods as per Attached DGD” or „Dangerous Goods as per attached Shipper’s Declaration”</td>
<td></td>
</tr>
<tr>
<td>☐ „Cargo Aircraft Only“ or „CAO“ (only when CAO was chosen)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DHL Services (TDI = Time Definite International, ACS = Air Capacity Sales):</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TDI</strong> – Account must be approved. <strong>Lithium metal batteries / cells packed according to this section are not accepted in TDI Express when transported via road to/from an ADR member state.</strong> Service Code “HE”</td>
<td></td>
</tr>
<tr>
<td><strong>ACS</strong> – Select “DG” and mention “PAX” or “CAO” as applicable, in the restricted commodity type.</td>
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# ADR Member States

<table>
<thead>
<tr>
<th>Code</th>
<th>Countries</th>
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<tbody>
<tr>
<td>A</td>
<td>Albania, Andorra, Austria, Azerbaijan;</td>
</tr>
<tr>
<td>B</td>
<td>Belarus, Belgium, Bosnia and Herzegovina, Bulgaria;</td>
</tr>
<tr>
<td>C</td>
<td>Croatia, Cyprus, Czech Republic;</td>
</tr>
<tr>
<td>D</td>
<td>Denmark;</td>
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<tr>
<td>E</td>
<td>Estonia;</td>
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<td>F</td>
<td>Finland, France;</td>
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<td>Hungary;</td>
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<td>I</td>
<td>Iceland, Ireland, Italy;</td>
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<td>K</td>
<td>Kazakhstan;</td>
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<td>L</td>
<td>Latvia, Liechtenstein, Lithuania, Luxembourg;</td>
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<tr>
<td>M</td>
<td>Malta, Montenegro, Morocco, Republic of Moldova, Republic of Macedonia;</td>
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<tr>
<td>N</td>
<td>Netherlands, Nigeria, Norway;</td>
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<td>P</td>
<td>Poland, Portugal;</td>
</tr>
<tr>
<td>R</td>
<td>Romania, Russian Federation;</td>
</tr>
<tr>
<td>S</td>
<td>San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland;</td>
</tr>
<tr>
<td>T</td>
<td>Tajikistan, Tunisia, Turkey;</td>
</tr>
<tr>
<td>U</td>
<td>Ukraine, United Kingdom</td>
</tr>
</tbody>
</table>