renata

Battery Transport and Handling Manual

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Valid as from 01.01.204 / Version 9.0

A COMPANY OF THE SWATCH GROUP

Usage and Disclaimer

This Manual is only valid for Renata Batteries.

Renata SA, has done this manual for internal and external usage. It should be helpful to choose the correct way of packaging for the specified transport modes. Renata SA is not responsible for the context and failures caused by using this manual.

An official manual for shipping Lithium Batteries by Air can be downloaded directly from IATA's website.

Choose Battery Type

Silver Oxide Button Cells

Lithium Metal Button Cells

Lithium Ion/Polymer Batteries

Zinc Air Button cells

Silver Oxide Button Cells

Transport Modes

Silver Oxide Button Cells

Road Transport (Switzerland/Europe)

According to the SDR/ADR Regulations (Regulations of Dangerous Goods by Roadtransport) our

Silver Oxide Button Cells

are not classified as hazardous goods and thus not regulated by above mentioned rules. They can be shipped under applying the usual standard packaging rules.

Sea Transport

According to the IMDG Regulations (International Maritime Code for Dangerous Goods) our

Silver Oxide Button cells

are not classified as hazardous goods and thus not regulated by above mentioned rules. They can be shipped under applying the usual standard packaging rules.

Silver Oxide Button Cells

Air Transport

According to the IATA DGR Regulations (Air Transport Dangerous Goods Regulations) in application of the Special Provision A123, section 4.4 our

Silver Oxide Button cells

are not classified or regulated as a Dangerous Goods. Following information must be showed on the AWB: "Not restricted as per Special Provision A123"

Rail Transport (Europe)

According to the RID Regulations (Regulations of Dangerous Goods by Railtransport) our

Silver Oxide Button cells

are not classified as hazardous goods and thus not regulated by above mentioned rules. They can be shipped under applying the usual standard packaging rules.

Lithium Metal Button Cells

Batteries only

Transport Modes

Lithium Metal Button Cells

Batteries only

Road Transport (Switzerland/Europe), Rail Transport, Sea Transport

UN-No.: **UN 3090**
Proper Shipping Name: **Lithium metal batteries**

Technical Guidelines	*Packing Instruction and Special Provisions*
ADR / RID 2023	**Special Provision 188**

According to the SDR/ADR Regulations / RID Regulations (Regulations of Dangerous Goods by Roadtransport)
our Lithium Metal Button cells are generally classified as dangerous goods, but can be permitted as "small" Batteries in compliance with the Special Provision 188 and thus considerably shipped relieved.

Technical Guidelines	*Packing Instruction and Special Provisions*
IMDG Code 2023 (amdt 41-22)	**Special Provision 188**

According to the IMDG Code (International Maritime Code for Dangerous Goods) our Lithium Metal Button cells are generally classified as dangerous goods, but can be permitted as "small" Batteries in compliance with the Special Provision 188 and thus considerably shipped relieved.

Lithium Metal Button Cells

Batteries only

Air Transport

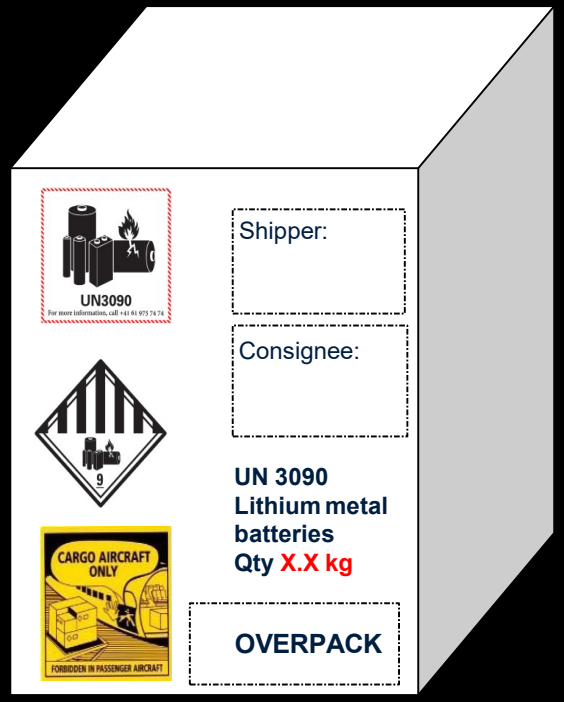
UN-No.: **UN 3090**
Proper Shipping Name: **Lithium metal batteries**

Technical Guidelines	*Packing Instruction and Special Provisions*
ICAO TI 2023-2024 **IATA/DGR 2024 (65th Edition)**	**Packing Instruction 968**
USA	DOT/ HMR; 49 C.F.R, Sections 171 - 180

According to the IATA DGR Regulations (Air Transport Dangerous Goods Regulations) our **Lithium Metal Button cells** are classified as dangerous goods, but can be permitted in compliance with the above mentioned Instructions and thus considerably shipped relieved. For further Information:

Article Safety Data Sheet Lithium Metal

Article Safety Data Sheet Lithium Metal Thinfilm



per package

max. 2.5 kg net

(weight of cells/batteries only)

Lithium Metal Button Cells

Batteries only

Packing Instruction 968 IB → PI 968— requires that each package prepared in accordance with Section IB must be capable of withstanding the 3 m stack test as applies to limited quantity packages.

If the before mentioned lithium content limitations are beeing exceeded, then it have to be followed the Packing Instructions PI968, Section IB. The shipment can only be sent by a person (for ex. shipping manager) who has a valid IATA certification!

There are additional Marks needed:

- Shipper and Consignee (Name and Address (Country name has to be in English))
- UN Number and Proper Shipping Name
- Total Quantity (in net weight = kg)
- Lithium Battery Handling Label
- Dangerous Goods Label Class 9 (Dim. 10 x 10 cm)
- Cargo Aircraft only (CAO) Label
- Overpack label if applicable

Additional Documentation:

a Shipper's Declaration (DGD) and a AWB Entry is required:

- UN 3090 Lithium metal batteries, PI 968, IB
- Number of inner Packaging's and net weight of each Package containing Lithium Metal batteries

It is allowed to build Overpacks, but the Total kg net (of all inner packages) has to be marked outside of the Overpack! All inner packages needs also to be marked completly and the OVERPACK Label must be put on the Overpack package.

Example DGD:

~~PASSENGER AND CARGO AIRCRAFT~~ | CARGO AIRCRAFT ONLY | NON-RADIOACTIVE | ~~RADIOACTIVE~~

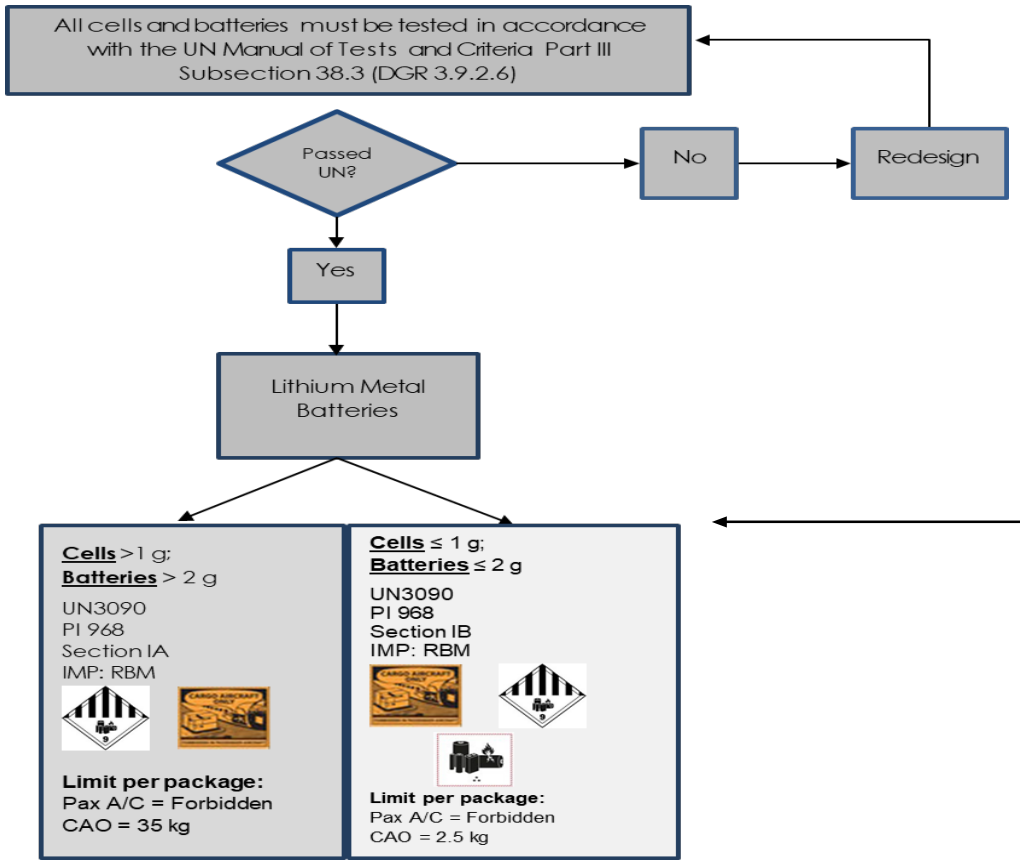
NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification						
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Pack-ing Group	Quantity and type of packing	Packing Inst.	Authori-zation
UN 3090	Lithium metal batteries	9		1 Fibreboard box x X.X kg (net weight)	968	IB

Lithium Metal Button Cells

Batteries only

Classification of the related Packing Instruction:



Renata Lithium Metal Batteries are classified under Section IB of PI 968

Important

PI 968—Each package prepared in accordance with Section IB must be capable of withstanding the 3 m stack test as applies to limited quantity packages.

For further informations to the related packing Instructions please consult the IATA DGR. www.iata.org

Lithium Ion/Polymer Battieries

Batteries only

Transport Modes

Lithium Ion/Polymer Batteries

Batteries only

Road Transport (Switzerland/Europe), Rail Transport, Sea Transport

UN-No.: **UN 3480**
Proper Shipping Name: **Lithium ion batteries**

Technical Guidelines	*Packing Instruction and Special Provisions*
ADR / RID 2023	**Special Provision 188**

According to the SDR/ADR Regulations / RID Regulations (Regulations of Dangerous Goods by Roadtransport)
our Lithium Metal Button cells are generally classified as dangerous goods, but can be permitted as "small" Batteries in compliance with the Special Provision 188 and thus considerably shipped relieved.

Technical Guidelines	*Packing Instruction and Special Provisions*
IMDG Code 2023 (amdt 41-22)	**Special Provision 188**

According to the IMDG Code (International Maritime Code for Dangerous Goods) our Lithium Metal Button cells are generally classified as dangerous goods, but can be permitted as "small" Batteries in compliance with the Special Provision 188 and thus considerably shipped relieved.

Lithium Ion/Polymer Batteries

Batteries only

Air Transport

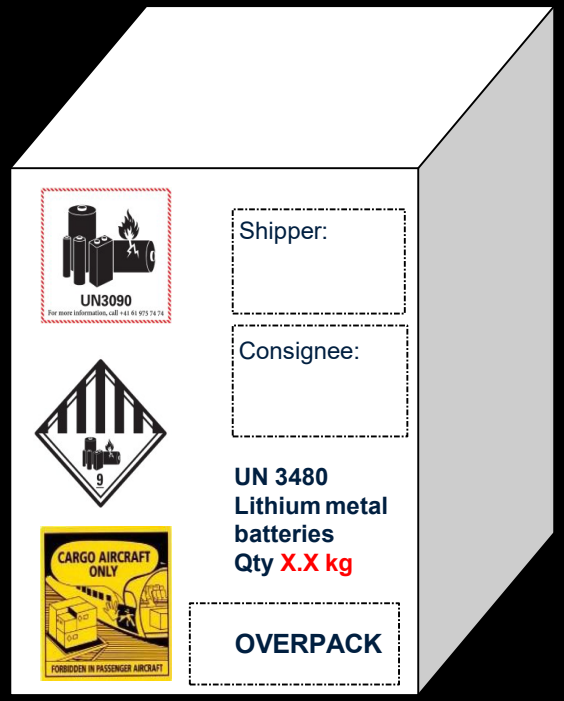
UN-No.: **UN 3480**
Proper Shipping Name: **Lithium ion batteries**

Technical Guidelines	*Packing Instruction and Special Provisions*
ICAO TI2023-2024 **IATA/DGR 2024 (65th Edt)**	**Packing Instruction 965**

According to the IATA DGR Regulations (Air Transport Dangerous Goods Regulations) our **Lithium Metal Button cells** are classified as dangerous goods, but can be permitted in compliance with the above mentioned Instructions and thus considerably shipped relieved. For further Information:

Article Safety Data Sheet Lithium Metal

Article Safety Data Sheet Lithium Metal Thinfilm



per package

max. 10 kg net

(weight of cells/batteries only)

Lithium Ion/Polymet Batteries

Batteries only **(must be shipped at a state of charge (SoC) not exceeding 30% of their rated capacity)**

Packing Instruction 965 IB → PI 965—requires that each package prepared in accordance with Section IB must be capable of withstanding the 3 m stack test as applies to limited quantity packages.

If the before mentioned lithium content limitations are beeing exceeded, then it must be followed the Packing Instructions PI 965, Section IB.
The shipment can only be sent by a person (for ex. shipping manager) who has a valid IATA certification!

There are additional Marks needed:

- Shipper and Consignee (Name and Address (Country name must be in English))
- UN Number and Proper Shipping Name
- Total Quantity (in net weight = kg)
- Lithium Battery Handling Label
- Dangerous Goods Label Class 9 (Dim. 10 x 10 cm)
- Cargo Aircraft only (CAO) Label
- Overpack Label if applicable

Additional Documentation:

a Shipper's Declaration (DGD) and a AWB Entry is required:

- UN 3480 Lithium-ion batteries, PI 965, IB
- Number of Packaging's and net weight of each PackageIt is allowed to build Overpacks, but the Total kg net (of all inner packages) must be marked outside of the Overpack! All inner packages needs also to be marked completely and the OVERPACK Label must be put on the Overpack package.

Example DGD:

~~PASSENGER AND CARGO AIRCRAFT~~ | CARGO AIRCRAFT ONLY | NON-RADIOACTIVE | ~~RADIOACTIVE~~

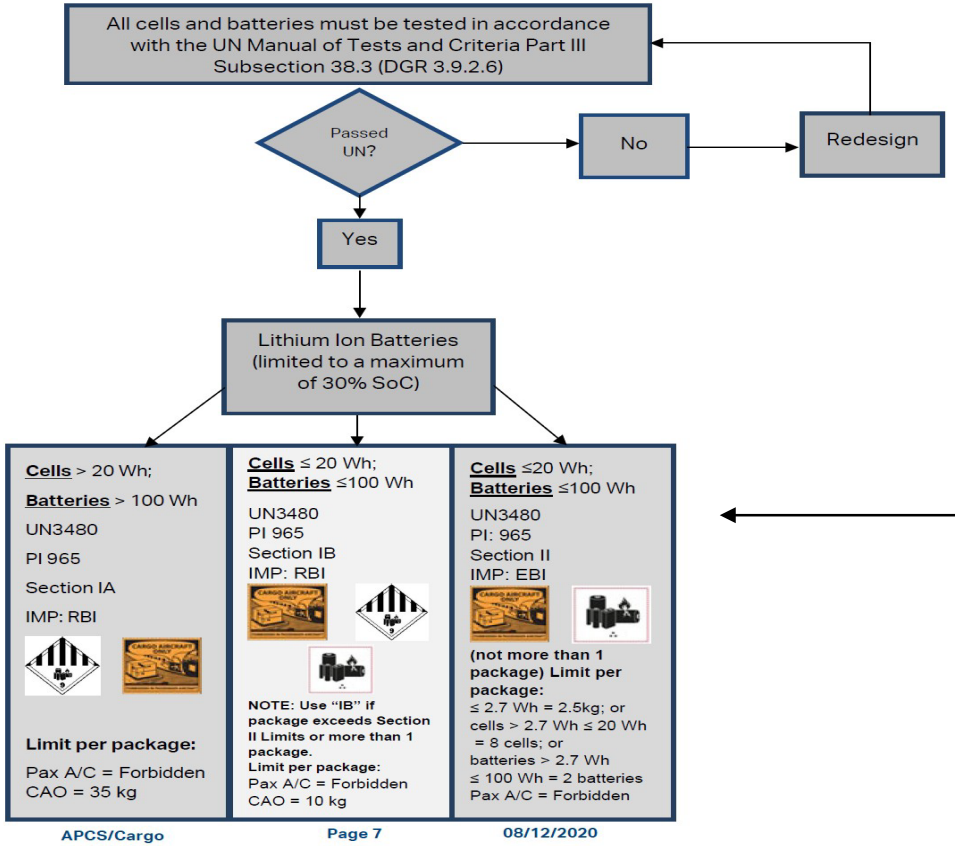
NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification						
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group	Quantity and type of packing	Packing Inst.	Authorization
UN 3480	Lithium ion batteries	9		1 Fibreboard box x X.X kg	965	IB

Lithium Ion/Polymer Batteries

Batteries only

Classification of the related Packing Instruction:

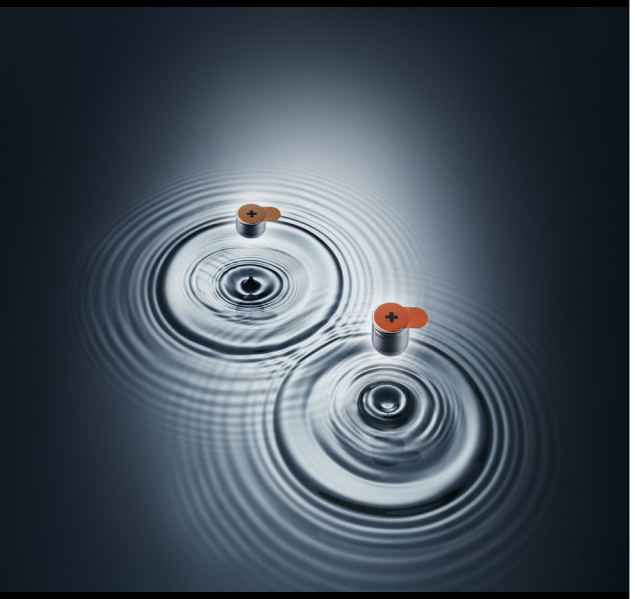


For further informations to the related packing Instructions please consult the IATA DGR. www.iata.org

Renata Ion Batteries are classified under Section IB of PI 965

Important

PI 965—Each package prepared in accordance with Section IB must be capable of withstanding the 3 m stack test as applies to limited quantity packages.



Zink Air Button Cells

Transport Modes

Road Transport (Switzerland/Europe)

According to the SDR/ADR Regulations (Regulations of Dangerous Goods by Roadtransport) our

Zink Air Button Cells

are not classified as hazardous goods and thus not regulated by above mentioned rules. They can be shipped under applying the usual standard packaging rules.

Sea Transport

According to the IMDG Regulations (International Maritime Code for Dangerous Goods) our

Zinc Air Button Cells

are not classified as hazardous goods and thus not regulated by above mentioned rules. They can be shipped under applying the usual standard packaging rules.

Air Transport

According to the IATA DGR Regulations (Air Transport Dangerous Goods Regulations) in application of the Special Provision A123, section 4.4 our

Zinc Air Button cells

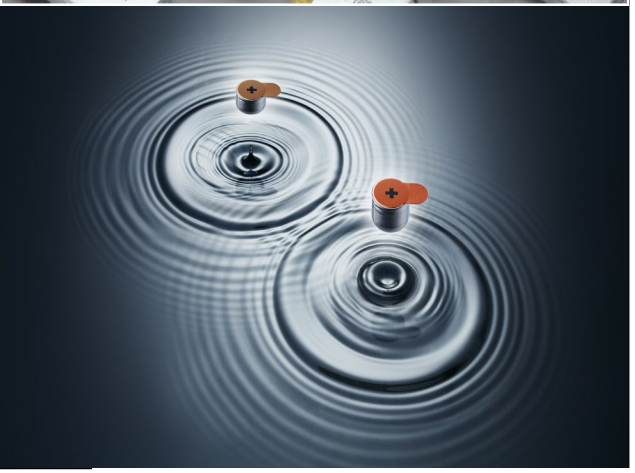
are not classified or regulated as a Dangerous Goods. Following information must be showed on the AWB: **"Not restricted as per Special Provision A123"**

Rail Transport (Europe)

According to the RID Regulations (Regulations of Dangerous Goods by Railtransport) our

Zinc Air Button cells

are not classified as hazardous goods and thus not regulated by above mentioned rules. They can be shipped under applying the usual standard packaging rules.



FAQ (Frequently Asked Questions)

Where can I get a proof of the UN38.3 Test of Renata Batteries?
A Proof of the passed UN38.3 test can be found on our product specific ASDS, in Section 14 and Annex I.

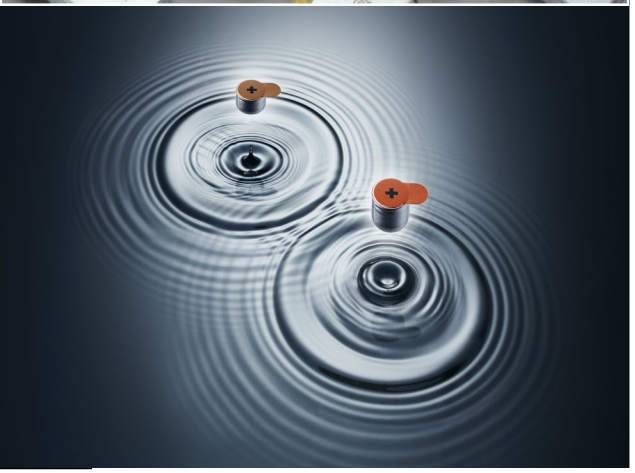
All UN38.3 Test Summary (TS) can also be downloaded directly on:
https://www.renata.com/downnloads/

How to calculate the Wh of a Battery?
Nominal Voltage x Capacity in Ampere-hours = Watts per hour
V x Ah = Wh or **V x mAh / 1000 = Wh**

IATA requires, that for Lithium ion batteries over 100 Wh produced after 31. Dezember 2011 the Wh has to be printed on the Battery. For Lithium ion batteries under 100 Wh produced after than 01.01.2009 also the Wh has to be printed on.

What are “Button cells“ and how to treat “Battery Packs“?
Button cells per definition are a “single cell battery“ which the diameter is bigger than the height (also not a battery), a battery has more than one cell. Button cells containing in equipment (for example in a watch) are not restricted in the IATA DG Regulation; this also includes Overpacks.

A Battery Pack contains more than one battery and is considered as a battery. Example: a “Battery Pack“ with 6 batteries of each 40 Wh equal a total of 240 Wh; therfore, it becomes a regular DG Class 9 Shipment.



FAQ (Frequently Asked Questions)

What are the Dimensions of a Lithium Battery Mark?
Standard: 100 x 100 mm, for small packages the minimum dimmension is 100 mm wide x 70 mm high (DGR 7.1.5.5).

and

or

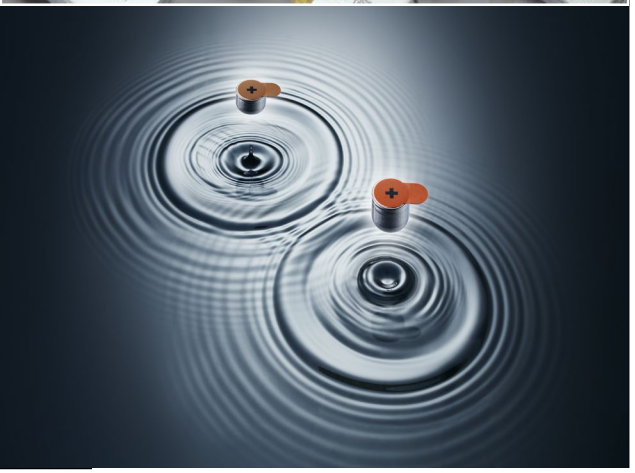
and

Is it possible to use only one Label for Lithium Ion and Lithium Metal togehter as one?
Yes, but all aplicable UN Nr. must be indicate on one or more marks.

The mark must in the apropiate UN Nr. (DGR: 7.1.5.5.2):

- **"UN 3090"** for Lithium metal cells or batteries;
- **"UN 3480"** for Lithium ion cells or batteries;
- **"UN 3091"** for Lithium metal cells or batteries contained in, or packed with, equipment;
- **"UN 3481"** for Lithium ion cells or batteries contained in, or packed with, equipment.

Is required according to IATA to provide a 24h emergency number for shipments of lithium batteries?
- The DGD must provide an emergeny contact, which has to be 24h reachable in case of an emergency.
- The Lithium Battery Mark (see above) may continue to be used until 31 December 2026 to provide a telephone number for additional information (no need to be 24h reachable). Beginning 1st January 2027 the telephone number has to be removed from the label.



FAQ (Frequently Asked Questions)

Is it allowed to make Overpack(s) with Lithium Cells/Batteries (air freight shipments - IATA DGR)?
Yes. Restrictions or limitation must be verified and followed corresponding the Packiging Instructions of each UN Nr.

- The allowed maximum nett weight of batteries/cells must be considered in each inner-package.

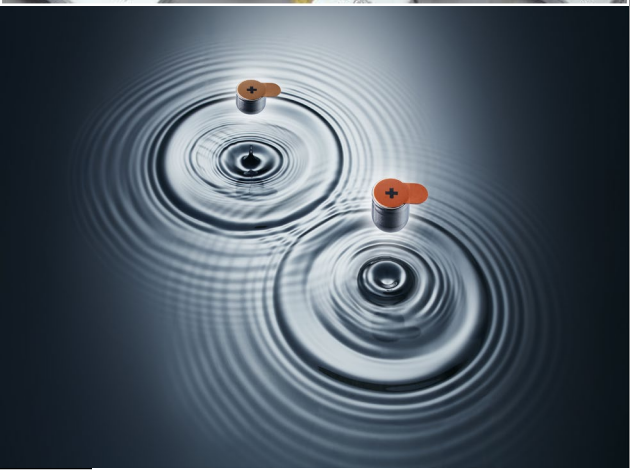
-An Overpack can contain packages of different dangerous goods but do not have to contain sustances that might react dangerously with each other. Verify table 9.3.A DGR

As a Battery Manufacturer do we need a Quality management programm to ship Lithium Batteries?

Yes, according to IATA DGR -> 3.9.2.6 and ADR/RID/IMDG SV188 -> 2.2.9.1.7 e) a quality management programm is required.

Renata SA is a ISO 9001 qualified company.

The latest ISO certificate can be downloaded from our website.



FAQ (Frequently Asked Questions)

Does IATA require Safety Data Sheet (SDS) for our batteries?

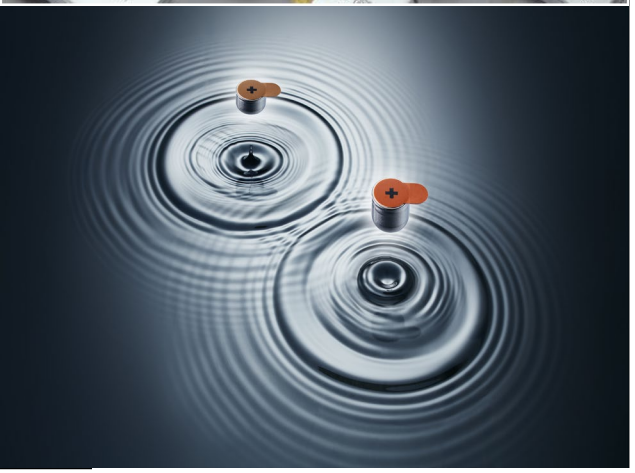
No, but some airlines, forwarders or our clients may would like to have it as a reference.

For our Renata SA button cells or batteries a SDS is not a requirement according to the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard 29 CFR Subpart 1910.1200, because these products are 'articles' that do not release a covered toxic chemical under the normal conditions of processing or use.

Article Safety Data Sheet Lithium Ion/Polymer Batteries

Article Safety Data Sheet Lithium Metal Thinfilm

Article Safety Data Sheet Lithium Metal Batteries



Storage

Lithium Metal Button Cells & Lithium Ion/Polymer Batteries

Store unused batteries in their original packaging and keep them away from metal objects which may short- circuit them. Storing unpackaged cells together could result in cell shorting and heat build-up. Store and display batteries in there original packaging in well ventilated, dry and cool conditions. Avoid storing or display batteries in direct sun or in places where they get exposed to rain.

Do not stack battery cartons on top of each other exceeding a specified height. The height is clearly dependent on the strength of the packaging. As for general rule this height should not exceed 1.5 m for cardboard packages or 3 m for wooden cases. The above recommendations are equally valid for storage conditions during prolonged transit. Thus, batteries should be stored away from ship engines and not left for long periods in unventilated metal box cars (containers) during summer.

Taken from our ASDS

Contact

You can contact us as follows:

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E-Mail: logistics@renata.com

Homepage 

This manual was established in cooperation with

Air Cargo & Dangerous Goods Training & Consulting