

Packing Instruction - Lithium Batteries

ADR PACKING INSTRUCTION P909 – LITHIUM BATTERIES CARRIED FOR DISPOSAL AND RECYCLING

Applicable UN Numbers:

- UN3090 LITHIUM METAL BATTERIES
- UN3091 LITHIUM METAL BATTERIES CONTAINED IN EQUIPMENT or LITHIUM METAL BATTERIES PACKED WITH EQUIPMENT
- UN3480 LITHIUM ION BATTERIES
- UN3481 LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT

Please Note: In accordance with Special provision 636, the batteries above will be marked on the packaging as LITHIUM BATTERIES FOR RECYCLING or LITHIUM BATTERIES FOR DISPOSAL, as appropriate.

What are Lithium Metal Batteries?

Generally primary (non-rechargeable) batteries that have lithium metal or lithium compounds as an anode. Also included within lithium metal are lithium alloy batteries. Lithium metal batteries are generally used for power devices such as watches, calculators, cameras, temperature data loggers, car key fobs and defibrillators.

What is Lithium-ion batteries?

Secondary (rechargeable) battery where the lithium is only present in an ionic form in the electrolyte. Also included within the category of Lithium-ion batteries are Lithium polymer batteries. Lithium-ion batteries are generally used to power devices such as mobile devices such as mobile telephones, laptop computers, tablets, power tools and e-bikes.

What is a Lithium button cell battery?

A button cell battery is a round, small cell where the overall height is less than the diameter. Button cells are often referred to as 'coin' cells and are non-rechargeable (metal).

SEGREGATION OF BATTERIES

Mixed Batteries

On site, chemist to separate all the different types of batteries between UN approved, sealable containers and to follow the packing instruction for that battery type.

Lithium batteries packed WITH equipment

Chemist to remove the battery from the packaging and to pack battery as detailed below. The equipment to be treated as per WEEE protocol.

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Lithium batteries packed IN equipment but cannot remove from the equipment.

Piece of equipment to be packed as detailed below. If a large item (12kg or more) employing a strong, impact resistant outer casing, strong outer packaging's constructed of suitable material and of adequate strength and design in relation to the packaging's capacity and its intended use, may be used. In this case, packaging's need not meet design types stipulated in ADR.

Damaged/Faulty Batteries

It is important that enough cushioning material (vermiculite) is used. Place vermiculite in both the inner packaging and the outer packaging.

PACKING LITHIUM BATTERIES:

- Packages must conform to PGI performance level. Check the UN stamp on the container which will have an 'X' or a 'Y'. **Do not** use a container with a 'Z'
- Pack into Plastic, plywood or fibreboard drums. Max. net mass 400kg
- If the above are not available, steel or aluminium drums may be used, however they will be lined with a non-conductive lining material. Max. net mass 400kg

Batteries should be packed to prevent short circuit and the evolution of heat. This can be done on the customer site by:

- Using Inner packaging to prevent contact between cells and batteries – place battery in leakproof plastic bags and tightly close
- The use of non-combustible and non-conductive cushioning material to fill void space between the cells or batteries in the packaging (vermiculite inside the leakproof bag)
- If the packer does not have leakproof plastic bags available, individually protect of battery by taping the battery terminals

Cells and batteries shall be secured inside the outer packaging to prevent excessive movement. This can be done by filling the void space with vermiculite.

Packing of Lithium coin Batteries

Coin batteries will normally have an aggregate lithium content of less than 2g so will be packed slightly differently to the details above.

- In strong outer packaging up to 30 kg gross mass. This container does not have to meet the conditions 4.1.1.3 and 4.1.3 of ADR but needs to be fit for purpose
- Metal packaging's to be lined with a non-conductive lining material
- Although not stipulated in the guide, vermiculite can be used to act as cushioning to prevent excessive movement for the button batteries

If you are unsure on Packing Requirements, please contact one of the company's DGSA's for further guidance.

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ISSUE AND REVISION DETAILS

Rev. No	Date	Details of change	Auth.
V1.1	05/06/20	Formatting, change of responsible person.	SS

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