



PACKING INSTRUCTION 970

This instruction applies to lithium metal or lithium alloy cells and batteries contained in equipment (UN 3091) on passenger and Cargo Aircraft Only.

Part 1

Lithium metal or lithium alloy cells and batteries offered for transport are not subject to other additional requirements of these Regulations if they meet the requirements in Part 1.

Lithium batteries identified by the manufacturer as being defective for safety reasons, that have been damaged or have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport (e.g. those being returned to the manufacturer for safety reasons).

Lithium metal or lithium alloy cells and batteries may be offered for transport if they meet the following:

1. a lithium metal cell, the lithium content is not more than 1 g;
2. a lithium metal or lithium alloy battery, the aggregate lithium content is not more than 2 g;
3. each cell or battery is of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3.

General requirements

Equipment containing batteries must be packed in strong outer packaging that conform to 5.0.2.4, 5.0.2.6.1 and 5.2.12.1.

Additional requirements

The equipment must be equipped with an effective means of preventing accidental activation.

Cells and batteries must be protected so as to prevent short circuits.

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

Each package containing more than four cells or more than two batteries installed in equipment must be labelled with a lithium battery handling label (Figure 7.4.I);

Each consignment with packages bearing the lithium battery handling label must be accompanied with a document such as an air waybill with an indication that:

- the package contains lithium metal cells or batteries;
- the package must be handled with care and that a flammability hazard exists if the package is damaged;
- special procedures should be followed in the event the package is damaged, to include inspection and repacking if necessary; and
- a telephone number for additional information.

Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

OUTER PACKAGINGS

Type	Drums	Jerricans	Boxes
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Part 2

Part 2 requirements apply to each cell or battery type that has been determined to meet the criteria for assignment to Class 9.

Each cell or battery must:

1. Be of the type proven to meet the requirements of each test in the UN *Manual of Tests and Criteria*, Part III, subsection 38.3.
2. Incorporate a safety venting device or be designed to preclude a violent rupture under conditions normally incident to transport and be equipped with an effective means of preventing external short circuits.

Each battery containing cells or a series of cells connected in parallel must be equipped with an effective means, as necessary, to prevent dangerous reverse current flow (e.g. diodes, fuses).



Cells with a liquid cathode containing sulphur dioxide, sulphuryl chloride or thionyl chloride which have been discharged to the extent that the open circuit voltage is less than the lower of:

- 2 volts; or
- two-thirds of the voltage of the undischarged cell;

and batteries containing one or more such cells, are forbidden for transport.

	Passenger aircraft	Cargo Aircraft Only
Quantity of lithium metal cells and batteries per piece of equipment	5 kg	35 kg

General requirements

The General Packing Requirements of 5.0.2 must be met.

Additional requirements

- outer packaging must be waterproof or made waterproof through the use of a liner, such as a plastic bag unless the equipment is made waterproof by nature of its construction;
- the equipment must be secured against movement within the outer packaging and be packed so as to prevent accidental operation during air transport;
- the quantity of lithium metal contained in any piece of equipment must not exceed 12 g per cell and 500 g per battery.

OUTER PACKAGINGS

Type	Drums	Jerricans	Boxes
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