

This instruction applies to damaged or defective lithium ion cells and batteries and damaged or defective lithium metal cells and batteries, including those contained in equipment, of UN Nos.3090, 3091, 3480, 3481, 3551 and 3552.

The following packagings are authorised, provided that the general provisions of **4.1.1** and **4.1.3** are met:

For cells and batteries and equipment containing cells and batteries:

Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G);

Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H1, 4H2);

Jerricans (3A2, 3B2, 3H2)

The packagings must conform to the packing group II performance level.

(a) Each damaged or defective cell or battery or equipment containing such cells or batteries must be individually packed in inner packaging and placed inside of an outer packaging. The inner packaging or outer packaging must be leak-proof to prevent the potential release of electrolyte.

(b) Each inner packaging must be surrounded by sufficient non-combustible and electrically non-conductive thermal insulation material to protect against a dangerous evolution of heat.

(c) Sealed packagings must be fitted with a venting device when appropriate.

(d) Appropriate measures must be taken to minimize the effects of vibrations and shocks, prevent movement of the cells or batteries within the package that may lead to further damage and a dangerous condition during transport. Cushioning material that is non-combustible and electrically non-conductive may also be used to meet this requirement.

(e) The non-combustibility of the thermal insulation material and the cushioning material must be assessed according to a standard recognised in the country where the packaging is designed or manufactured.

For leaking cells or batteries, sufficient inert absorbent material must be added to the inner or outer packaging to absorb any release of electrolyte.

A cell or battery with a net mass of more than 30 kg must be limited to one cell or battery per outer packaging.

**Additional requirements:**

Cells and batteries must be protected against short circuit.