

## Safety Precautions for NLT Lamps and Lithium-Ion Battery Packs

### Warning

The lithium-ion battery cell inside NLT cap lamps was selected based on its performance and its suitability to be used in a cap lamp designed for rugged and harsh environments. As with any battery technology, there are certain safety risks if the lithium cell is misused or mistreated which could cause the battery to get hot, rupture or ignite and cause serious injury. There may be occasions where the cap lamp is opened for maintenance and the battery cell is exposed.

### Handling

- Do not place the cap lamp or battery in fire or heat the cap lamp.
- Avoid applying mechanical stress on the cap lamp or battery.
- Do not place the cap lamp on or near fires, stoves, or other high-temperature locations. Do not store the cap lamp inside cars in hot weather. Doing so may cause the battery to generate heat, rupture or ignite. Using the cap lamp in this manner may also result in a loss of performance and shortened life expectancy.
- Do not install the battery backwards so that the polarity is reversed.
- Do not connect the positive terminal and the negative terminal of the battery to each other with any metal object (such as wires).
- Do not overcharge batteries.
- Do not force-discharge batteries.
- Do not carry or store the batteries together with necklaces, hairpins, or other metal objects.
- Do not pierce the battery with nails, strike the battery with a hammer, step on the battery, or otherwise subject it to strong impacts or shocks.
- Do not weld or solder directly onto battery.
- Do not expose the battery to water or salt water or allow the battery to get wet.
- Do not disassemble or modify the battery. The battery contains safety and protection devices which, if damaged, may cause the battery to generate heat, rupture or ignite.
- When the battery is worn out, insulate the terminals before disposal.
- Immediately discontinue use of the battery or cap lamp if, while using, charging, or storing the battery, the battery emits an unusual smell, feels hot, changes color, changes shape, or appears abnormal in any other way. Contact your distributor if any of these problems are observed.
- In the event that the battery leaks and the fluid gets into one's eye, do not rub eye. Rinse well with water and immediately seek medical care. If left untreated the battery fluid could cause damage to the eye.
- Keep batteries out of reach of children.

## Storage

- 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 their original packaging in well ventilated, dry and cool conditions.
- Avoid storing or displaying batteries in direct sun or in places where they get exposed to rain.
- The normal storage of lithium-ion battery is made at temperature between +10°C and +25°C, never exceeding +30°C. In this way the maximum shelf-life (i.e. max. retention of cell performances after storage periods) of lithium-ion battery is achieved.
- Storage temperature above room temperature will increase the rate of self-discharge, reducing the available capacity of the cell. Humidity above 95% R.H. and below 40% R.H. should also be avoided for sustained periods, as these extremes are detrimental to batteries.
- Storing the cells at low temperatures is also recommended, but attention must be paid when transferring the cells to warmer environments, because of the possibility of having water condensing on to the cells (risk of short circuits)
- 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 a rule this height should not exceed 1.5m for cardboard packages or 3m for wooden cases.
- The above recommendations are equally valid for storage conditions during prolonged transit. Batteries should be stored away from ship engines and not left for long periods in unventilated metal box cars (containers) during summer.