

## **AE Safety – Lithium Batteries**

Hazard Description: Lithium and lithium-ion batteries, may get hot, rupture or ignite, causing serious injury and/or damage. Personnel injury or death may occur due to fire and/or toxic gas release.

### General Handling:

- Only purchase electronic devices that bear the label of an independent testing laboratory, such as Underwriter's Laboratory. Follow the manufacturer's instructions carefully.
- Only use batteries that are designed for the device you want to power up. Check the manual or the product's official website when you're not sure what kind of batteries to use.
- If you need to install the lithium/lithium-ion battery, and to avoid damage to the battery pack, make sure that the battery pack is positioned away from heat sources in the equipment or in the battery charger.
- Do not place the battery in fire or heat the battery
- 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
- 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 solder directly onto the 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
- Do not use the battery if it does not recharge within the specified charging time. Doing so may cause the battery to become hot, rupture, or ignite.

### Prior to the activity:

- Recharge the batteries.
- Charge the batteries at room temperature only.
- Recharging must take place on a flat, hard surface. Do not recharge on a soft surface.
- When charging the battery, use the specified battery charger.
- Do not recharge the batteries overnight.
- Do not attach the batteries to a power supply or plug directly to a car's cigarette lighter.
- To avoid overheating batteries, never overcharge your device; unplug the device once it is fully charged.

### At the beginning of the activity, provide a safety briefing:

- Immediately discontinue use of the battery if, at any time, the battery emits an unusual smell, feels hot, changes color, changes shape, or appears abnormal in any other way. Contact the person running the activity immediately.
- If a fire occurs, call 911 and exit the area immediately. Lithium batteries emit a toxic gas when on fire.
- In the event that the battery leaks and the fluid gets into anyone's eyes, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.

- Do not remove the battery. Report any problems, issues, or concerns to the senior member in charge of the activity.

After the activity:

- Do not immediately recharge the batteries unless they will be used again in the immediate future.
- Batteries should be kept in original shipping containers if possible. Do not store loosely.
- If the battery no longer holds a charge, or if the battery is worn out, insulate the terminals with adhesive tape or similar material before disposal.
- Do not discharge the battery using any device except for the specified device. When the battery is used in devices aside from the specified device, it may damage the performance of the battery or reduce its life expectancy, and if the device causes an abnormal current to flow, it may cause the battery to become hot, rupture, or ignite and cause serious injury.
- Avoid keeping li-ion batteries in the open where they can get damaged. Store them in a secure, dry, and cool place, and away from flammable materials. Keep them separate from metal objects as well.
- Always follow local ordinances for proper disposal. Many places consider lithium and lithium-ion batteries to be hazardous materials. To properly dispose of li-ion batteries, it is recommended that you take them to a battery recycling location or contact your local waste management service provider for disposal instructions. Put batteries in a sealed metal container before recycling them.