

Safety Alert September 2023

Subject: General Lithium-Ion (Li-ion) battery Safety



Li-ion batteries are commonly used in various devices like laptops, smartphones, electric vehicles, and more. At UNSW, safety with these batteries is crucial. This alert offers simple guidelines for safe Li-ion battery use, from purchase to disposal.

1. Purchasing Li-ion Batteries

- Choose reputable manufacturers, authorized retailers, or approved UNSW vendors to ensure safety and compliance.
- Be cautious when shopping online to avoid counterfeit batteries lacking safety features.

2. Handling Li-ion Batteries

- Signs of damage could be unusual smells, unusual noises (crackling and hissing), overheating, especially while charging, changed shape (bulging or swelling), discolouration or blistering of the case, leaking fluids. Do not use damaged batteries.
- Always use the manufacturer's charger designed for your device. Avoid cheap or third-party chargers.

- For large personal batteries, such as for e-bikes and e-scooters, these **MUST NOT** be charged in offices or indoor areas. For security reasons they can be stored in a secured environment but not to be charged.
- Remove the charger once the battery is fully charged. Do not charge overnight.
- Charge batteries in a well-ventilated area away from flammable materials, and where a working smoke alarm or heat alarm is installed.
- Follow device-specific instructions in the user manual.
- Protect devices from extreme temperatures, water, or chemicals.
- Power off devices to conserve battery life and prevent overheating.

3. Storage of Li-ion Batteries

- Keep batteries in a cool, dry place within the specified temperature range, and where a working smoke alarm or heat alarm is installed.
- If storing long-term, charge batteries to the capacity recommended by the manufacturer.
- Don't store near flammable materials.

4. Disposal of Li-ion Batteries

- Fire- or smoke-damaged batteries should be kept outside in a well-ventilated area. Store at least 3 metres from any structures and/or combustible materials.
- Never dispose of Li-ion batteries in regular waste bins. Use designated recycling centres or hazardous waste facilities.
- Cover terminals with electrical tape, store in non-conductive containers, and avoid extreme temperatures.

5. Emergency Response

- Do not attempt to extinguish the battery if it is on fire.
- Evacuate the area and close doors if safe to do so to slow the spread of fire. The vented battery gases, vapour and smoke are highly toxic and flammable and must not be inhaled.
- **Call Triple Zero (000) and wait in a safe location for firefighters to arrive.**
- If anyone has been exposed to spilled electrolyte, flying debris, smoke or vapours, or flames, seek urgent medical assistance. Burns should be immediately treated with cool running water for 20 minutes. Burns larger than a 20-cent piece require emergency care. Treat with cool running water immediately, call Triple Zero (000), and follow the advice of the operator.

Remember, safety is paramount at UNSW. Follow these guidelines to protect yourself and others while enjoying modern technology. For battery use in research or testing, complete the Salus Risk Management Form. Contact UNSW Safety Team for assistance.

Let's ensure a safe and sustainable campus environment. Think Safe, Be Safe, and Stay Safe!