



QUICK REFERENCE GUIDE

LITHIUM-ION BATTERIES

Lithium-ion batteries can be found in e-bikes, electric vehicles, laptops, cordless power tools, cell phones and e-cigarettes, to name a few. While these batteries are long lasting and efficient, many people are not aware of the hazards that these batteries can pose to their staff and facilities.

Thermal runaway, the primary cause of hazards, is where a battery begins to heat up uncontrollably on its own. As a result, it can reach extremely high temperatures and even produce smoke, ignite fires or cause explosions.



Thermal runaway can be caused by over or undercharging, manufacturing defects and mechanical abuse such as overheating or dropping your device.

You can detect thermal runaway by a rise in battery temperature, venting of gas or smoke or presence of fire. Once thermal runaway starts, it cannot be stopped and can happen up to 90 days after abuse. It is important to note that unlike traditional fire, a lithium-ion battery fire requires special handling and cannot be extinguished with an ABC fire extinguisher. Due to the hazards of these fires, we recommend calling 9-1-1 and evacuating.

If you notice a change in shape, leaking, odd noises or an odor, you should immediately stop using the device. If the device is plugged in, and it is safe to do so, immediately unplug the device.

Here are some recommendations to prevent thermal runaway in your devices:

- Charge on a hard flat surface to 100%. Do not charge overnight.
- Only use the charging cord that comes with the device.
- Keep in a cool location and avoid exposing batteries to direct sunlight or extreme temperatures.
- Buy from original equipment manufacturers (OEMs).
- Follow manufacturer's guidance for storage, charging and maintenance.
- Use proper disposal methods such as a recycling center. Do not place in municipal trash or recycling bins.

Regular care of your batteries and equipment is crucial for reducing the chances of harm and protecting your premises from potential damage.

If you have any questions regarding lithium-ion battery safety, please do not hesitate to contact the Risk Management department at **800-285-5461** or riskmanagement@sdao.com.