

ENERGIZE WITH CARE

RESOURCES

WHAT IS THE RISK?

Lithium-ion is the most popular rechargeable battery chemistry used today, controlling about 90% of the market. Its popularity comes from the fact that these batteries are low maintenance and can store a lot of energy in a small amount of space. While this is very convenient, it comes with a downside. If the battery is defective or used incorrectly, the energy might be released suddenly in an uncontrolled manner that generates heat, which can turn certain internal battery components into flammable and toxic gases and fuel extremely hot fires.

**ALWAYS
TAKE
CAUTION.**



WHERE ARE LITHIUM-ION BATTERIES FOUND?

Lithium-ion batteries are an effective and efficient way to store electricity. They can be found in all types of electronic devices:

- Cell phones
- Laptops
- Electric vehicles (EV)
- E-bikes or scooters
- Handheld power tools
- Electronic toys



If something electronic can be charged up and does not need to be plugged in all of the time, then it very likely has a lithium-ion battery.

National Fire Protection Association (NFPA)
www.nfpa.org

U.S. Fire Administration
www.usfa.fema.gov

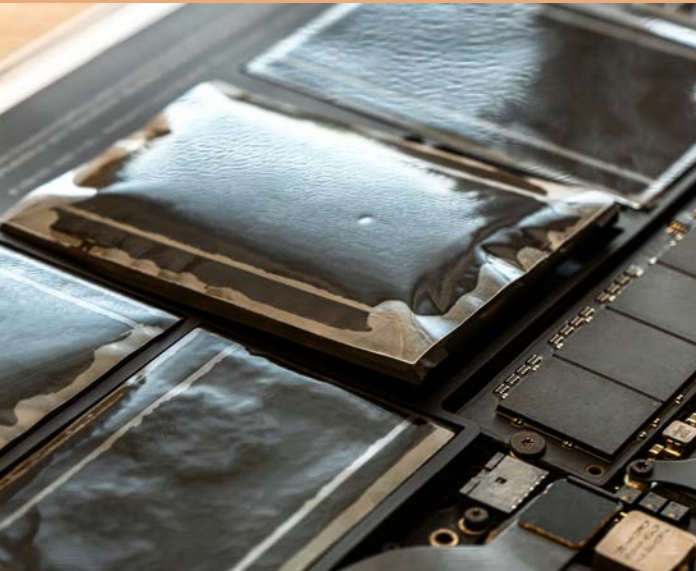
LITHIUM-ION BATTERIES

CHARGE INTO SAFETY



SMART POWER

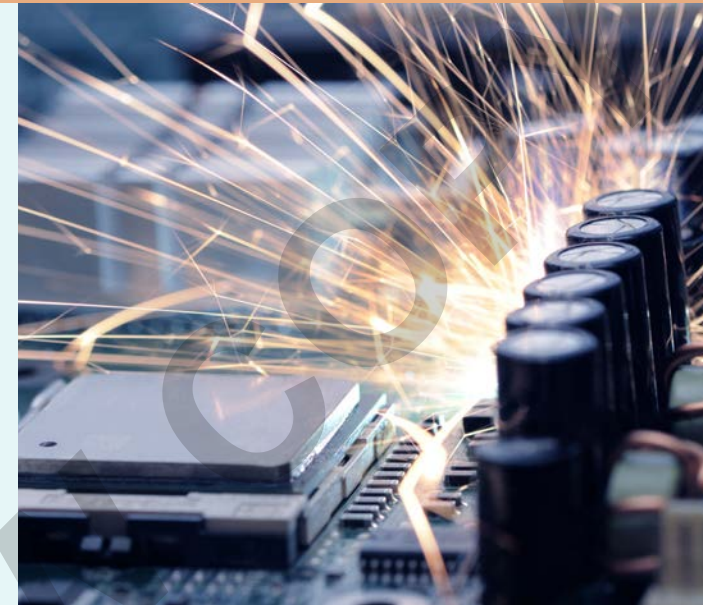
As the world moves towards decarbonization, lithium-ion batteries are playing an increasingly important role in storing renewable energy and electrifying a major source of carbon emissions, transportation.



THE BASICS OF LITHIUM-ION BATTERY SAFETY

You can drastically reduce the risk fire by following a few simple, easy to do steps. These include:

- Always follow the manufacturer's instructions.
- Only use the battery that is designed for the device.
- Put batteries in the device the right way.
- Only use the charging cord that came with the device.
- Do not charge a device under your pillow, on your bed, or on a couch.
- Do not keep charging the device or device battery after it is fully charged.
- Keep batteries at room temperature when possible.
- Do not charge them at temperatures below 32°F or above 105°F.
- Store batteries and devices away from anything that can catch fire.



HOW DO FIRES START?

Lithium-ion battery fires happen for a variety of reasons, such as:

- Physical damage—the battery is penetrated, crushed, or exposed to water
- Electrical damage—overcharging or using charging equipment not designed for the battery
- Exposure to extreme temperatures
- Product defects

No matter how the fire began, always remember the golden rule of fire safety.

ELECTRIC VEHICLES AND E-BIKES

When it comes to e-bikes, e-scooters, and electric vehicles, whenever possible:

DO

- Charge devices outdoors, away from any structure or enclosure, but not in direct sunlight

DON'T

- Charge a battery when the charger or battery is damaged
- Attempt to modify the battery or charger
- Store flammable materials near the EV or e-bike

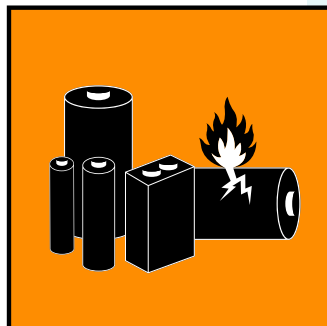
BATTERY DISPOSAL

Lithium-ion batteries and the devices that contain them should not go in household garbage or recycling bins. They can cause fires during transport or at landfills and recyclers. Also, they should not be stored in piles or groups as this can increase the amount of fuel available to a fire. They should be taken to separate recycling or household hazardous waste collection points. Many stores that sell large quantities of lithium-ion batteries have a recycling program where you can return the batteries.

WHAT ARE THE SIGNS OF A DANGEROUS BATTERY?

When possible, closely inspect batteries for any sign of damage. Stop using the battery if you notice these problems:

- Odor
- Change in color
- Too much heat
- Smoking
- Change in shape
- Cracks
- Leaking
- Odd noises or popping sounds
- Swelling



IF A FIRE HAS BEGUN, DO NOT HESITATE. CALL 9-1-1.