TAKE CHARGE OF BATTERY SAFETY

Fact sheet

What is a lithium-ion battery?

Lithium-ion is the most popular rechargeable battery chemistry used today. It consists of single or multiple lithium-ion cells along with a protective circuit board.

Where can I find lithium-ion battery-powered devices?

Lithium-ion battery-powered devices can be found in the home and workplace in products too numerous to count such as — cell phones, laptops, power tools, toothbrushes, small consumer products, electric vehicles, and scooters.

What are the risks associated with lithium-ion batteries?

Despite their many advantages, lithium-ion batteries have the potential to overheat, catch fire, and cause explosions. This most commonly occurs when the batteries are damaged, suffer electro-chemical abuse (eg., from overcharging or completely draining the battery), are in high- or low-temperature environments, or have an internal short-circuit. In those cases, the lithium-ion battery can go into thermal runaway and catch on fire.

What is thermal runaway?

Thermal runaway is one of the primary risks related to lithium-ion batteries. It is a phenomenon that occurs when the temperature inside the battery increases so much that the lithium-ion cell cannot dissipate the heat and enters an uncontrollable, self-heating state. This state can start a fire or cause an explosion that blows out windows and spreads fire throughout a house, apartment, or storefront. The cell reaches thermal runaway when its temperature rises uncontrollably with maximum temperatures hotter than 300°C (572°F) when accompanied by gas and/or a release of the battery's internal chemicals, smoke or fire, or a combination of all.

Learn how to

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What can I do about battery safety?

From the first sign of a problem, you could have less than a minute to escape a battery fire. With the speed of these fires, the best way to be safe is to prevent a fire from starting. Prioritizing these safety measures will help you **Take C.H.A.R.G.E. of Battery Safety**.

C

Choose certified products

- When purchasing lithium-ion battery powered devices, be sure to look for products that are listed or safety certified by a nationally recognized testing laboratory to ensure it meets important safety requirements.
- Countless consumer items sold online do not meet these critical safety standards – unbeknown to consumers.

H

Handle with care lithium-ion battery powered devices with care

- Follow the manufacturer's instructions.
- Only use the charging equipment that comes with the product.
- Do not modify the battery or the charger in any way.
- Charge larger devices (such as eBikes) outside the home – and never in your exit path.
- Store batteries away from extreme temperatures, direct sunlight, exits, and anything flammable – never in your exit path.

A

Always stay alert for warning signs

- Check battery-powered devices often to make sure they are working properly.
- Look for damage or abuse such as swelling, punctures, overheating or change in color or shape.
- Listen for unusual hissing or popping sounds.
- In addition to these warning signs, stop using lithium-ion battery powered devices if you notice a strange odor.

R

Recycle devices and batteries properly

- Responsibly dispose of old or damaged batteries and devices by taking them to the nearest battery recycling center.
- Never discard batteries, chargers, or battery-powered devices in regular trash bins.

G

Get out quickly if there's a fire

- Know the warning signs to look and listen for and get out if you see – or hear – them.
- Follow your home fire escape plan to leave immediately and **call 9-1-1.**

E

Educate others on safe practices

- Now that you know what actions to take, spread the word. Protect your friends and loved ones by sharing how they can **Take C.H.A.R.G.E. of Battery Safety.**

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Learn more at batteryfiresafety.org