

Fire Safety Research Institute

Fire Safety Research Institute Reminds Holiday Shoppers to Take C.H.A.R.G.E. of Battery Safety When Purchasing and Using Lithium-ion Battery-Powered Devices

FSRI shares safety risks and tips for safer use of lithium-ion battery-powered devices

Nov. 21, 2024 - Columbia, Md. – As holiday wish lists fill with the latest tech gadgets, the [Fire Safety Research Institute \(FSRI\)](#), part of [UL Research Institutes](#), reminds shoppers of the unique fire risks lithium-ion batteries pose and how to prevent fires through proper storage, charging and recycling.

Lithium-ion batteries are commonly found in household items like personal shavers, remote control toys, drones, laptops, handheld power tools, e-scooters and lawn equipment. While lithium-ion battery-powered devices have many benefits, such as longer charge time and higher efficiency, they also pose unique fire risks. They store energy more densely than traditional batteries and can become unstable if damaged (punctured, swollen), improperly used (overcharged) or exposed to extreme temperatures. This instability can lead to overheating, sparking and even explosions.

Just in time for the holiday shopping season, FSRI has released a new [public service announcement](#) (PSA) to educate shoppers about the safe selection and care of lithium-ion battery-powered devices. The PSA vividly demonstrates the energy potential stored within a range of lithium-ion battery sizes from one to more than 100 cells that are used in many common household devices.

“The size of the battery scales the potential severity of the consequences of improper handling, charging and storage,” said Dan Madrzykowski, FSRI senior research director. “The larger the battery, the higher the energy potential, which means they release more energy when they fail, leading to faster fire spread and potential damage.”

Fire departments worldwide are experiencing an increase in fire incidents, injuries and deaths involving lithium-ion battery-powered devices. According to [data from UL Solutions](#), since 2022 there have been 188 explosions and more than 3,000 fires caused by consumer products powered by lithium-ion batteries.

For people giving or receiving tech gifts this holiday season, FSRI’s [Take C.H.A.R.G.E. of Battery Safety](#) tips outline how to properly select, care for and dispose of lithium-ion battery-powered devices:

1. **Choose Certified Products:** Prioritize your safety by selecting lithium-ion battery-powered devices certified by a nationally recognized testing laboratory to ensure they meet important safety requirements.
2. **Handle Lithium-Ion Battery-Powered Devices with Care:** Always follow manufacturer guidelines and use the provided charger for lithium-ion battery-powered devices. Avoid modifying batteries or chargers and charge your devices in safe environments away from extreme temperatures, direct sunlight and flammable materials. For larger devices, such as e-bikes, charge in a location that does not block your exit path, separate from sleeping areas and ideally outside your home. Refrain from overnight charging of large devices.

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3. **Always Stay Alert for Warning Signs:** Regularly inspect devices for any signs of damage, such as swelling or punctures. Be aware of unusual sounds like hissing or popping. Watch out for excessive heat or a strange odor. White or gray wispy smoke indicates there is immediate danger of fire. If you notice any of these warning signs, immediately stop using the lithium-ion battery-powered device.
4. **Recycle Devices and Batteries Properly:** Responsibly dispose of old or damaged batteries and devices by taking them to a designated battery recycling center. Never discard batteries, chargers or battery-powered devices in regular trash bins.
5. **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, closing doors behind you as you exit, and **call 9-1-1**.
6. **Educate Others on Safe Practices:** Help protect your friends and loved ones by sharing how they can **Take C.H.A.R.G.E. of Battery Safety**.

To fully Take C.H.A.R.G.E. of Battery Safety, it is crucial to see these guidelines not as individual tips, but as interconnected steps. Each measure supports and reinforces the others. Embracing and adhering to all of these guidelines can significantly reduce risk and create a safer home or work environment. For more information, visit batteryfiresafety.org.

About Fire Safety Research Institute

The Fire Safety Research Institute (FSRI), part of UL Research Institutes, strives to advance fire safety knowledge and strategies to create safer environments. Using advanced fire science, rigorous research, extensive outreach, and education in collaboration with an international network of partners, the organization imparts stakeholders with the knowledge, tools, and resources that enable them to make better, more fire safe decisions that ultimately save lives and property. To learn more, visit fsri.org. Follow FSRI on [Twitter](#), [Instagram](#), [LinkedIn](#) and [Facebook](#).

About UL Research Institutes

UL Research Institutes is a nonprofit research organization dedicated to advancing public safety through scientific discovery. Since 1894, our research has advanced our mission toward a safer, more secure, and sustainable future. Focused on global risks from fire mitigation and air quality to safe energy storage and digital privacy, we conduct rigorous independent research, analyze safety data, and partner with experts to uncover and act on existing and emerging risks to human safety.

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