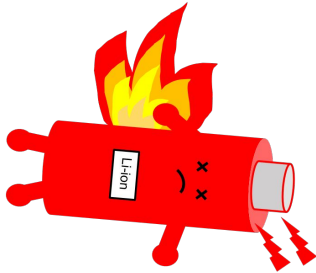


Power Without the Hazard:

Mastering Lithium-Ion Battery Safety



EHS Coffee Talk
Oct 7, 2026

CHARGE **INTO FIRE SAFETY™**

Safe Charging Is a
SUPERPOWER



FIRE PREVENTION WEEK™

fpw.org



Incidents involving lithium-ion batteries are on the rise

Total incidents reported (1995-2024)

Consumer Products



2,178 Total Injuries

199 Total Fatalities

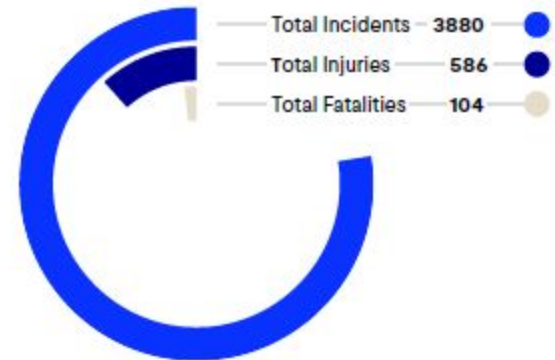
Micro-Mobility Devices (<20mph)



1,982 Total Injuries

340 Total Fatalities

Incidents in 2024



Research provided by UL Solutions: <https://www.ul.com/insights/lithium-ion-battery-incident-reporting>

Learn more at batteryfiresafety.org



New technologies present new risks

Lithium-ion batteries can go into thermal runaway undetected and result in a fire. Not just any fire, a fire that emits flames, smoke and toxic gases that can cause an explosion and spread throughout a house, apartment, or storefront.



Fire moves fast

From the first warning signs of smoke or hissing noises you have less than one minute to escape a fire

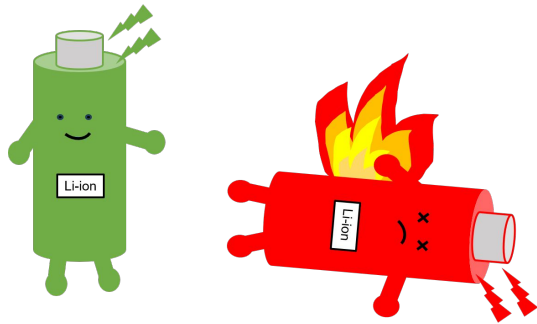
Learn more at batteryfiresafety.org



Research
Institutes | Fire
Safety

What is “Thermal Runaway”

What Is Thermal Runaway?



Causes of lithium battery thermal runaway

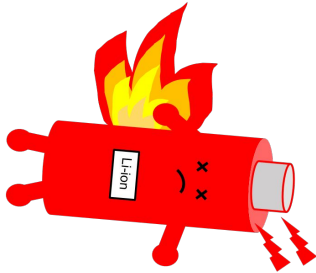
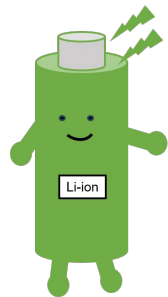
Internal (short circuit)

Manufacturing defect/ Lithium dendrite growth

External

Mechanical/Electrical/Thermal abuse

Danger: Fire & Smoke



UL Research Institutes

Intentional E-Scooter Overcharge: Closed Bedroom

Fire Safety Research Institute

Intentional E-Scooter Overcharge: Closed Bedroom

Overcharge Time: 01:43:33

Bedroom 1

Bedroom 1 Window

Bedroom 1 High

Room 1 Infrared

1200 F
900 F
600 F
300 F
54 F

This experiment was designed to intentionally drive a lithium-ion battery into failure to examine the potential hazards of storing and charging e-mobility devices, which have been known to catch on fire and cause explosions.

UL Research Institutes

Danger: Gases & Particulates

Gases:

Ethylene, Propylene, Ethane,
Propane, HF, Methyl Formate,
Dimethyl Ether, Carbon dioxide,
Carbon monoxide, Hydrogen

Particulates:

Sodium (Na), Calcium (Ca),
Lithium (Li), Nickel (Ni),
cadmium (Cd), Lead(Pb) and
Manganese (Mn)
in various sizes



Lung Damage

DNA Damage



Power Check

Safe Charging Is a SUPERPOWER

Charge into Fire Safety™









Family Power Check

Work together and see how strong your charging superpowers are.
Small actions. Big impact. Be a hero every time you plug in!

Circle one for each: ● Always ● Sometimes ● Never

1. We use the correct charger for our device.		3	2	1	
2. We charge all our devices on something hard.		3	2	1	
3. We look for warning signs from our devices like heat or a smell.		3	2	1	
4. We unplug when charging is done (at 100%).		3	2	1	
5. We charge e-bikes, e-scooters, and large tools outside.		3	2	1	
6. When on a plane, we charge our devices where we can see them in case there is a problem.		3	2	1	

Total your points and enter your score below.

15–18 points
SUPERCHARGED HERO
You are doing a great job!

10–14 points
POWERING UP
Keep going. You are close.

6–9 points
LEVEL UP
Pick one habit to practice.

Family Power Mission

What is one charging habit your family will work on?

Superpower Pledge

We make safe choices every time we plug in.

Date _____



FPW.ORG

Your Logo

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Take C.H.A.R.G.E. of Battery Safety

The best way to be safe is to prevent a lithium-ion battery fire from starting. Take these important actions now.



Choose certified products



Handle with care



Always stay alert for warning signs



Recycle devices and batteries properly



Get out quickly if there's a fire



Educate others on safe practices

Learn more at batteryfiresafety.org



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Choose certified products



Handle with care

When purchasing lithium-ion battery-powered devices, look for products that are listed or safety certified by a nationally recognized testing laboratory to ensure they meet important safety requirements.

- **Follow the manufacturer's instructions.**
- **Only use the charging equipment that comes with the product.**
- **Store batteries away from extreme temperatures, direct sunlight, exits, and anything flammable.**
- **Charge larger devices (such as eBikes) away from your exit path and outside your home if possible.**
- **Do not charge larger devices overnight.**

[Learn more at batteryfiresafety.org](https://batteryfiresafety.org)





Always stay alert for warning signs



Recycle devices and batteries properly

- Check battery-powered devices often for damage or abuse such as swelling or punctures.
 - Listen for unusual hissing or popping sounds.
 - Watch out for excessive heat or a strange odor.
 - If you notice any of these warning signs, stop using the lithium-ion battery-powered device immediately.
 - White or gray wispy smoke indicates there is immediate danger of fire.
-
- Responsibly dispose of old or damaged batteries by taking them to the nearest battery recycling center.
 - Never discard batteries, chargers, or battery-powered devices in regular trash bins.

Learn more at batteryfiresafety.org





Get out quickly if there's a fire



Educate others on safe practices

- 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.
-
- Now that you know what actions to take, spread the word about lithium-ion battery safety and help protect your friends and loved ones.

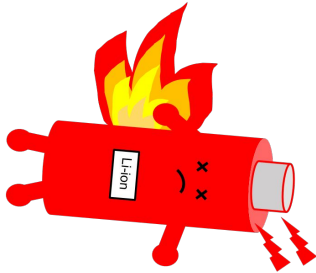
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Li-ion battery bags

Be sure to purchase “Certified”



Husky Fire Prevention Week

October 26 -30

Table to grab posters and
promotional item

Fire Extinguisher Simulator

Residential/Classroom Fire
Safety

