

# St. John's Regional Fire Department

## Lithium-ion Battery Fire Safety





## What the Public Needs to Know

Lithium-ion batteries power many everyday devices, including cell phones, laptops, tools, toys, e-bikes, and e-scooters. When used improperly or damaged, these batteries can cause **fast-moving fires, explosions, and toxic smoke.**

## Why Lithium-ion Battery Fires Are Dangerous

- Battery fires can **ignite suddenly without warning.**
- Fires burn **very hot** and are difficult to extinguish.
- Batteries can **re-ignite hours later.**
- Smoke may contain **toxic and flammable gases.**
- Fires can spread quickly to nearby combustibles.

## Common Causes of Battery Fires

- Using **damaged, swollen, or modified batteries.**
- Charging with **non-approved or counterfeit chargers.**
- Charging on **beds, couches, or soft surfaces.**
- Overcharging or charging unattended for long periods.
- Exposure to **heat, water, or physical damage.**
- Low-quality batteries or knock-off products.



## Safe Charging Tips

- Use **only the manufacturer approved charger and ensure it bears the label of a certified testing laboratory such as UL or CSA.**
- Charge on a **hard, non-combustible surface.**
- Keep away from **flammable items.**
- **Keep away from exits.**
- Do not charge under pillows, blankets, or furniture.
- Avoid charging unattended or overnight.
- Unplug once fully charged.
- Stop charging immediately if the battery becomes hot, smells unusual, or changes shape.

## Safe Storage and Handling

- Store batteries at **room temperature.**
- Keep away from **direct sunlight and heat.**
- Do not store loose batteries where they can contact metal.
- Keep batteries **dry.**
- Keep out of reach of children and pets.
- Never crush, puncture, or attempt to repair batteries.



## Warning Signs of Battery Failure

**Stop using the device immediately** if you notice:

- Swelling or bulging.
- Cracking or leaking.
- Hissing sounds.
- Strong or burning smell.
- Excessive heat.
- Smoke or sparks.

Move the device outdoors if safe to do so and **call 9-1-1 if a fire starts.**

## If a Battery Fire Occurs

- **Call 9-1-1 immediately.**
- Evacuate the area.
- Do not attempt to fight large battery fires.
- Small fires may require **large amounts of water.**
- Even after the fire appears out, batteries may **re-ignite.**



## Disposal and Recycling

- **Never place lithium-ion batteries in household garbage.**
- Recycle at approved battery recycling locations. Visit [call2recycle.ca](http://call2recycle.ca) to find a location near you.
- Tape battery terminals before transporting for recycling.

## Fire Safety Reminders

- Install and maintain **working smoke alarms.**
- Keep **escapeways clear.**
- Have an **escape plan.**
- Never ignore battery warning signs.

## Remember:

**If a battery doesn't look right, smell right, or feel right — it isn't safe.**