

## **Battery Safety During the Holidays**

An ever-increasing number of gifts contain lithium-ion batteries. To ensure the safety of your family this holiday season, it is important to understand the risks associated with lithium-ion batteries and how to protect your family from them.

### **Know the risks:**

A general rule of thumb is that if an item is rechargeable it likely contains a lithium-ion battery. You can usually find the battery's chemistry listed on the battery itself, in the instruction manual, or on the product label. Look for symbols, icons, or a recycling symbol with "Li-ion" underneath—it all indicates the type of battery inside.

Because lithium-ion batteries store a significant amount of energy in a small space, when that energy is released in an uncontrolled manner it causes overheating which in turn, can cause internal battery components to become flammable and release toxic gases. The uncontrollable release of energy is referred to as "thermal runaway" which is a violent chain reaction of exothermic chemical reactions that causes an uncontrolled increase in the system's temperature which can lead to fires or explosions. Thermal runaway can be caused by mechanical damage, external heat, short circuit, or overcharging.

### **Safe Buying:**

- Only buy tested and certified products that contain lithium-ion batteries. Opt for recognizable brands as knock-off electronic devices often have not undergone the same testing and quality assurance.
- When purchasing items for children containing batteries, inspect the battery compartment to ensure that it cannot be opened easily by a child and is properly sealed.

### **Safe Storage:**

- Do not store batteries where the terminals are in contact with each other or where the terminals can come into contact with metal objects.
- Store batteries away from direct sunlight, heat sources, and water.
- Avoid extreme heat or cold when storing batteries.
- Stop charging once the battery is fully charged.
- Try to charge large lithium-ion batteries such as E-bikes, E-scooters, and electric vehicles outdoors and out of direct sunlight, if possible. Never charge a large lithium-ion battery device in an area that blocks an exit.

- Use the charger provided with the device or a third-party charger designed specifically for the device as incompatible chargers can overcharge or undercharge the battery.

**Watch out for:**

- Evidence of damage such as swelling or punctures.
- Hissing or popping sounds.
- Excessive heat or a strange odor.
- White or gray wispy smoke. This can indicate thermal runaway potentially occurring.

**Safe Disposal:**

Do not put your lithium-ion batteries in the landfill as they pose a risk of fires at the landfill and threaten worker safety.

There are several different options to take your lithium-ion batteries for recycling:

- **Target, Best Buy, Staples, Lowe's, Sears and Home Depot** are all part of the Rechargeable Battery Recycling Corporation. These retailers accept all rechargeable batteries and cell phones for recycling.
- **Batteries Plus** accepts both non-rechargeable and rechargeable batteries for recycling.
- Check with your local **transfer station or landfill** to see if they accept rechargeable batteries for recycling or if they have somewhere you should take them.

**Websites you can use to find the nearest drop-off location for batteries:**

- <https://www.call2recycle.org/>
- <https://earth911.com/>