



What are Lithium-ion Batteries, and How Do they Differ from Alkaline Batteries?

Lithium-ion (Li-ion) batteries store and release energy by moving lithium ions between two parts of the battery. Unlike traditional alkaline batteries, Li-ion batteries are rechargeable and offer longer life spans without losing effectiveness over time.

Differences from Alkaline Batteries:



- **Higher Energy Density:** Li-ion batteries can store more energy in smaller, lighter packages.
- **Higher Voltage Capacity:** Li-ion batteries power devices more strongly and efficiently, allowing devices to perform better and last longer on a single charge.
- **Less Maintenance:** Li-ion batteries hold their charges longer, do not need periodic full charges to maintain health and partial charges do not reduce their capacity.
- **Longer Lifespan:** Li-ion batteries can handle hundreds to thousands of charge/discharge cycles.

What is a Removable Lithium-ion Battery?

Removable li-ion batteries can be easily replaced and swapped by the user, offering convenience and lower maintenance costs.

What Common Devices Use Lithium-ion Batteries?

Small and medium-sized Li-ion batteries are used in a wide range of devices, including:

- Portable electronics like cameras.
- Electric power tools and lawn equipment.
- Personal care devices including electric toothbrushes.
- Electric scooters and e-bikes.



What Do Small and Medium-sized Lithium-ion Batteries Look Like, and How Can They Be Identified?



Small and medium-sized Li-ion batteries vary in size but are generally up to 25 lbs. They can be identified by:

- **Shape:** Cylindrical, prismatic (rectangular box) or pouch (flat rectangle).
- **Markings:** Usually labeled with "Li-ion" along with details on voltage and capacity.
- **Connectors:** Typically have robust connectors or terminals.

Learn how to properly recycle your lithium-ion batteries at call2recycle.org or earth911.com.



National Waste & Recycling AssociationSM

Collect. Recycle. Innovate.

Stay Safe: Store Lithium-ion Batteries Properly



Keep It Cool

Store at room temperature (68°F) and stay away from high heat (greater than 90°F).



Keep It Dry

Put in dry environments to avoid corrosion and moisture.



Half the Charge

Keep at 50% charge for long-term storage, and never store on a charging station.

Stay Safe: Manage Lithium-ion Batteries Properly

Improper handling can cause:



Fire and Explosion Risk

Punctured or damaged batteries can ignite.



Poor Performance

Quick loss of charge and shorter lifespan.



Swelling

Batteries may expand if kept fully charged or at high temperatures.

How You Can Properly Recycle Lithium-ion Batteries



Ban from Bins

Keep lithium-ion batteries out of curbside waste and recycling bins. Batteries can be damaged during collection and spark fires that put waste workers and communities at risk.



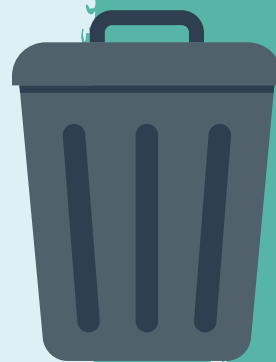
Direct Drop-offs

Take lithium-ion batteries to retailers that offer recycling services, visit call2recycle.org/locator, or contact your local waste hauler for drop-off locations.



Tape for Transport

Cover all battery terminals with duct tape to prevent fires in transit.



You can prevent fires by responsibly managing your lithium-ion batteries. Learn how at call2recycle.org or earth911.com.



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