



ENVIRONMENTAL HEALTH & SAFETY'S QUICK GUIDE TO BATTERY DISPOSAL

Oklahoma State University

Battery Disposal

Used batteries can be considered hazardous waste. Toxic heavy metals and corrosive properties make them unsuitable for disposal in the general trash. Used batteries generated on campus are collected by the EHS Department for recycling or disposal as hazardous waste

Typical battery uses

Cell phones, pagers, cameras, computers, flashlights, power tools, research equipment, monitoring devices, health monitors, lanterns, burglar alarms, emergency lights, and automobiles and heavy equipment.

Types of batteries used

- Alkaline
- Lithium
- Nickel/Metal Hydride (Ni-MH)
- Mercury and Silver Oxide
- Nickel-Cadmium (Ni-Cad)
- Lithium-Ion
- Lead Sulfuric Acid

How to properly dispose/recycle of batteries at OSU Campus

1. Tape each battery terminal with non-conductive tape or place each battery in a sealed clear bag. Take care not to cover the battery type name since each battery will be segregated by the type prior to recycling.
2. Store in a plastic container or cardboard box, to prevent sparking. Label the container "Used Batteries for Recycling".
3. Submit an online request using the EHS chemical removal request form found on the EHS website ehs.okstate.edu.
4. Contact EHS to handle any leaking or unsafe batteries.

NOTE: To prevent short-circuits and potential fire hazard during storage and transport, battery terminals must be taped over prior to placing the battery into the receptacle.



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Alkaline Batteries

Alkaline batteries are a long-lived dry cell with an alkaline electrolyte of potassium hydroxide, which deters corrosion. These single-use batteries contain a number of materials that are recyclable and should NOT be thrown in the trash. During the recycling process chemicals are removed while salvageable metal and plastic are recycled.



Lithium Batteries

Lithium batteries are typically non-rechargeable and contain lithium, a water reactive alkali metal. They are commonly known as "button cell" batteries due to their small size. They are commonly found in watches, laser pointers, computer motherboards, and other electronic devices that require a power source of small size.



Nickel/Metal Hydride (Ni-MH) Batteries

Ni-MH batteries contain a NiOOH positive electrode and a water reactive, metal alloy forming the negative electrode. Batteries of this type are rechargeable and available in sizes similar to alkaline batteries (size AAA, AA, C, and D). They can be identified by the markings "RECHARGEABLE" OR "Ni-MH".



Mercury and Silver Oxide Batteries

Non-rechargeable batteries similar in appearance to the lithium button cell batteries mentioned above. Mercury and silver are toxic metals regulated as hazardous waste that should never be disposed in the trash. Although this type of battery is becoming increasingly rare, it may still be found in older equipment.



Nickel-Cadmium (Ni-Cad) Batteries

Ni-Cad batteries are a very common rechargeable battery found in many devices most commonly in cordless power tools. The presence of cadmium, a toxic metal, requires this battery to be recycled. Ni-Cad batteries are available in a host of sizes from large rectangular devices to smaller sizes akin to alkaline batteries.



Lithium-Ion Batteries

Lithium-ion batteries are most commonly found in devices that drain a significant amount of power quickly such as cameras, cordless power tools and most commonly, laptop computers. They come in sizes similar to that of Ni-Cad batteries.



Lead Sulfuric Acid Batteries

Lead-acid batteries are commonly known as car batteries. They contain both a toxic heavy metal (lead) and corrosive liquid (sulfuric acid), both of which are hazardous materials. Smaller versions of this battery are often found in uninterruptable power supplies (UPS) and emergency lighting systems. They are rechargeable but have a lifespan of 3-5 years.