

Household Batteries

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- Most batteries contain metals that are potentially toxic, such as mercury, cadmium and nickel.

Batteries have become a major part of our everyday lives. According to U.S. EPA, Americans purchase more than two billion household batteries a year to power **radios**, clocks, toys, computers, power tools, and other home electronics. Because most of these **batteries** are not **rechargeable**, when they are used up **they go to landfills or incinerators**. This practice causes concern because most batteries contain **metals** that are potentially **toxic**, such as mercury, cadmium and **nickel**. As the batteries decay in the **landfill**, these metals have the potential of leaching into drinking water. Incineration may cause vaporization into the air of metals such as **mercury**. Other **metals**, such as **cadmium and lead**, can **concentrate** in the ash produced. **The** table on the **reverse** side lists the types and sizes of common household (or dry cell) batteries, their hazardous **component**, and their most common uses.

The single **largest source** of mercury in garbage is household batteries **especially alkaline** and button batteries.

Mercury is a heavy **metal** with high toxicity. Long-term **exposure** can **permanently** damage the brain, kidneys, and fetuses. The major way people get exposed to mercury is by eating **mercury-contaminated** food, especially fish.

One way of reducing the amount of mercury going to landfills, and reducing the risk of drinking water contamination, is to **reduce** the amount of mercury in batteries. **Manufacturers** of alkaline batteries have **already** made

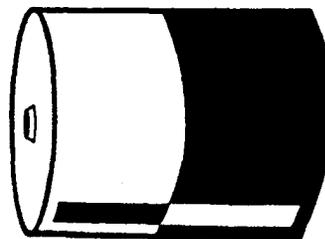
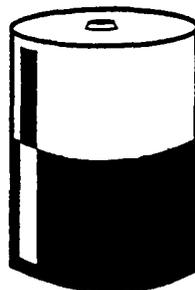
the commitment to eventually **eliminate** mercury from batteries. However, mercury is an integral part of button batteries, and cannot be **eliminated**.

Another way of reducing **mercury** is to change consumer habits. Choose alkaline batteries that are lowest in mercury, rechargeable batteries (that can be recycled when no longer useable), or battery-free toys and **appliances** whenever possible. Look for solar-powered **devices**, such as calculators and watches.

Recycling batteries is another way to keep them out of your garbage. However,

not all batteries have enough metal in them to make recycling cost-effective. For example, the current cost of recovering the **small amount** of mercury in **alkaline** and carbon-zinc batteries far exceeds the **value** of the **material** recovered. However, mercury and silver oxide batteries, as well as **nickel-cadmium** batteries, are processed for metals recovery.

Check **with** your **local** solid waste management district (listed under **County** Government in your phone book) for any outlets for household battery **recycling**. See if your local jeweler, pharmacy or **battery** retail will accept button **batteries** for **recycling**. Ohio EPA keeps a list of **battery recycling** and disposal companies on file; however, these **companies** are usually set up to serve industrial and municipal customers with **bulk** amounts of batteries rather than individuals.



Types of Dry Cell Batteries Found in Households

Primary Cells (Nonrechargeable)	Hazardous Component	Common Uses
Alkaline AAA, AA, long life C and D cells, 9V	mercury, manganese dioxide	cassette players, flashlights, toys, etc.
Carbon Zinc AAA, AA, C, D, 9V	mercury along with alkaline, makes up over 50% of battery market	
Mercuric-oxide button, some cylindrical and rectangular	mercury	hearing aids, pagers, watches, cameras
Silver-oxide button	silver	hearing aids, watches, cameras
Zinc-air button	zinc	hearing aids, pagers
Lithium 9V, C, AA, coin, button	lithium	cameras, calculators, computers , watches (fastest market growth)
Secondary cells (rechargeable)	Hazardous Component	Common Uses
Nickel-cadmium 9V, AAA to D, battery packs	cadmium	smoke alarms, appliances, tools
Small sealed lead-acid flat plates, pack configurations	lead	camcorders, computers, portable radios, cellular phones

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