

## Recycling Batteries and the Toxic Hazards of Battery Disposal

### Background

Almost all small household electronic appliances and devices are powered by batteries. Although many devices come supplied with rechargeable batteries, even rechargeable batteries eventually wear out and will require replacement. Proper disposal of all batteries is particularly important to avoid contamination of landfill.

### Toxic Heavy Metals

Batteries are made from a number of different materials. These materials include acid, lead, nickel, lithium, cadmium, alkaline, mercury and nickel metal hydride. When batteries are not properly disposed of the casing can disintegrate and the toxic chemicals within can leach into the surrounding environment. The leaking material can contaminate the soil and water and some of the elements can accumulate in wildlife and humans.

### Small Size, Large Numbers

Most batteries are small in size and may not appear to be particularly harmful. Some toxic chemicals are also no longer used in batteries. For example mercury is now only used in very small button style batteries. The problem is batteries are made in the billions with around 180000 tonnes of batteries being discarded in the USA every year.

### Recycling Batteries

Many local councils and authorities have joined together with battery manufacturers to develop battery recycling schemes. These schemes divert used batteries from going to landfill and send them to either be recycled or disposed of safely. Recycling involves breaking the batteries down and recovering the material contained within for reuse. In instances where the battery cannot be recycled, they are disposed of in a way that means the toxic chemicals cannot enter the environment. In some instances this involves encasing the batteries in concrete.

### Which Batteries Can Be Recycled

- In most cases household, single use batteries such as AA, AAA, C and D cells cannot be recycled
- Nickel-cadmium (NiCd) rechargeable batteries are considered hazardous waste and must be recycled
- Nickel Metal Hydride (NiMH) or Lithium Ion batteries for laptops are non-hazardous waste but should be recycled
- Button cell batteries for hearing aids, small toys and watches, contain silver and mercury. They are hazardous waste and can be recycled
- Lead acid batteries used in automotive applications are hazardous waste and can be recycled

### Environmentally Friendly Battery Use

When using or purchasing batteries, consider the environment by remembering the mantra 'reduce, reuse and recycle' and:

- lessen battery use
- select recyclable batteries
- use rechargeable batteries

Source: [AZoCleantech](#)