

## **What is hazardous waste?**

Hazardous waste is a type of waste that has some properties that make them dangerous or potentially harmful for the environment and human health if managed improperly. Hazardous substances or wastes can be liquids, solids, contained gases or sludges. These wastes may also originate from different sources, like industrial manufacturing, factories and facilities, and even households. EPA provides a classification of substances that identifies the substances to be hazardous.

## **How can it be treated?**

Some hazardous waste can be recycled, and regulations are applied to treatment, storage and disposal facilities. Hazardous waste can be treated by chemical, thermal, biological, and physical methods.

Chemical methods: ion exchange, precipitation, oxidation and reduction, and neutralization.

Thermal methods: high-temperature incineration, which not only can detoxify certain organic wastes but also can destroy them. One problem posed by hazardous-waste incineration is the potential for air pollution.

Biological treatment methods: treating certain organic wastes, such as from petroleum industry. One of the methods is called landfarming. During this process waste is mixed with surface soil on some suitable landsite, so the microbes can metabolize the waste along with added nutrients.

Hazardous wastes that are not destroyed by incineration or other chemical processes need to be disposed of properly. Secure landfills for hazardous wastes

## **A few examples of hazardous waste:**

- Solvent-based paints
- Pesticides and other garden chemicals
- Batteries (for example car, mobile phone or regular household batteries)
- Motor oils (for example from cars or mowers)
- Petrol and kerosene
- Cleaning and polishing chemicals
- Swimming pool or spa bath chemicals
- Pharmaceuticals (all medicines)
- Obsolete computer equipment
- Thermometers, barometers, thermostats, fluorescent tubes and compact fluorescent globes (CFLs)

There are some rules that you have to follow while disposing your household hazardous waste. It is essential to remember that all of these from electronic equipment to batteries have strict disposal regulation and should not end up in regular waste containers in your home yard. For instance, complicated computers may contain valuable elements and resources that can be re-used even after the disposal and your device has stopped operating. These may also contain hazardous materials for the environment and possess a great threat. Some manufacturers may accept your old device back for recycling. Mobile phones and batteries, for instance, contain heavy metals, the non-biodegradable substances that accumulate in the environment. Mobile phone retailers, some banks and other retail stores will accept used mobile phones for recycling. Never put electronic equipment to the regular bin.

Considering something not that dangerous and hazardous from the first perspective, let's mention plastic shopping bags that create pollution and litter problem if not recycled and disposed properly. Supermarkets and other shops have special collection bins for used plastic shopping bags for recycling. Additionally, before taking your plastic bags to recycling point, you may also consider reusing them, and only after they've worn out, you may take them for recycling, which will give them a new life.

Another not obvious good that should be treated properly is unused or expired medicines. You have to take these pharmaceuticals back to the pharmacy, where they follow strict medicine disposal regulations.

When you do not treat your hazardous waste properly it can cause a potential threat for the environment and human health. From the plastic bags that create an environmental issue and create a pollution problem around the globe, to dangerous substances that can leach into the surface or groundwater and poison the surroundings, affect soil, plants and water for a long time. Wastes may corrode the pipes or block stormwater drains and cause problems at water treatment plants.

Hazardous waste should only be stored in specially designed landfills or treated under the strict rules of the directive and legislation of the country. Illegal disposal, dumping or misuse of wastes is a serious offence and subject to large financial penalties. You are also capable of calling to the local municipalities and request more detailed information about how to treat your waste properly, request information about the collection points. Careful hazardous waste management is always on guard of our health and we must abide by the rules so as not to endanger everyone around us.

**Links and sources:**

- <https://www.epa.gov/hw/learn-basics-hazardous-waste>
- <https://www.britannica.com/technology/hazardous-waste-management/Treatment-storage-and-disposal>
- <https://www.betterhealth.vic.gov.au/health/healthyliving/hazardous-waste>