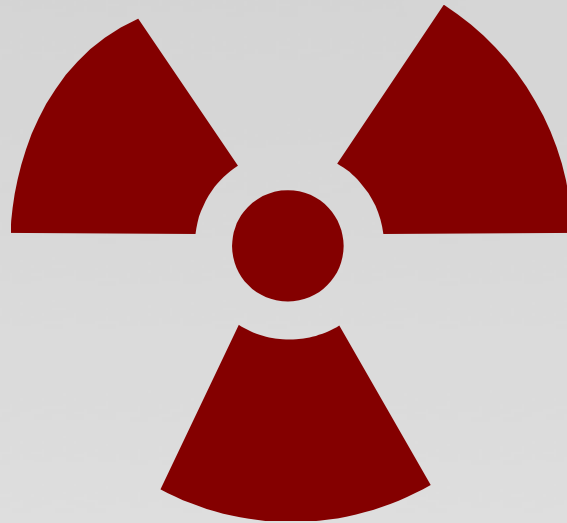


What are Hazardous Wastes?

Why are they so harmful to humans and the environment?



Our wastes can be harmful for two reasons:

- There is simply too much of it.
- It is harmful because certain chemicals contained in the waste can harm living things even in very small doses



What is Hazardous Waste?

According to the US EPA:

- “Hazardous waste is a waste with properties that make it dangerous or potentially harmful to human health or the environment.”
- “Hazardous wastes can be liquids, solids, contained gases, or sludges.”
- “They can be the by-products of manufacturing processes or simply discarded commercial products, like cleaning fluids or pesticides.”

What is a Hazardous Waste?

The EPA has 4 criteria that classify waste as Hazardous:

- >Flammable
- >Corrosive
- >Reactive
- >Toxic



Examples of Hazardous Waste

- Organic Compounds
- Household Wastes
- Heavy Metals



Synthetic Organic Compounds

- Non-biodegradable- Synthetic organic compounds and petroleum derived compounds resist decomposition by bacteria, fungus and insects
- Many synthetic compounds are toxic because they can be absorbed by the skin and act as mutagens, carcinogens, teratogens and endocrine disrupters

Organic Compounds:

Examples:

- Plastics
- Rubber Tires
- Wood Preservatives
- Pesticides
- Solvents



Household Wastes

- Household hazardous wastes result from materials commonly used in and around the home that contain one or more of the EPA hazardous waste material criteria
- US cities generate 1.6 million tons of household hazardous waste annually

Household Wastes

Examples:

- Cleaning products
 - Oven cleaners, toilet cleaners, bleach, and ammonia
- Paint based products
 - Paint thinners, stains, wood preservatives
- Gardening and pest control products
 - Pesticides and rodenticides
- General Products
 - Batteries, glues
- Automotive products
 - Gasoline, motor oil, solvents, brake fluid, antifreeze
- E-Waste
 - Cellphones, personal computers, i-pods, laptops



Heavy Metals

- Heavy metals occur naturally in the environment as constituents of the earth's crust.
- Anthropogenic activities (mining, agricultural activities, waste disposals, fuel combustions) can rearrange metal distribution patterns resulting in site specific elevated concentrations.
- Because they are chemically similar to beneficial metals such as calcium, zinc and iron, heavy metals replace them in many important proteins in the body causing a wide range of problems.

Heavy Metals

- Heavy Metals are used widely in electronics and the fabrication of metals

Examples:

- Lead
- Mercury
- Chromium
- Copper
- Tin



Hazardous Waste

- Many materials can be considered hazardous depending on the criteria it meets
- Anything can be toxic depending on how much is present and in what concentration
- Even substances necessary for life like, oxygen or water can be toxic if there is too much of it

COUNTERTHINK

