

# Brooklyn College

## Office of Environmental Health and Safety

### Hazardous Waste Management Guide

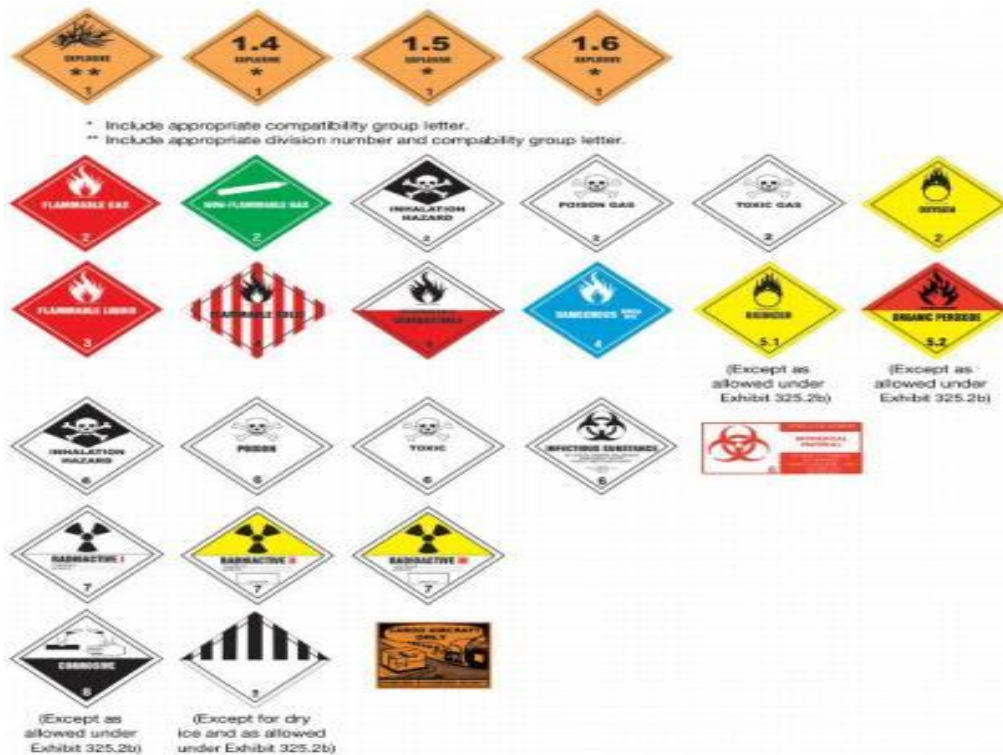
#### What is a Hazardous Waste?

Simply defined, a hazardous waste is a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. Hazardous waste is generated from many sources, ranging from laboratory process wastes to batteries and may come in many forms, including liquids, solids gases, and sludges.

The EPA, DOH, DOT, and NYS DEC developed regulatory definitions and processes that identifies specific substances known to be hazardous and provides objective criteria for including other materials in the regulated hazardous waste universe.

The DOT and NYS DEC definitions of hazardous waste/materials normally follow suit with the EPA.

Here are examples of DOT Hazardous Waste/Material:



The NYS DEC and Toxic Substances Control Act (TSCA) also regulate the disposal of PCBs, Radon and Asbestos

The DOH and Atomic Energy act regulates Radioactive Material

The EPA states that a hazardous waste is either specifically listed as a known hazardous waste or meets the characteristics of a hazardous waste. Listed wastes are wastes from common manufacturing and industrial processes, specific industries and can be generated from discarded commercial products. Characteristic wastes are wastes that exhibit any one or more of the following characteristic properties: ignitability, corrosivity, reactivity or toxicity.

A waste that has a hazardous component and a radioactive component is called a mixed waste.

Some examples of listed wastes are Acrolein (P003), Acetamide (P002), Allyl Alcohol (P005), Cyanides, Cyanogen Bromide (U246), and Urethane (U238)

The Characteristic Wastes are defined by:

### **Ignitability**

Wastes that are hazardous due to the ignitability characteristic include liquids with flash points below 60 °C, non-liquids that cause fire through specific conditions, ignitable compressed gases and oxidizers. EPA assigned D001 as the waste code for ignitable hazardous wastes.

### **Corrosivity**

Wastes that are hazardous due to the corrosivity characteristic include aqueous wastes with a pH of less than or equal to 2, a pH greater than or equal to 12.5 or based on the liquids ability to corrode steel. EPA assigned D002 as the waste code for i hazardous wastes.

### **Reactivity**

Wastes that are hazardous due to the reactivity characteristic may be unstable under normal conditions, may react with water, may give off toxic gases and may be capable of detonation or explosion under normal conditions or when heated. EPA assigned D003 as the waste code for reactive hazardous wastes.

### **Toxicity**

Wastes that are hazardous due to the toxicity characteristic are harmful when ingested or absorbed. Toxic wastes present a concern as they may be able to leach from waste and pollute groundwater. The toxicity of a waste is determined by the Toxicity Characteristic Leaching

Procedure (TCLP) (SW-846 Test Method 1311). EPA assigned wastes codes D004 through D043 that correspond to a contaminant and its associated TCLP concentration.

### **How is Hazardous Waste Controlled?**

By working with your knowledge of the chemicals in your lab and Brooklyn College's Environmental Health and Safety Department to avoid environmental damage and protect safety and health. The EPA and NYS DEC has set up regulations for the disposal and "cradle to grave" tracking of hazardous waste.

- Gain further knowledge of the chemicals in your lab by using the associated Safety Data Sheets (SDS or MSDS). Determine whether your waste is hazardous.
- Follow all safe handling rules and procedures stated in the SDS, Chemical Hygiene Plan, CUNY Laboratory Safety Manual, and EPA Website.
- Always use personal protective equipment (PPE) when handling hazardous materials.
- Develop plans in case of an emergency within the lab. Work with your department's safety committee, EHS and Public Safety.
- Know that all people who handle hazardous waste and materials are responsible for complying with EPA regulations.
- Utilize satellite accumulation areas (SAA). The satellite accumulation provisions allow generators to accumulate up to 55 gallons of hazardous waste (or one quart of acute hazardous waste) in containers that are:
  - o at or near any point of generation, and
  - o under the control of the operator.
  - o Waste must be removed from SAA to Main Accumulation Area (MAA) after the containers are filled. Contact EHS for removal.

All generators must determine if their waste is hazardous and must oversee the ultimate fate of the waste. Furthermore, generators must ensure and fully document that the hazardous waste that they produce is properly identified, managed, and treated prior to recycling or disposal. The degree of regulation that applies to each generator depends on the amount of waste that a generator produces. Ultimately Brooklyn College uses a vendor to safely and compliantly transport the waste to a Treatment facility for final disposal.

EHS is always available to help with hazardous waste management. Please contact us at extension 5400 or 4268. You may also email us at [EHS@brooklyn.cuny.edu](mailto:EHS@brooklyn.cuny.edu).

For further information visit:

<https://www.epa.gov/hw/learn-basics-hazardous-waste>

<http://www.brooklyn.cuny.edu/web/about/offices/environmental-safety/labsafety.php>

<http://www.dec.ny.gov/chemical/8486.html>