

Waste Management Information

Dangerous Waste

- Chemical wastes including federally regulated “Hazardous Waste”
- Regulatory Information [WAC 173-303](#)
- Washington’s dangerous waste regulations most protective in the nation

Why Does It Matter

- Storm drains discharge directly into local lakes, streams, and rivers
- Wastewater treatment plants are not designed to remove chemicals
 - Laboratory chemicals and commercial products can pass through the treatment process and into the environment
 - Certain chemicals can upset the wastewater treatment process and result in raw sewage dumping into the environment
- Landfills can leak organic liquids and heavy metals into groundwater

The Past



Cuyahoga River - 1969

Timeline

- 1883 – First large chemical fire on the Cuyahoga River
- 1948 – Federal Water Pollution Control Act
- 1955 – Air Pollution Control Act
- 1963 – Clean Air Act (amended 1990)
- 1965 – Solid Waste Disposal Act
- 1969 – National Environmental Policy Act enacted after a large fire on the Cuyahoga River sparks national outcry
- 1970 – Environmental Protection Agency established
 - Earth Day established
 - Washington Department of Ecology established
- 1972 – Clean Water Act
- 1976 – Resource Conservation and Recovery Act
- 1978 – Love Canal makes national news
- 1980 – Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)(Amended and reauthorized, 1986)

Identifying Dangerous Waste

- Flammable liquids, flash point <60 C/140 F
 - Aqueous alcohol solutions <24% ABV* exempt
- Oxidizers and peroxides
- Flammable solids (e.g. metal powders) and explosives
- Halogenated organic solvents
- Corrosive liquids and solids (pH ≤ 2 or $12.5 \geq$)
- Pyrophoric and water reactive materials
- Compressed gasses (all)
- Heavy metals (Ag, As, Cd, Cr, Hg, Pb, Se)
- Toxicity
 - Oral rat LD:50 <5,000 mg/kg
 - Fish LC:50 < 10 mg/L
 - Inhalation rat LC:50 <200 mg/L
 - Dermal rabbit LD:50 <20,000 mg/kg
 - Any substance at or above the concentration listed at WAC 173-303-090(8)(c)

*ABV = Alcohol by volume

Products of Concern

- Antiseptics and disinfectants
- Herbicides, fungicides, nematocides, rodenticides and insecticides
- Dyes, pigments, glazes, inks, thinners, and paints
- Etching solutions
- Commercial cleaners and metal polishing compounds
- Pyrotechnics, including road flares
- Drain and oven cleaners

Recycling and Special Wastes

- Used oil and antifreeze
- Paint, varnish, and paint related materials (e.g. paint thinner and stripper)
- Adhesives
- Spent batteries
- Spent fluorescent, UV, and metal halide lamps
- Mercury containing instruments

Contact EH&S for assistance with these items.
Never discard them in the trash or drain

Other Wastes of Concern

- BSL-1/2/3 organisms – Deactivate or sterilize before discarding
- Broken glass and sharps – Dispose in appropriate containers
- Human body fluids, body fluid contaminated items, and tissues
- Animal carcasses and tissue – Consult EH&S

Accumulating Dangerous Waste

- Identify appropriate location(s)
 - Safe from damage or upset
 - Doesn't impede work
 - Readily and unimpeded access
 - Secure when the lab/workspace is unattended
- Waste Containers
 - Impervious to intended contents
 - Tight fitting cap/lid
 - Undamaged
 - Labeled upon first addition of waste
 - Keep exterior clean
 - Keep tightly capped except when actively adding waste

- Waste compatibility and suitability
 - Combine only wastes which will not react with other constituents
 - Leave at least one inch of headspace in containers
 - Do not place solid objects in narrow-mouth vessels
 - Do not place wastes which may cause overpressure in tightly sealed containers
 - Do not combine mercury bearing wastes with any other waste

Removing Waste From Your Work Area

- Dangerous waste must be removed within three days once the container is filled
- Consult your departmental representative for instructions
- Contact EH&S if your department does not have a designated representative

Trash

- You may discard the following materials in the trash*
 - Sugars, agars, gums, amino acids, and inert solids such as talc, and dry resins and filter media
 - Dry wipes, bench papers and mats, empty containers, unbroken glassware, pipette tips, and weighing papers and boats , dry resins and filter media

*No free flowing liquids or items contaminated with Ag, As, Ba, Cd, Cr, Hg, or Se

Drain Disposal

- You may dispose the following materials in the sink*
 - Aqueous solutions containing buffers and salts (less than 10% by weight)
 - Neutralized inorganic acids and bases (pH 5 – 9)
 - Blood and other body fluids
 - Flowable aqueous gels, nutrient broths and agars
 - Spent formalin solutions
 - Used neutral pH cleaning solutions and “dishwater” from glassware cleaning

*No Ag, As, Ba, Cd, Cr, Cu, Hg, Se, or Zn

Support

Contact Environmental Health and Safety for assistance with

- Waste collection and disposal
- Chemical and commercial product safety and environmental information
- General and workplace safety concerns

527-5966 or ehs@whitman.edu

The Present



Cuyahoga River Today

You decide the future