

## COMMON HAZARDOUS WASTES and CHARACTERISTICS

EH&S prepared this list for Columbia University laboratories to reference for the most commonly generated laboratory chemical wastes and the EPA hazard characteristic(s) that apply. This is intended to aid laboratories in making an accurate hazardous waste determination by identifying relevant hazard characteristics so the appropriate check box(es) can be indicated on the CHEMICAL/HAZARDOUS WASTE label.

Waste Category	Common Examples	Specific Examples	Additional Guidance
<b>Ignitable</b>	Alcohols	<ul style="list-style-type: none"> <li>• Butanol</li> <li>• Ethanol</li> <li>• Isopropanol</li> <li>• Methanol</li> <li>• Propanol</li> </ul>	Non-aqueous liquids with a flash point <140°F
	Ethers and ketones	<ul style="list-style-type: none"> <li>• Acetone</li> <li>• Benzene</li> <li>• Ethyl ether</li> <li>• Toluene</li> <li>• Xylene</li> </ul>	
	Metals (alkali metals)	<ul style="list-style-type: none"> <li>• Aluminum, finely powdered</li> <li>• Lithium</li> <li>• Potassium</li> <li>• Sodium</li> </ul>	Flammable solids, metal shavings or fine powders that can cause a fire through friction or absorption of moisture
	Alkanes, alkenes, alkynes, arenes	<ul style="list-style-type: none"> <li>• Acetylene</li> <li>• Butane</li> <li>• Ethane</li> <li>• Methane</li> <li>• Propane</li> </ul>	Ignitable compressed gases (contains a mixture of <13% with air that forms a flammable mixture)
	Hydrides, metals, alkali metals, amides	<ul style="list-style-type: none"> <li>• Butyl lithium hydride</li> <li>• Nitrocellulose, dry or plasticized</li> <li>• Lithium aluminum hydride</li> <li>• Magnesium Powdered</li> <li>• Sodium amide, deteriorated</li> <li>• Picric acid, dry</li> </ul>	Pyrophoric, water reactive or explosive materials
<b>Corrosive</b>	Inorganic and organic acids including oxidizing acids	<ul style="list-style-type: none"> <li>• Acetic acid</li> <li>• Hydrochloric acid</li> <li>• Hydrofluoric acid</li> <li>• Nitric acid</li> </ul>	Inorganic and organic acids and bases. Aqueous solutions with a $\text{pH} \leq 2$ or $\geq 12.5$ . Liquids that corrode steel.
	Inorganic and organic bases including hydroxides and amines	<ul style="list-style-type: none"> <li>• Potassium hydroxide</li> <li>• Sodium hydroxide</li> <li>• Trimethyl amine</li> </ul>	

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<b>Toxic</b>	Halogenated and nonhalogenated solvents	<ul style="list-style-type: none"> <li>• Benzene</li> <li>• Cresol</li> <li>• Cyclohexanone</li> <li>• Ethyl benzene</li> <li>• Methanol</li> <li>• Methylene chloride</li> <li>• Methyl ethyl ketone</li> <li>• Methyl isobutyl ketone</li> <li>• Pentachlorophenol</li> <li>• Pyridine</li> <li>• Tetrachloroethylene</li> <li>• Vinyl chloride</li> <li>• Xylene</li> </ul>	Volatile organic compounds including many solvents
	Heavy metals	<ul style="list-style-type: none"> <li>• Arsenic</li> <li>• Barium</li> <li>• Cadmium</li> <li>• Chromium</li> <li>• Lead</li> <li>• Mercury</li> <li>• Silver</li> <li>• Selenium</li> </ul>	
	Cyanides and salts, organophosphorous compounds, warfarin and salts when >0.3%, unused organic solvents	<ul style="list-style-type: none"> <li>• Acrolein</li> <li>• Arsenic compounds</li> <li>• Cyanide compounds</li> <li>• Fluorine</li> <li>• Formic acid</li> <li>• Formaldehyde</li> <li>• Hydrogen cyanide</li> <li>• Lead compounds</li> <li>• Malic anhydride</li> <li>• Nickel carbonyl</li> <li>• Nicotine</li> <li>• Nitric oxide</li> <li>• Osmium oxide</li> <li>• Osmium tetroxide</li> <li>• Phenol</li> <li>• Pyridine</li> <li>• Phosgene</li> <li>• Phosphine</li> <li>• Sodium azide</li> <li>• Thallium oxide</li> <li>• Thiophenol</li> </ul>	Acutely toxic and toxic materials
	tri-, tetra-, pentachlorophenol	<ul style="list-style-type: none"> <li>• Aldrin</li> <li>• Endrin</li> <li>• Parathion</li> <li>• Toxaphene</li> </ul>	Pesticides

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<b>Reactive</b>	See above examples under ignitable, water reactive, pyrophoric or explosive materials		Pyrophoric, water reactive or explosive materials.
	Cyanides, sulfide generating compounds	<ul style="list-style-type: none"> <li>• Hydrogen cyanide</li> <li>• Hydrogen sulfide</li> </ul>	Unstable items that reacts violently with air or when mixed with water, resulting in an explosion or generation of toxic gases, including cyanides or sulfide generating waste when exposed to pH conditions between 2 and 12.5
<b>Oxidizer</b>	Chlorates, perchlorates, dichromates, permanganates, nitrates, inorganic hypochlorites	<ul style="list-style-type: none"> <li>• Activated carbon, finely powdered</li> <li>• Aluminum permanganate</li> <li>• Ammonium nitrate</li> <li>• Lead perchlorate</li> <li>• Silver nitrate</li> <li>• Uranyl nitrate</li> </ul>	Yields oxygen readily to support combustion
	Inorganic or organic peroxides	<ul style="list-style-type: none"> <li>• Dibenzoyl peroxide</li> <li>• Dicumyl peroxide</li> <li>• Methyl ethyl ketone peroxide</li> <li>• Peroxyacetic acid</li> <li>• Tert-butyl hydroperoxide</li> </ul>	Peroxides