

	Environmental Health and Safety Office	Waste Container Compatibility
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Chemical wastes that are incompatible should not be mixed, stored together, or placed in the same container. Similarly, containers used for waste collection must be compatible with the waste and must not contain residues of incompatible materials.

The following table shows several chemical categories and compatible container types:

Chemical Category	Container Type
Mineral Acids	Plastic
Bases	Plastic
Oxidizers	Glass
Organic, including acetic acid	Glass

Take special care in choosing containers for the following wastes:

- **Nitric Acid:** Reacts with organics (including acetic acid) to produce heat and gas. If product containers for organics are used to collect nitric acid, be sure to rinse thoroughly to avoid over-pressurization and subsequent burst of the container.
- **Perchloric Acid and Organic Peroxides:** Highly reactive with organics and organic material, such as wood. May also react with metals.
- **Hydrofluoric Acid:** Dissolves glass containers

The following lists some specific chemicals which are incompatible with other compounds. Contact between these materials must be avoided as an explosion, toxic fumes, or other hazards may result.

COMPOUND(S) INCOMPATIBLE WITH:

Acetic acid	chromic acid, nitric acid, ethylene glycol, perchloric acid, peroxides and permanganates
Acetone	concentrated sulfuric and nitric acid mixtures
Acetylene	copper tubing, fluorine, bromine, chlorine, iodine, silver, mercury
Ammonia	anhydrous mercury, halogens, calcium hypochlorite, hydrogen fluoride (HF)
Ammonium nitrate	acids, metal powders, flammable liquids, chlorates, nitrates, sulfur, finely divided organics or combustibles
Aniline	nitric acid, hydrogen peroxide
Arsenic compounds	any reducing agent
Azides	acids
Bromine	ammonia, acetylene, butadiene, butane, hydrogen, sodium carbide, turpentine, finely divided metals
Calcium	water, carbon dioxide, carbon tetrachloride, and chlorinated hydrocarbons
Carbon, activated	calcium hypochlorate, all oxidizing agents
Chlorates	ammonium salts, acids, metal powders, sulfur, finely divided organics or combustibles, carbon
Chromic acid	acetic acid, naphthalene, camphor, alcohol, glycerine, turpentine, alkalis, other flammable liquids
Chlorine Dioxide	ammonia, methane, phosphine, hydrogen sulfide

Chlorine	ammonia, acetylene, butadiene, benzene, petroleum fractions, hydrogen, sodium carbide, turpentine, and finely divided metal powders
Copper	acetylene, hydrogen peroxide
Cyanides	acids and alkalis (bases)
Flammable Liquids	ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, halogens
Fluorine	isolate from everything
Hydrazine	hydrogen peroxide, nitric acid, all oxidizers
Hydrocarbons	fluorine, chlorine, bromine, chromic acid, peroxide
Hydrocyanic acid	nitric acid, alkalis
Hydrofluoric acid	ammonia, alkalis
Hydrogen Sulfide	fuming nitric acid, oxidizing gases
Hypochlorites	acids, activated carbons
Iodine	acetylene, ammonia, hydrogen
Mercury	sulfuric acid
Nitric acid	acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulfide, flammable liquids, flammable gases, copper, brass, heavy metals,
Nitrites	acid
Nitroparaffins	inorganic bases, amines
Oxalic acids	silver, mercury
Oxygen	oils, grease, hydrogen, flammable liquids, solids or gases
Perchloric Acid	acetic anhydride, bismuth, alcohol, paper, wood, oil and grease
Peroxides, organic	acids, friction, heat, sparks
Phosphorous, white	air, oxygen, alkalis, reducing agents
Phosphorous pentoxide	water
Potassium	carbon tetrachloride, carbon dioxide, water
Potassium chlorate	sulfuric and other acids
Potassium perchlorate	sulfuric and other acids (see Chlorates also)
Potassium permanganate	glycerol, ethylene glycol, benzaldehyde, sulfuric acid
Selenides	reducing agents
Silver	acetylene, oxalic acid, tartaric acid, ammonium compounds, fulminic acid
Sodium	carbon tetrachloride, carbon dioxide, water
Sodium nitrite	ammonium nitrate and other ammonium salts
Sodium peroxide	ethyl or methyl alcohol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerin, ethylene glycol, ethyl or methyl acetate, furfural
Sulfides	acids
Sulfuric Acid	potassium (sodium or lithium) chlorate, perchlorate, or permanganate
Tellurides	reducing agents

All laboratory faculty and instructors must ensure the proper identification and compatibility of chemicals, wastes, and storage containers. Faculty is required to instruct their undergraduate and graduate students in proper chemical management and waste disposal practices in accordance with the BSU Chemical Hygiene Plan.