

## Chemical Compatibility Table

Substances in the left column should be stored and handled so that they cannot come in contact with corresponding substances in the right column. Liquid reagents must be in secondary containment large enough to hold the total volume of all substances in the containment.

For additional information: Ray Fort (rcfort@maine.edu) or the Cole-Parmer Chemical Compatibility web site:  
<http://www.coleparmer.com/techinfo/ChemComp.asp>.

Do not store this	with this
Acetic acid	Oxidizers: chromic acid, nitric acid, sulfuric acid, permanganates, peroxides
Acetic anhydride	Oxidizers, as above; alcohols, glycols, water
Acetone	Oxidizers, as above; hydrogen peroxide; strong base
Acetylene	Halogens; metals or metal ions, such as copper, silver, mercury
Alkali metals	Carbon dioxide; chlorinated compounds like CCl <sub>4</sub> ; water
Ammonia (anhydrous)	Mercury; halogens; oxidizing agents as above
Ammonium nitrate	Acids; metal powders; reducing agents, including flammables and combustibles; sulfur
Aniline	Oxidizing agents, as above
Arsenates	Reducing agents
Azides	Acids
Bromine	Ammonia, acetylene; alkenes and polyenes; powdered metals;
Carbon, activated	Oxidizing agents
Chlorates	Acids, metal powders; reducing agents, including flammables and combustibles
Chromic acid; chromium trioxide	All reducing agents, including flammables and combustibles; organic solvents
Chlorine	See Bromine
Chlorine dioxide	Ammonia; all reducing agents, including flammables and combustibles
Copper	Acetylene; hydrogen peroxide, other peroxides

Cyanides	Acids
Flammable liquids	All strong oxidizing agents, halogens
Fluorine	<b>Storage not permitted</b>
Hydrazine	All strong oxidizers, esp. hydrogen peroxide
Hydrocarbons, flammable	All strong oxidizers; halogens
Hydrofluoric acid	<b>Storage not permitted</b>
Hydrogen peroxide	Metals and metal salts; flammables and combustibles; aromatic amines; <b>discard after three months</b>
Hydrogen sulfide	All strong oxidizers
Hypochlorites	Acids, activated carbon; strong reducing agents
Iodine	Acetylene; ammonia, anhydrous or aqueous
Mercury	Acetylene; nitric acid; ammonia
Nitrates	Acids; all reducing agents and flammables
Nitric acid (concentrated)	All organics; all flammables; chromic acid; hydrohalic acids; hydrogen sulfide
Nitrites	Acids; strong oxidizers; strong reducing agents
Nitroalkanes	Strong base; amines
Oxalic acid	Silver and silver salts; mercury and mercury salts; strong oxidizing agents
Oxygen	All flammable and combustible organics, including oil and grease
Perchloric acid	All organics; all metals except stainless steel
Peroxides (organic)	Acids; heat; friction and shock
Phosphorus (white)	Air; oxygen
Potassium	Organic halides; water; alcohols of three carbons or fewer; CO <sub>2</sub>
Potassium perchlorate	See Perchloric acid
Potassium permanganate	Glycerol, other polyols; low MW aldehydes; sulfuric acid
Selenides	Reducing agents (produce H <sub>2</sub> Se)
Silver, silver salts	Acetylene; dicarboxylic acids; ammonium salts
Sodium	See potassium
Sodium peroxide	All oxidizable organics
Sulfuric acid	Easily oxidizable organics; hydrohalic acids; chlorates and perchlorates; permanganates