

HAZARDOUS MATERIALS

Incompatible Chemical Storage

Source: Keenan & Associates

Proper Storage information can be obtained from Section 7 of the Safety Data Sheet (SDS). As required by CCR, Title 8, Section 5194 and 29 Code of Federal Regulations (CFR) 1910.1200, an SDS must be on hand for every hazardous chemical in your workplace.

For ease of locating chemicals, many storerooms organize chemicals alphabetically. However, chemical storage based upon an alphabetical arrangement of chemicals may inadvertently locate incompatible materials in close proximity to one another.

Chemical	Should Not Be Mixed or Stored With
Acetic Acid	Chromic acid, nitric acid, hydroxyl compounds, ethylene glycol, perchloric acid, peroxides, permanganates
Acetylene	Chlorine, bromine, copper, fluorine, silver, Mercury
Acetone	Concentrated nitric and sulfuric acid mixtures
Alkali and alkaline earth metals (such as powdered aluminum or magnesium, calcium, lithium, sodium, potassium)	Water, carbon tetrachloride or other chlorinated hydrocarbons, carbon dioxide, halogens
Ammonia (anhydrous)	Mercury, chlorine, calcium hypochlorite, iodine, bromine, hydrofluoric acid
Ammonium nitrate	Acids, powdered metals, flammable liquids, chlorates, nitrates, sulfur, finely divided organic or combustible materials
Aniline	Nitric acid, hydrogen peroxide
Azides	Acids
Bromine	See Chlorine
Calcium oxide	Water
Carbon (activated)	Calcium hypochlorite, all oxidizing agents
Carbon tetrachloride	Sodium
Chlorates	Ammonium salts, acids, powdered metals, sulfur, finely divided organic or combustible material
Chromic acid and chromium trioxide	Acetic acid, naphthalene, camphor, glycerol, alcohol, flammable liquids
Chlorine	Ammonia, acetylene, butadiene, butane, methane, propane (or other petroleum gases), hydrogen, sodium carbide, benzene, turpentine
Chlorine dioxide	Ammonia, methane, phosphine, hydrogen
Copper	Acetylene, hydrogen peroxide

This information on the Risk Advisor website is intended to assist Keenan clients in identifying and reducing certain loss exposures. It is not possible for us to identify all potential sources of liability or to offer a fail-safe mechanism for dealing with them. Keenan offers no guarantee that clients will recognize any financial savings or improved loss experience as a result of the information and suggestions presented here.

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Cyanides	Acids
Fluorine	EVERYTHING
Hydrocarbons (butane, propane, benzene)	Fluorine, chlorine, bromine, chromic acid, sodium peroxide
Hydrocyanic acid	Nitric acid, alkali
Hydrofluoric acid	Ammonia
Hydrogen peroxide	Copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, aniline, nitromethane, combustible materials
Hydrogen sulfide	Fuming nitric acid (>60% conc.), oxidizing gases
Hypochlorites	Acids, activated carbon
Iodine	Acetylene, ammonia, hydrogen
Mercury	Acetylene, fulminic acid, ammonia
Nitrates	Sulfuric acid
Nitric acid	Acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulfide, flammable liquids, flammable gases, copper, brass, any heavy metals
Nitrites	Acids
Oxalic acid	Silver, mercury
Oxygen	Oils, grease, hydrogen, flammable liquids, solids or gases
Perchloric acid	Acetic anhydride, bismuth and its alloys, alcohol, paper, wood, grease, oils
Peroxides, organic	Acids, avoid friction, store cold
Phosphorus (white)	Air, oxygen, alkalis, reducing agents
Potassium	Carbon tetrachloride, carbon dioxide, water
Potassium chlorate	Sulfuric and other acids
Potassium perchlorate	Sulfuric and other acids
Potassium permanganate	Glycerol, ethylene glycol, benzaldehyde, sulfuric acid
Silver	Acetylene, oxalic acid, tartaric acid, ammonium compounds, fulminic acid
Sodium	Carbon tetrachloride, carbon dioxide, water
Sodium nitrate	Ammonium nitrate and other ammonium salts
Sodium peroxide	Ethyl or methyl alcohol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerin, ethylene glycol, ethyl acetate, methyl acetate, furfural
Sulfides	Acids
Sulfuric acid	Potassium chlorate, potassium perchlorate, potassium permanganate

General Incompatibilities by Chemical Groups

Acids	Alkalines, Combustibles, Flammables, Cyanides, Nitrates and Reactive Sulfides
Oxidizers	Organics
Nitrates	Acids
Ammoniated Compounds	Hypochlorites/Bleach
Organic Nitrates	Perchlorates/Oxidizers/Metals