



UMBC

Incompatibility Cheat Sheet

Acetic acid - Chromic acid, nitric acid, hydroxyl compounds, ethylene glycol, perchloric acid, peroxides, permanganates, ammonium nitrate

Acetic anhydride - Hydroxyl-containing compounds such as ethylene glycol, perchloric acid

Acetone - Concentrated nitric and sulfuric acid mixtures

Acetaldehyde - Acetic acid, acetic anhydride

Acetylene - Chlorine, bromine, copper, fluorine, silver, mercury

Acrolein - Ammonia(aqueous), any alkali or amine, strong oxidizing agents

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.

Aluminum metal - Ammonium nitrate, antimony trichloride, bromate

Ammonia (anhydrous) - Mercury (in manometers, for example), chlorine, calcium hypochlorite, iodine, bromine, hydrofluoric acid (anhydrous)

Ammonium nitrate - Acids, powdered metals, flammable liquids, chlorates, nitrites, sulfur, finely divided organic combustible materials

Aniline - Nitric acid, hydrogen peroxide, strong acids, oxidizers

Arsenic materials - Any reducing agent

Azides - Acids

Bromine - Ammonia, acetylene, butadiene, butane, methane, propane (or other petroleum gases), hydrogen, sodium carbide, benzene, finely divided metals, turpentine

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 materials

Chromic acid and chromium trioxide - Acetic acid, naphthalene, camphor, glycerol, alcohol, flammable liquids in general

Chlorine - Ammonia, acetylene, butadiene, butane, methane, propane (or other petroleum gases), hydrogen, sodium carbide, benzene, finely divided metals, turpentine

Chlorine dioxide - Chlorine Ammonia, methane, phosphine, hydrogen sulfide

Copper - Acetylene, hydrogen peroxide

Cumene hydroperoxide - Acids (organic or inorganic)

Cyanides - Acids

Flammable liquids - Ammonium nitrate, chromic acid, HCl, hydrogen peroxide, nitric acid, sodium peroxide, halogens

Fluorine - All other chemicals

Hydrazine - Hydrogen peroxide, nitric acid, any other oxidant

Hydrocarbons - Fluorine, chlorine, bromine, chromic acid, peroxides, sodium peroxide

Hydrocyanic acid - Nitric acid, alkalis

Hydrofluoric acid (anhydrous), hydrogen fluoride -Ammonia (aqueous or anhydrous)

Hydrogen peroxide - Copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, aniline, nitromethane, combustible materials, ferrous sulfide

Hydrogen sulfide - Fuming nitric acid, oxidizing gases

Hypochlorites - Acids, activated carbon

Iodine - Acetylene, ammonia (aqueous or anhydrous), hydrogen

Mercury - Acetylene, fulminic acid*, ammonia

Methanol -Lead perchlorate, mercury nitrate

Nitrates - Sulfuric acid

Nitric acid (concentrated) -Acids: acetic,chromic, hydrocyanic Flammable liquids:acetone, alcohol Flammable gases: H2S Heavy metals: any, copper, brass

Nitrites - Acids

Nitroparaffins - Inorganic bases, amines

Oxalic acid - Silver, mercury and their salts

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 (organic or mineral) avoid friction, store cold

Phosphorus (white) - Air, oxygen, alkalis, reducing agents

Phosphorus pentoxide - Alcohols, strong bases, water

Potassium - Carbon tetrachloride, carbon dioxide, water

Potassium chlorate - Sulfuric and other acids, ammonium salts, metal powders, combustibles

Potassium nitrite - Potassium cyanide(if heated)

Potassium perchlorate - Acids, Acetic anhydride, bismuth and its alloys, alcohol, paper, wood, grease, oils Selenides - Reducing agents

Sodium Azide - Heavy Metals: Lead, Copper

Sodium - Water, carbon tetrachloride or other chlorinated hydrocarbons, carbon dioxide, halogens, sulfur

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 acetate, methyl acetate, furfural

Sulfides -Acids

Sulfur -Silver Oxide

Sulfuric acid - Chlorates, perchlorates, permanganates and their compounds with potassium/sodium/lithium

Tellurides - Reducing Agents