Safety in the Laboratory: Incompatible Materials

Chemical	Chemicals Incompatible With
Acetic Acid	Nitric acid, peroxides, permanganates, ethylene glycol, hydroxyl compounds, perchloric acid, or chromic acid
Acetone	Concentrated sulfuric and nitric acid
Acetylene	Bromine, chlorine, fluorine, copper, silver, mercury and their compounds.
Alkali metals (powdered aluminum or magnesium)	Carbon tetrachloride, or other chlorinated hydrocarbons, water, halogens, carbon dioxide.
Ammonia, anhydrous	Mercury, hydrogen fluoride, calcium hypochlorite, chlorine, bromine
Ammonium Nitrate	Acids, flammable liquids, metal powders, sulfur, chlorates, any finely-divided organic or combustible substance
Aniline	Nitric acid and hydrogen peroxide
Bromine, Chlorine	Ammonia, acetone, petroleum gases, hydrogen, sodium, benzene, finely-divided metals
Carbon, activated	Calcium hypochlorite and all oxidizing agents
Chlorates	Ammonium salts, acids, metal powders, sulfur, and finely-divided organic or combustible substances
Chromic Acid	Glacial acetic acid, camphor, glycerin, naphthalene, turpentine, lower molecular weight alcohols, and many flammable liquids
Copper	Acetylene and hydrogen peroxide
Flammable liquids	Ammonium nitrate, chromic acid, hydrogen peroxide, sodium peroxide, nitric acid, and the halogens
Hydrocarbons (propane, benzene, gasoline)	Fluorine, chlorine, bromine, sodium peroxide and chromic acid
Hydrofluoric Acid	Ammonia [aqueous or anhydrous]
Hydrogen Peroxide	Most metals and their salts, alcohols, organic substances, and flammable gases
Hydrogen Sulfide	Oxidizing gases, fuming nitric acid
Iodine	Acetylene, ammonia, hydrogen
Mercury	Acetylene, ammonia
Nitric Acid (concentrated)	Acetic acid, hydrogen sulfide, flammable liquids and gases. Chromic acid, aniline
Oxygen	Oils, grease, hydrogen; flammable liquids, solids and gases
Perchloric Acid	Acetic anhydride, bismuth and its alloys, alcohols, paper, wood, and other organic materials
Phosphorous Pentoxide	Water
Potassium Chlorate	Sulfuric and other acids, any organic material
Potassium Permanganate	Sulfuric acid, glycerine, ethylene glycol
Silver	Acetylene, ammonia compounds, oxalic acid, tartaric acid
Sodium Peroxide	Ethyl or methyl alcohol, glacial acetic acid, carbon disulfide, glycerine, ethylene glycol, ethyl acetate
Sulfuric Acid	Potassium chlorate, potassium perchlorate, potassium permanganate, similar compounds of other light metals