

Incompatible Chemicals List

A wide variety of chemicals react dangerously when mixed with certain other materials. Some of the more widely used incompatible chemicals are given below, but the absence of a chemical from this list should not be taken to indicate that it is safe to mix it with any other chemical.

- **acetic acid:** chromic acid, ethylene glycol, nitric acid, hydroxyl compounds, perchloric acid, peroxides, permanganates
- **acetone:** concentrated sulphuric and nitric acid mixtures
- **acetylene:** chlorine, bromine, copper, fluorine, silver, mercury
- **alkali and alkaline earth metals:** water, chlorinated hydrocarbons, carbon dioxide, halogens, alcohols, aldehydes, ketones, acids
- **aluminium (powdered):** chlorinated hydrocarbons, halogens, carbon dioxide, organic acids.
- **anhydrous ammonia:** mercury, chlorine, calcium hypochlorite, iodine, bromine, hydrofluoric acid
- **ammonium nitrate:** acids, metal powders, flammable liquids, chlorates, nitrites, sulphur, finely divided organic combustible materials
- **aniline:** nitric acid, hydrogen peroxide
- **arsenic compounds:** reducing agents
- **azides:** acids
- **bromine:** ammonia, acetylene, butadiene, hydrocarbons, hydrogen, sodium, finely-divided metals, turpentine, other hydrocarbons
- **calcium carbide:** water, alcohol
- **calcium oxide:** water
- **carbon, activated:** calcium hypochlorite, oxidizing agents
- **chlorates:** ammonium salts, acids, metal powders, sulphur, finely divided organic or combustible materials
- **chromic acid:** acetic acid, naphthalene, camphor, glycerin, turpentine, alcohols, flammable liquids in general
- **chlorine:** see bromine
- **chlorine dioxide:** ammonia, methane, phosphine, hydrogen sulphide
- **copper:** acetylene, hydrogen peroxide
- **cumene hydroperoxide:** acids, organic or inorganic
- **cyanides:** acids
- **flammable liquids:** ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, halogens
- **hydrocarbons:** fluorine, chlorine, bromine, chromic acid, sodium peroxide
- **hydrocyanic acid:** nitric acid, alkali
- **hydrofluoric acid:** aqueous or anhydrous ammonia
- **hydrogen peroxide:** copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, aniline, nitromethane, flammable liquids, oxidizing gases
- **hydrogen sulphide:** fuming nitric acid, oxidizing gases

- **hypochlorites:** acids, activated carbon
- **iodine:** acetylene, ammonia (aqueous or anhydrous), hydrogen
- **mercury:** acetylene, fulminic acid, ammonia
- **mercuric oxide:** sulphur
- **nitrate:** sulphuric acid
- **nitric acid (conc.):** acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulphide, flammable liquids, flammable gases
- **oxalic acid:** silver, mercury
- **perchloric acid:** acetic anhydride, bismuth and its alloys, ethanol, paper, wood
- **peroxides (organic):** acids, avoid friction or shock
- **phosphorus (white):** air, alkalies, reducing agents, oxygen
- **potassium:** carbon tetrachloride, carbon dioxide, water
- **potassium chlorate:** acids
- **potassium perchlorate:** acids
- **potassium permanganate:** glycerin, ethylene glycol, benzaldehyde, sulphuric acid
- **selenides:** reducing agents
- **silver:** acetylene, oxalic acid, tartaric acid, ammonium compounds, fulminic acid
- **sodium:** carbon tetrachloride, carbon dioxide, water
- **sodium nitrate:** ammonium salts
- **sodium peroxide:** ethanol, methanol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulphide, glycerin, ethylene glycol, ethyl acetate, methyl acetate, furfural
- **sulphides:** acids
- **sulphuric acid:** potassium chlorate, potassium perchlorate, potassium permanganate (or compounds with similar light metals, such as sodium, lithium, etc.)
- **tellurides:** reducing agents
- **zinc powder:** sulphur