

## Incompatible Chemicals

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A wide variety of chemicals react dangerously when mixed with certain other materials. Some of the more widely-used incompatible chemicals are listed 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.

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- **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 sulfide
- **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
- **nitrates:**  
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 nitrite:**  
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