



INCOMPATIBLE CHEMICALS

Topic:
Chemicals

Date:
09/09/2009

Page:
1 of 2

The most common incompatible chemicals are listed in the table below. However, the absence of a chemical from the list must not be taken as an indication that it can be safely mixed with other chemicals. You should be aware that the table is not exhaustive.

acetic acid	chromic acid, ethylene glycol, nitric acid, hydroxyl compounds, perchloric acid, peroxides, permanganates
acetone	concentrated sulfuric and nitric acid mixtures
acetylene	chlorine, bromine, copper, fluorine, silver, mercury
alkali and alkaline earth metals (such as powdered aluminium or magnesium, calcium, lithium, sodium, potassium)	water, carbon tetrachloride or other 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, nitrates, sulfur, 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, alcohols
calcium oxide	water
carbon, activated	calcium hypochlorite, oxidising agents
carbon tetrachloride	sodium
chlorates	ammonium salts, acids, metal powders, sulfur, finely-divided organic or combustible materials
chlorine	see bromine
chlorine dioxide	ammonia, methane, phosphine, hydrogen sulfide
chromic acid	acetic acid, naphthalene, camphor, glycerine, turpentine, alcohols, flammable liquids in general
copper	acetylene, hydrogen peroxide
cumene hydroperoxide	acids, organic or inorganic
cyanides	acids
fluorine	all other chemicals
flammable liquids	ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, halogens
hydrocarbons (such as butane, propane, benzene)	fluorine, chlorine, bromine, chromic acid, sodium peroxide
hydrocyanic acid	nitric acid, alkali
hydrofluoric acid	aqueous or anhydrous ammonia



INCOMPATIBLE CHEMICALS

Topic:
Chemicals

Date:
09/09/2009

Page:
2 of 2

hydrogen peroxide	copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, aniline, nitromethane, flammable liquids, oxidising gases
hydrogen sulfide	fuming nitric acid, oxidising gases
hypochlorites	acids, activated carbon
iodine	acetylene, ammonia (aqueous or anhydrous), hydrogen
mercury	acetylene, fulminic acid, ammonia
mercuric oxide	sulfur
nitrates	sulfuric acid
nitric acid (conc.)	acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulfide, flammable liquids, flammable gases, copper, brass, heavy metals
nitrites	acids
nitroparaffins	inorganic bases, amines
oxalic acid	silver, mercury
oxygen	oils, grease, hydrogen, flammable liquids, solids or gases
perchloric acid	acetic anhydride, bismuth and its alloys, ethanol, paper, wood, grease, oils
peroxides (organic)	acids, avoid friction or shock, store cold
phosphorus (white)	air, alkalis, reducing agents, oxygen
phosphorus pentoxide	water
potassium	carbon tetrachloride, carbon dioxide, water
potassium chlorate	acids
potassium perchlorate	acids
potassium permanganate	glycerine, ethylene glycol, benzaldehyde, sulfuric 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 disulfide, glycerine, ethylene glycol, ethyl acetate, methyl acetate, furfural
sulfides	acids
sulfuric acid	potassium chlorate, potassium perchlorate, potassium permanganate (or compounds with similar light metals, such as sodium, lithium, etc.)
tellurides	reducing agents
water	acetyl chloride, alkaline and alkaline earth metals, their hydrides and oxides, barium peroxide, carbides, chromic acid, phosphorus oxychloride, phosphorus pentachloride, phosphorus pentoxide, sulfuric acid, sulfur trioxide
zinc powder	sulfur