

Peroxidizable Compounds

Many common laboratory chemicals can form peroxides during extended storage after exposure to light and air. Some compounds form peroxides that are violently explosive in concentrated solutions or in solids. Such compounds should never be evaporated to dryness. Others are polymerizable unsaturated compounds that form peroxides which can initiate a runaway, explosive polymerization reaction. The following is a list of typical compounds in each of these three categories. It is not an inclusive list. Be sure to consult individual chemical safety information to determine if a chemical not on this list has a peroxide formation hazard.

Category I: Peroxide hazard on storage

Isopropyl ether	Divinyl ether
Potassium metal	Potassium amide
Sodium amide (sodamide)	Vinylidene chloride

Category II: Peroxide hazard on concentration (either through distillation or evaporation)

Dioxane	Ethyl ether
Tetrahydrofuran	Acetal
Cumene	Cyclohexane
Cyclopentene	Diacetylene
Dicyclopentadiene	Ethylene glycol dimethyl ether
Furan	Methyl acetylene
Methyl cyclopentane	Methyl-i-butyl ketone
Tetrahydronaphthalene	Vinyl ethers

Category III: Hazards due to peroxide initiation of polymerization

Butadiene	Chlorobutadiene (chloroprene)
Chlorotrifluoroethylene	Styrene
Tetrafluoroethylene	Vinyl acetate
Vinyl acetylene	Vinyl chloride
Vinyl pyridine	