

USF EH&S Guidelines for Storage of Peroxide-Forming & Time-Sensitive Chemicals

Many chemicals found in the research laboratory can become unstable or may form explosive compounds over a period of time. The following list will assist you in identifying time-sensitive chemicals present in your laboratory and help you to effectively and safely manage the risks associated with those chemicals.

All time-sensitive chemicals should be immediately marked with an expiration date upon receipt and listed on the laboratory chemical inventory to ensure timely disposal. If an expired chemical is discovered in the lab, mark the container for pickup and contact the Environmental Health and Safety Office Hazardous Waste Program.

Containers should be inspected periodically to verify their condition. Signs of peroxide formation include: crystal formation in the container, discoloration of liquids, or a "mossy" appearance around the cap. If suspect materials are recognized, **do not** handle the container. Particularly, do not attempt to remove the cap. If explosive crystals have formed around the cap, the friction created by the unscrewing of the cap may be enough to detonate the compounds. Move others from the area and contact the EH&S office immediately.

Peroxide Hazard on Storage-Discard After Three (3) Months	
Divinyl acetylene	Potassium metal
Divinyl ether	Sodium amide
Isopropyl ether	Vinylidene chloride
Potassium amide	
Peroxide Hazard on Concentration-Discard After One (1) Year	
Acetal	Ethylene glycol dimethyl ether (glyme)
Cyclohexane	Furan
Cyclooctene	Metal acetylene
Cyclopentene	Methyl cyclopentane
Cumene	Methyl-i-butyl ketone
Diacetylene	Tetrahydrofuran
Dicyclopentadiene	Tetrahydronaphthalene
Diethylene glycol dimethyl ether (diglyme)	t-Butyl alcohol
Dioxane	Vinyl ethers
Ethyl ether	

Hazardous to Peroxide Initiation of Polymerization-Discard After One (1) Year	
Acrylic acid	Styrene
Acrylonitrile	Tetrafluoroethylene
Butadiene	Vinyl acetate
Chlorobutadiene (Chloroprene)	Vinyl acetylene
Chlorotrifluoroethylene	Vinyl chloride
Dibenzocyclopentadiene	Vinyl pyridine
Methyl methacrylate	Vinylidene Chloride
Other Time-Sensitive Chemicals	
Chloroform (on contact with air)	Sodium azide (on contact with metals)
Picric acid (when dry)	Picrylsulfonic acid (when dry)
Picryl Chloride (when dry)	

Please contact the Environmental Health and Safety Office if you need clarification on this or any other chemical safety or hazardous waste procedures.

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