

Appendix A: Time-Sensitive Chemical Lists

List A: Chemicals that form explosive levels of peroxides without concentration (3 months)¹		
Butadiene ² (106-99-0)	Isopropyl Ether (108-20-3)	Tetrafluoroethylene ² (116-14-3)
Chloroprene ² (126-99-8)	Potassium Metal (7440-09-7)	Vinylidene Chloride (75-35-4)
Divinyl Acetylene (821-08-9)	Sodium Amide (7782-92-5)	
List B: Chemicals that form explosive levels of peroxides on concentration (12 months)¹		
1,1-Dimethoxymethane (109-87-5)	Benzyl alcohol (100-51-6)	Di-n-propoxymethane (505-84-0)
1,2-Epoxy-3-isopropoxy propane (4016-14-2)	Benzyl n-butyl Ether (588-67-0)	1,4-Dioxane (123-91-1)
1,2-Dibenzoyloxyethane (622-22-0)	Benzyl Ether (103-50-4)	Diethyl Ether (60-29-7)
1-Phenylethanol (98-85-1)	Benzyl Ethyl Ether (539-30-0)	Ethylene Glycol Dimethyl Ether (110-71-4)
2-Butanol (78-92-2)	Benzyl 1-naphthyl Ether (607-58-9)	Isoamyl Ether (544-01-4)
2-Hexanol (626-93-7)	Cumene (98-82-8)	Isophorone (78-59-1)
2-Methyl-1-butanol (137-32-6)	Cyclohexene (110-83-8)	Methyl Isobutyl Ketone (108-10-1)
2-Penten-1-ol (1576-95-0)	Cyclooctane (292-64-8)	Methyl Acetylene (74-99-7)
2-Phenylethanol (60-12-8)	Decahydronaphthalene (91-17-8)	Methylcyclopentane (96-37-7)
2-Propanol (67-63-0)	Diacetylene (460-12-8)	Other secondary alcohols (N/A)
4-Heptanol (589-55-9)	Diallyl Ether (557-40-4)	p-Dibenzoyloxybenzene (621-91-0)
4-Methyl-2-pentanol (108-11-2)	Dicyclopentadiene (77-73-6)	p-Isopropoxypropionitrile (110-47-4)
4-Penten-1-ol (821-09-0)	Diethoxymethane (462-95-3)	Tetrahydrofuran (109-99-9)
Acetal (105-57-7)	Diethyl acetal isoamyl benzyl ether (N/A)	Tetrahydronaphthalene (119-64-2)
Acetaldehyde (75-07-0)	Diethylene Glycoldimethyl Ether (diglyme) (111-96-6)	Vinyl Ethers (N/A)
Allyl Ether (557-40-4)	Dimethoxymethane (109-87-5)	
List C: Chemicals that may autopolymerize as a result of peroxide accumulation (12 months)^{1,3,4}		
Acrylic Acid (79-10-7)	Methyl Methacrylate (80-62-6)	Vinyl Chloride (75-01-4)
Acrylonitrile (107-13-1)	Styrene (100-42-5)	Vinylidene chloride (75-35-4)
Butadiene ² (106-99-0)	Tetrafluoroethylene ² (116-14-3)	2-Vinyl Pyridine (100-69-6)
Chloroprene ² (126-99-8)	Vinyl Acetate (108-05-4)	4-Vinyl Pyridine (100-43-6)
Chlorotrifluoroethylene (79-38-9)	Vinyl Acetylene (689-97-4)	
List D: Other Time-sensitive Chemicals (varies)⁵		
Acetylene (74-86-2)	Ethylene oxide (75-21-8)	Nitrogen triiodide (13444-85-4)
Ammonium Nitrate (6484-52-2)	Germanium (7440-56-4)	Nitrogen trichloride (10025-85-1)
Ammonium Perchlorate (7790-98-9)	Hexanitrodiphenylamine (131-73-7)	Nitroglycerin (55-63-0)
Ammonium Picrate (131-74-8)	Hexanitrostilbene (20062-22-0)	Nitrolycol (628-96-6)
Calcium Nitrate (10124-37-5)	Hydrazine (302-01-2)	Nitroguanidine (556-88-7)
Chloroform (67-66-3)	Hydrazoic acid (7782-79-8)	Nitrourea (556-89-8)
Dinitrotoluene (121-14-2)	Hydrogen Compound Gases (NA)	Perchloric acid (7601-90-3)
Dinitrophenol (51-28-5)	Lead styphnate (15245-44-0)	Picric acid (88-89-1)

- Safe storage periods are given for an open container of each class of peroxidizable material. Unopened containers from the manufacturer have a safe storage period of 12 months.
- When stored in liquid form these chemicals may form explosive levels of peroxides without concentration. When stored as a gas, these chemicals may autopolymerize as a result of peroxide accumulation.
- If chemical from List C is inhibited, do not store under an inert atmosphere. Oxygen is required for inhibitor to function.
- Uninhibited chemicals from List C have a safe storage period of 24 hours.
- Please refer to the Time-sensitive Chemicals guide for more details on safe storage and shelf life.