

## APPENDIX B

### CHEMICALS THAT CAN FORM PEROXIDES UPON AGING\*

**Class A:** Chemicals that form explosive levels of peroxides without concentration.

**Organic:**

Butadiene  
Chlorobutadiene (Chloroprene)  
Divinyl ether  
Divinyl acetylene  
Isopropyl ether  
Tetrafluoroethylene  
Vinylidene chloride

**Inorganic**

Potassium amide  
Potassium metal  
Sodium amide (sodamide)

**Class B:** The following chemicals are a peroxide hazard upon concentration (distillation/evaporation). Test for peroxides if concentration is intended or suspected.

Acetal	Dioxane ( <i>p</i> -dioxane)
Cumene	Ethylene glycol dimethyl ether (glyme)
Cyclohexene	Furan
Cyclooctene	Methyl acetylene
Cyclopentene	Methyl cyclopentane
Diacetylene	Methyl-isobutyl ketone
Dicyclopentadiene	Tetrahydrofuran
Diethylene glycol dimethyl ether (diglyme)	Tetrahydronaphthalene (Tetraline)
Diethyl ether (Ethyl ether)	Vinyl ethers

**Class C:** Unsaturated monomers that may polymerize as a result of peroxide accumulation if inhibitors have been removed or depleted.

Acrylic acid	Styrene
Butadiene	Vinyl acetate
Chlorotrifluoroethylene	Vinyl chloride
Ethyl acrylate	Vinyl pyridine
Methyl methacrylate	

\* These lists are illustrative, not comprehensive.

Reference: National Research Council, *Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards*, Table 4.8, p. 72, 2011.

Additional reference: Furr, A. Keith, *CRC Handbook of Laboratory Safety*, Table 4.6, p. 258-259, 2000.