

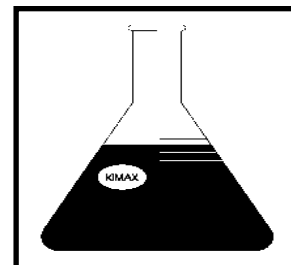
PEROXIDE USE GUIDELINES

pub# CSU3

Peroxide-forming chemicals

Identification and control of peroxides in ethers and similar chemicals is an important safety concern. There is no single method to eliminate all peroxide formation. Therefore, caution in dating and labeling containers of materials that are potential peroxide-formers is essential. The following are some basic recommendations to ensure safety:

- ◆ Date all containers of potential peroxide-formers when received.
- ◆ Date all containers when they are opened.
- ◆ Discard opened containers of potential peroxide-formers after six (6) months.
- ◆ Minimize working inventory of peroxide-forming chemicals in the laboratory.
- ◆ Dispose of any rusted, damaged, undated, or suspicious containers.
- ◆ NEVER attempt to force open a rusted and stuck cap on containers of peroxide-forming chemicals.
- ◆ IMMEDIATELY set aside and do not use any peroxide-forming chemical if precipitate or crystal forms, or if an oily viscous layer appears. These chemicals volatilize quickly and may cause an explosion if an ignition source is present.
- ◆ NEVER attempt to clean by scraping or rubbing glassware or other containers used with peroxide-forming chemicals if an oily or crusty residue is seen.
- ◆ Do not leave ether cans open, they produce heavy vapor which may rest on floor and cause an explosion.



- ◆ Per Roger Ketcham, Ph.D., : "I am sure many of you are aware of the general move toward replacing ether with methyl tertbutyl ether (MTBE) as a solvent for many organic chemical procedures - reaction solvent, extraction, chromatography, etc. Its cost is less and its sensitivity to peroxide formation is much less. This means that it can be purchased in larger containers where appropriate giving further cost savings. It would be prudent if we changed to MTBE wherever it was possible."
- ◆ Call the Office of Environmental Health and Safety (EH&S) at 476-1300 for disposal.

List of some common peroxide-forming chemicals

Ethyl ether anhydrous	Diethylether
Acetal	1,4 Dioxane
Acrylonitrile (Propenyl:acrylic aldehyde: allyl aldehyde)	Diacetylene
Butadine	Isopropyl ethers
Chlorotrifluoroethylyne	Potassium metal
BIS (2-Methoxyethyl) ether	Sodium amide
	Tetrahydrofuran