

Safetygram

NCI-Frederick

ISM-122

Laboratory Personnel

February 2013

Proper Use and Storage of Ethers & Peroxide Forming Chemicals

Ethers and other peroxide forming chemicals can present significant fire and explosion hazards if they are not used and stored properly.

The most common ethers, such as dimethyl or diethyl, have a high vapor pressure at room temperature and a low flash point. Ethers are highly flammable and easily ignited, which makes them severe fire hazards. In Addition, ethers may form explosive peroxides when exposed to air and light. Peroxides are shock and heat sensitive and may undergo spontaneous chemical reactions.

In addition to ethers, other chemicals can produce peroxides. Listed below are peroxide forming chemicals. All of the chemicals listed should be ordered in the smallest quantities possible, consistent with use. Containers should be double dated: the date when it was received and the date that when it was opened. Opened containers should be discarded within 3 to 6 months after opening; unopened containers should be disposed of 1 year after receipt. Only minimal quantities should be stored in the laboratory.

All work involving these chemicals should be conducted in a chemical fume hood. Ethers should not be used or stored near strong oxidizing agents. Ethers should be stored in a flammable storage cabinet/ room, or in an explosion-safe/ explosion-proof refrigerator. Obviously, there should be no open flames or sources of ignition in the area if the peroxide former is flammable. Call waste management for proper disposal (x5718).

Chemicals That Require Double Dating: The date received and the date opened.

1,3-Butadiene	Dicyclopentadiene	Sodium Amide
1,4-Dioxane	Diethyl	Styrene
Acetal	Diioproply Ether	Tetrafluouroethylene
Acetaldehyde	Divinyl Acetylene	Tetrahydrofuran
Acrylonitrile	Ethylene Glycol Dimethyl	Tetrahydronaphthalene
Chloroprene	Ether	Vinyl Acetate
Chlorotrifluoroethylene	Methyl Acetylene	Vinyl Acetylene
Cumene	Methyl Cyclopentane	Vinyl Chloride
Cyclohexene	Methyl Isobutyl Ketone	Vinyl EthersAcrylic Acid
Diacetylene	Methyl Methacrylate	Vinyl Pyridine
Diacetylene	Potassium Metal	Vinylidene Chloride

Please contact EHS at x1451 for additional information on the proper use and storage of these chemicals.