

ASSOCIATED HAZARDS

Under normal storage conditions, these chemicals have the potential to generate and accumulate peroxide crystals, which may violently detonate when subjected to thermal or mechanical shock. The risk associated with peroxide formation increases if the peroxide crystallizes or becomes concentrated by evaporation or distillation. Factors that affect rate of peroxide formation include exposure to air, light and heat, moisture, and contamination from metals.

SAFETY PRECAUTIONS

- Containers must be dated when received and dated again when opened. Containers must be disposed of 12 months after receiving or 6 months after opening, whichever happens first.
- Whenever possible, purchase and use peroxide-formers that contain inhibitors such as butylated hydroxy toluene (BHT). Keep in mind that inhibitors are removed during distillation.
- Peroxide test strips are not to be used on containers of peroxide formers to determine disposal timelines. However, if the lab is distilling peroxide-formers and keeping the distillate for longer than 1 week, it must be tested weekly with test strips maintaining a written record with the container.
- It is strongly recommended that labs do not refill containers that held a peroxide-former. If a container is going to be reused to hold a peroxide-former, it must be empty and thoroughly cleaned between each fill.
- Never top off partially full bottles of peroxide-formers.
- Peroxide-forming chemicals should be stored in their original manufacturer's container whenever possible. Ether should be kept in an amber glass or a metal can/bottle.
- If there are any crystals (especially near the neck or cap threads), liquid separation, or discoloration observed, contact EHS for hazardous waste removal. Do not move or attempt to open the container.
- Avoid damaging containers, both with liquid still in the, and when empty. Empty containers may contain hazardous residue, even after rinsing.
- Do not cut open any container that held a peroxide-former.
- When transporting, all liquids (especially peroxide-formers) must be kept in a secondary container of a compatible nature.
- Labs must have an SOP that specifically addresses peroxide-forming chemical safety and lab-specific procedures for storage, handling and use.
- If possible, store peroxide-forming containers in dark, well-ventilated areas or within the fume hood. Be sure to keep away from any oxidizers or other non-compatible chemicals.
- Gator TRACS **must** be updated with an accurate inventory of all chemicals in the lab, especially all peroxide-formers.

The number of containers must be accurate as well as the initial volumes of the containers.

COMMON PEROXIDE-FORMING CHEMICALS

Isopropyl Ether	Ethyl Ether/Diethyl Ether	Methylacetylene
Diethyl Ketene	Tetrahydrofuran	Vinyl Chloride
Divinyl Ether	Cyclohexene	Acetaldehyde
Potassium Metal	Dicyclopentadiene	Methyl cyclopentane
Potassium Amide	Diacetylene	Methyl isobutyl ketone
Sodium Amide	Cyclohexanol	Vinyl Ethers
Vinylidene Chloride	Dioxanes	Styrene