Cornell University Environmental Health and Safety	**Peroxide Forming Chemicals** Laboratory Safety	Guidance Document

Overview:

- Upon exposure to oxygen, peroxide forming chemicals can create shock, heat, or friction sensitive peroxides, which can initiate explosions upon concentrating, evaporating, or distilling them.
- It is important to understand, use, store, test and dispose of this class of chemicals properly.
- *Examples*: **Diethyl Ether, Tetrahydrofuran (THF), Dioxane, and Isopropyl Ether**
- Have Safety Data Sheets (SDS) available.

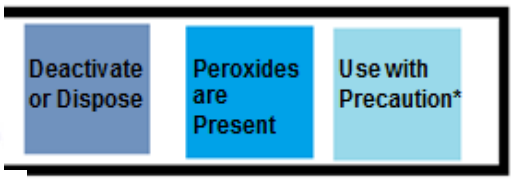
Testing and Labeling Tips:

- Never test containers of unknown age or origin
- Chemicals that reach their expiration date should be tested regularly or disposed of.
- Each peroxide forming chemical container must be tested at least every 6 months upon opening.
- Results of the peroxide test, the test date and initials of tester must be marked on the outside of the container by the neck * on an EHS test label:

	Opened	Test 1	Test 2	Test 3
Date				
Test Results				
Initials				

Printable from EHS website

- Test with a dip strip and pipette according to directions on package:



*No concentrating, evaporating, or distilling

VWR: 10217-536

- Be able to interpret the results and what actions to take if peroxides are present:

< 25 ppm	Considered safe for general use
25-100 ppm	Not recommended for distilling or otherwise concentrating
>100 ppm	Avoid handling and contact EH&S for assistance with safe disposal

Storage Tips:

- Label date received, date opened, and expiration date.
- Do not refrigerate at or below the temperature at which the peroxide forming compound freezes or precipitates.
- Put in tightly closed, properly labeled container in a flammable storage cabinet, away from flames, heat, sources of ignition, light, oxidizers and oxidizing acids.
- Never purchase uninhibited peroxide formers.
- Purchase only the quantity that is required in a one-month period.
- Bottles should not have crystals in solution or around cap.

* Peroxide test label placement

Disposal:

The lab must ensure results of less than 10 ppm before requesting pickup from EHS.

- Dilute small quantities (25 g or less) of peroxides with water to a concentration of 2% or less and then transfer to a polyethylene disposal bottle.
- Reduce peroxide with reducing agent (e.g., ferrous sulfate or sodium bisulfite) until no peroxide is shown to be present by dip strip test. Do not add it to a container holding other wastes for disposal.
- Properly fill out the EHS Hazardous Waste label, place in a DOT box and submit an online request: http://tinyurl.com/ehshazwaste

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RSS_LRS_PeroxideFormers

The most recent version of this document is available electronically at the EHS website: