

Warning: Peroxide-Forming Chemical
 This chemical can form peroxides during storage and has a limited shelf life. Containers must be discarded within 12 months if unopened, or tested and disposed of according to campus procedures and applicable group.

Test or Dispose of every:
 Group A – 3 months; Group B, and C Inhibited – 12 months
 Group C – Uninhibited – every 24 hours

Date Received _____ Date Opened _____
 Date Tested _____ Test Result _____
 Date Tested _____ Test Result _____

❖ Store in tightly closed original container.
 ❖ Avoid exposure to light, air, and heat.
 ❖ Do not move or open container if crystals, discoloration, or layering are visible. Contact EH&S at 2106, 2104, 2107, or 2110
 ❖ Always check for Peroxides before distilling or concentrating
 Review MSDS and Handling Guide(s) prior to use

PEROXIDE FORMING CHEMICALS

Some common laboratory solvents fall into a category called **Peroxide Forming Chemicals, which are Potentially Explosive**. Under certain conditions like oxidation or concentration, these chemicals may form shock-sensitive, explosive peroxide crystals over time.

A shock as minimal as unscrewing a cap containing residues / crystals may be enough to detonate. That is why it is essential to properly label, date, test, inspect and dispose of peroxide forming chemicals.

This hazard is not currently described in GHS guidelines and may not be noted on the chemical's SDS. So, it is important for labs to be aware of this potential hazard and handle peroxide forming chemicals with consideration and care!



GROUP	CHARACTERISTICS	TEST EVERY	EXAMPLES
A	May autoxidize and form explosive levels even in unopened containers and without concentration	3 mo's opened, 12 mo's not open	Tetrafluoroethyl ene
B	Can form explosive levels of peroxides, but typically require concentration. Most of these are volatile enough that repeated opening of their container can allow for concentration via evaporation	12 months	Diethyl ether, Tetrahydrofuran, Benzyl alcohol, 2-Propanol
C	Risk of peroxide formation is relatively low, but decomposition can initiate explosive polymerization of the bulk monomer	24 hrs after open if not inhibited, 12 months if inhibited	Acrylonitrile

ESSENTIALS FOR PEROXIDE FORMING CHEMICAL SAFETY



- Label all containers with the PFC label, and date they were received and opened.
- Test for peroxides at specified frequency (usually annually); write results on label.
- Be aware of expiration dates and follow proper disposal policies (test/dispose 1yr).
- Maintain an accurate chemical inventory, regularly inspect your chemicals, and dispose of old, expired, damaged, and no longer needed chemicals.
- Ensure that personnel are trained and follow all rules and regulations for safely handling and disposing of hazardous chemicals.