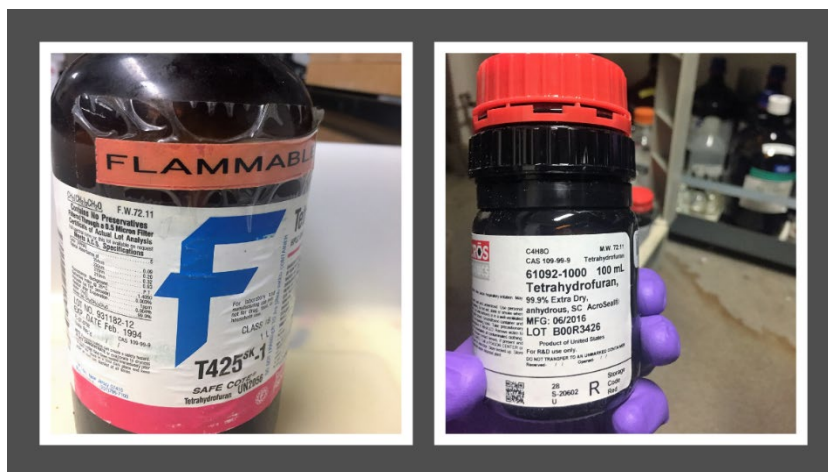




## Peroxide-Forming Chemical Overview

Peroxide-forming chemicals are a class of compounds that can form shock-sensitive explosive peroxide crystals. Diethyl ether and tetrahydrofuran are two of the most common peroxide-forming chemicals used in CSUSM labs. It is extremely important proper procedures are followed regarding the identification, handling, storage time limits, and disposal of these chemicals.

CSUSM's online chemical inventory system, [RSS Chemicals](#), empowers lab managers and their delegates to manage peroxide-forming chemicals by tracking received dates, open dates, and expiration dates. Safety data sheets and hazard information can also be viewed in RSS Chemicals.



### The risk associated with peroxide formation increases if:

- The peroxide crystallizes or becomes concentrated by evaporation or distillation.
- The compound is distilled to dryness.
- There is exposure to air, light, heat, moisture, or contamination from metals.
- The inhibitors become exhausted.

Manufacturers may add an inhibitor to peroxide-forming chemicals to counter peroxide formation (butylated hydroxy toluene). Peroxide forming chemicals tend to explode violently and can cause serious injury or death to researchers in the laboratory if not managed properly. Peroxide forming chemicals should be kept to a minimum by maintaining proper inventory consistent with the rate of use.

### Ideal Storage Conditions & Labeling:

Keep away from sources of ignition and store in a cool, dry place. Store in tightly closed containers and keep in a marked flammable storage area. Protect from moisture, light, and air. **Containers should be dated when received, after each time opened, and when tested.** Testing with [peroxide test strips](#) should be done monthly for the presence of peroxides. It is not recommended to exceed manufacturer's storage time limits. Contact [SH&S](#) for proper disposal if PPM exceeds recommended control point or storage time has expired.

### Appropriate Minimum PPE:

- Flame Resistant lab coat
- Closed-toe shoes and long pants
- Eye protection and nitrile gloves