

Principal Investigator: \_\_\_\_\_




Date Approved: \_\_\_\_\_

This document covers basic chemical safety information for peroxide-formers. The use of any peroxide-forming chemical is subject to pre-approval by the Principal Investigator (PI) and/or Supervisor. PI and/or Supervisor may use the sheet attached to this SOP to document any lab specific training for Peroxide-Formers. **DO NOT USE PEROXIDE-FORMERS UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.**

## Peroxide-Formers

Peroxide-forming chemicals (PFCs) are flammable organic liquids which are capable of forming potentially explosive R-O-O-R' peroxide bonds (where R = organic group) upon exposure to air or oxidizing impurities. Peroxides formed in a chemical container are particularly likely to accumulate within the threads of the screw cap, and may explode when subjected to heat, light, friction or mechanical shock (e.g. unscrewing the cap). It is particularly dangerous to allow these materials to evaporate to dryness, such as during distillation, leaving the crystals of peroxide on the surfaces of the container.



Personal Protective Equipment & Personnel Monitoring		
 <b>Lab Coat</b>	 <b>Gloves</b>	 <b>Eye Protection</b>
Flame resistant lab coat	Nitrile or chloroprene gloves typically provide adequate protection against minor splashes. Consult with your PI or supervisor to determine whether any materials involved in your process require alternative hand protection.	ANSI Z87.1-compliant safety glasses or safety goggles if a splash hazard is present

## Labeling & Storage

PFCs should be stored in a flammable storage cabinet with self-closing hinges or in a refrigerator rated for flammable storage. Containers greater than 1 gallon (4L) in size are not recommended, but must be stored in a flammable storage cabinet if present. All PFCs must be stored away from combustible materials and oxidizers.

Primary containers should be labeled according to the UNC Charlotte Chemical Hygiene Plan. The secondary container's label must contain the chemical name and corresponding hazards. PFCs must be marked with receiving date and opening date. They must be disposed of within the sooner of 12 months from the date of opening, 18 months of the date of receipt if unopened, or the expiration date as specified by the manufacturer if unopened. If the receiving and opening date is not known, promptly dispose of as hazardous waste.

## Engineering Controls, Equipment & Materials

### *Fume Hood*

If your protocol requires handling PFCs outside of a fume hood, contact EHS to determine whether alternative engineering controls or additional respiratory protection is warranted.

## Cautions & Considerations

### *Static Electricity*

Large containers of PFCs are discouraged given the strict limits on prolonged storage. If required due to high demand, all large containers should always be grounded, and should be bonded to the receiving container during transfer. Always transfer flammable chemicals from glass containers to glassware or from glass container/glassware to plastic. Transferring these types of chemicals between plastic containers or unbonded metal containers may lead to a fire hazard due to static electricity.

## Housekeeping

### *Spills*

Notify others in the area of the spill, including your supervisor. Evacuate the location where the spill occurred. Call 911 from any campus phone (or 704-687-2200 from a cell phone). Report any exposure to EHS at 704-687-1111. Remain on-site (at a safe distance) to provide detailed information to first responders.

### *Decontamination*

Decontamination methods will vary based on the materials handled and equipment being used. Please review the chemical Safety Data Sheet for guidance on cleaning materials.

### *Waste*

Refer to the UNC Charlotte Chemical Hygiene Plan or details. Note: Empty containers of PFC's can still pose a hazard, and may quickly evaporate to dryness.

## First Aid & Emergencies

### *Skin or Eye Contact*

Remove contaminated clothing and accessories; flush affected area with water. If symptoms persist, get medical attention.

### *Inhalation*

Move person into fresh air. Get medical attention immediately.

### *Ingestion*

Rinse mouth with water. If symptoms persist, get medical attention.

Name	Signature	Date