**INSTRUCTIONS: This is an SOP template; it is complete when**

**1) All form fields have been completed to reflect chemical/lab-specific information,** including adding relevant procedure information, or deleted inapplicable information; and

**2) SOP has been signed and dated by the PI and relevant lab personnel.**

Use safety data sheets (SDSs) as a resource for chemical-specific information. Text highlighted in gray indicates where information should be added or edited. Delete all instructions in red text and “Draft” watermark after the SOP is approved by PI.

Standard Operating Procedure

Perfluoropolyether

Print a copy and insert into your *Lab-Specific Chemical Hygiene Plan*.

**Section 1 – Lab-Specific Information**

**Building/Room(s) covered by this SOP:**

**Unit or department:**

**Principal Investigator Name:**

**Principal Investigator Signature/Date:**

**This SOP was created by (if not PI):**

**Name/Title/Date/Signature:**

# **Section 2 – Hazards**

Skin contact may cause reddening of the skin; not a known skin irritant or skin sensitizer. Inhalation of fluorine containing compounds released as decomposition products from overheated or burning product may cause lung irritation and pulmonary edema which require medical treatment. Perfluoropolyether oils are considered to be inert and of low toxicity.

**Section 3 – Engineering and Personal Protective Equipment (PPE)**

**Engineering Controls:** The use of perfluoropolyether should be conducted in a properly functioning chemical fume hood whenever possible, especially when heating it. The chemical fume hood must be approved and certified by EH&S.

**Hygiene Measures:** Avoid contact with skin, eyes, and clothing. Wash hands before breaks and immediately after handling the chemical.

**Hand Protection:** Chemical-resistant gloves must be worn, nitrile gloves are recommended. Wearing two pairs of nitrile gloves is recommended. **NOTE:** Consult with your preferred glove manufacturer to ensure that the gloves you plan on using are compatible with the specific chemical being used.

**Eye Protection:** ANSI-approved properly fitting safety glasses or chemical splash goggles are required.

**Skin and Body Protection:** Laboratory coats must be worn and be appropriately sized for the individual and buttoned to their full length. Personnel must also wear full length pants, or equivalent, and close-toed shoes. Full length pants and close-toed shoes must be worn at all times by all individuals that are occupying the laboratory area. The area of skin between the shoe and ankle must not be exposed.

**Respiratory Protection:** If perfluoropolyether is being used outside of a chemical fume hood, respiratory protection may be required. Wear NIOSH approved respiratory protection as appropriate. If this activity is necessary, contact EH&S at 206.543.7388 so a respiratory protection analysis and fit-testing can be performed.

# **Section 4 – Special Handling and Storage Requirements**

* Heating above 350’C may form potentially toxic fluorine compounds
* Depolymerization may occur in the presence of some metal oxides at temperatures above 288’C
* Decomposition occurs at increasing rates above 355’C
* Designate a dedicated storage area.
* Make a current copy of the SDS available to all personnel working in the laboratory at all times.
* Do not over purchase; only purchase what can be safely stored in the laboratory.
* Avoid contact with skin, eyes, and inhalation.
* Keep away from sources of ignition, heat and flames.
* Keep away from strong oxidizing agents.
* Hazardous decomposition products formed under fire conditions include carbon oxides and hydrogen fluoride.
* Keep containers tightly closed. Store in a cool, dry, and well-ventilated area.
* Containers which are opened must be carefully resealed and kept upright to prevent leakage.
* Use in the smallest practical quantities for the experiment being performed.
* Conduct work in a chemical fume hood, especially when oils are heated.
* Keep containers closed when not in use.
* Label containers appropriately. Label should indicate the name of the chemical(s) in the container. Avoid using chemical abbreviations and formulae.
* Containers must be in good condition and compatible with the material

# **Section 5 – Spill and Accident Procedures**

If skin is exposed, remove contaminated clothing, wash with soap and water. If eye is exposed, call 911 as soon as possible and flush eyes for 15 minutes in the eye wash.

Immediately evacuate area if fumes present a serious health risk and ensure others are aware of the spill. During normal business hours (Monday – Friday, 8 AM – 5 PM), call EH&S at 206.543.0467 for further assistance. If it is after hours, call 911 for further assistance. If there is an imminent threat of a fire, pull the nearest fire alarm station to evacuate the building and **dial 911.** If it is safe to clean up the spill, wear PPE listed above. Double bag and securely fasten spill materials. Label as hazardous waste. Label bags as hazardous waste.

Report the spill via the EH&S Online Accident Reporting System (OARS).

# **Section 6 – Waste Disposal Procedures**

Store hazardous waste in closed containers that are properly labeled, and in a designated area. Request chemical waste collection via the EH&S website.

# **Section 7 – Protocol**

Click here to enter text.

**NOTE:** Any deviation from this SOP requires approval from Principal Investigator.

# **Section 8 – Documentation of Training (signature of all users is required)**

Prior to conducting any work with perfluoropolyether, the Principal Investigator must ensure that all laboratory personnel receive training on the content of this SOP.

**I have read and understand the content of this SOP:**

| **Name** | **Signature** | **Date** |
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