

Insert Title

Standard Operating Procedure (SOP)

All lab personnel who are subject to these SOP requirements must review the completed SOP and sign the associated training record. Completed SOPs must be kept in the Stevens Chemical Hygiene Plan or be otherwise readily accessible to the laboratory personnel (electronic access is acceptable).

SOP Date:			
SOP Prepared by:			
Department:			
Principal Investigator:	Print Name	Signature	Phone Contact :
Approval Date:			
Locations covered by SOP:			

Emergency Contacts		
Stevens Police	Phone: 201-216-3911	
Other (e.g., PI, etc.)		

Introduction:

REQUIRED: Insert a brief description of the laboratory process involving hazardous chemicals and any other hazards involved in the process. At a minimum, Safety Data Sheets (SDSs) for each chemical must be used as part of the chemical evaluation.

Determine if the hazardous chemicals can be eliminated or substituted for less hazardous chemicals. List nonchemical hazards, e.g., biological hazards, electrical hazards, mechanical hazards, radiation.

Use Procedures: Please list all steps of the experiment, and each safety related measure.

A. Hazardous Chemicals:

REQUIRED: List the chemicals being used and describe toxic or dangerous nature and signs/symptoms of exposure.

B. Engineering Controls:

REQUIRED: Insert descriptions of lab-specific engineering or ventilation controls used to reduce chemical exposures (e.g., fume hoods, glove boxes, biosafety cabinets, etc.) or other specific safety features.

C. Administrative controls:

The following elements are required at a minimum:

Complete the Stevens Laboratory Safety Training prior to working in the laboratory

Complete the Stevens SOP Training prior to developing the SOP

Be familiar with the location and content of applicable Safety Data Sheets (SDSs) for the chemicals being used

Do not deviate from the SOP instructions without prior approval from the PI Management of change. Recognize changes to process or procedure and assess the hazards related to these changes and ensure they are addressed.

Notify the PI of any accidents, incidents, near misses, or unexpected conditions

Hazardous waste will be stored in appropriately labeled containers. The waste containers will be stored in secondary containment on the left wall near the front door.

REQUIRED: Insert descriptions of any additional administrative controls.

D. Personal Protective Equipment:

The purpose for personal protective equipment (PPE) is to shield the individual in the event of a release of vapor, a spill or other incident. PPE is not a substitute for safe work practices. At a minimum, covered legs, a lab coat and closed toe and heel shoes are required. The following PPE is required for all work with hazardous chemicals:

1. Eye Protection:

- a. Eye protection must be ANSI Z87.1 compliant
- b. At a minimum safety glasses are required
- c. Splash goggles may be substituted for safety glasses, and are required for processes where splashes are foreseeable or when generating aerosols
- d. Ordinary prescription glasses will not provide adequate protection unless they meet the ANSI Z87.1 standard and have compliant side shields

2. Body Protection:

At a minimum a chemically compatible laboratory coat that fully extends to the wrist is necessary

- a. If a risk of fire exists, a flame-resistant laboratory coat should be worn. Complete the Stevens EHS lab coat hazard assessment to determine the type of coat required

- b. For chemicals that are corrosive and/or toxic by skin contact/absorption additional protective clothing (e.g., face shield, chemical resistant apron, etc.) are required where splashes or skin contact is foreseeable

3. **Hand Protection:**

Hand protection is needed for the activities described in this SOP. Define the type of glove to be used based on the following:

- a. Chemical(s) being used
- b. Anticipated chemical contact (e.g., incidental, immersion, etc.)
- c. Manufacturer's permeation/compatibility data
- d. Whether a combination of different gloves is needed for any specific procedural step or task

REQUIRED: Describe PPE required for each step in the process, including any specialized PPE required.

Emergency Response Procedures:

Skin Exposure:

- Move the victim immediately under an emergency shower or other water source and flush the affected area with large amounts of cool running water for at least 15 minutes.
- Clothing, shoes and jewelry should be removed while the water is flowing on to the victim.
- Goggles should be removed last while the victim is facing the water flow. Colleagues must be EXTREMELY CAREFUL not to become contaminated while assisting the victim.
- While the victim is being rinsed with water, **call 3911** and inform Campus Police of the exposure and request emergency transport. Ensure emergency responders and treating physicians are aware of the nature of the chemical exposure. Provide a copy of the **SDS to emergency responders**.
- After the emergency responders arrive they will call the Emergency Room doctor for instructions.

Eye Exposure:

- Immediately flush eyes for at least 15 minutes with copious cool flowing water. Call 3911, inform Campus Police of the exposure and request emergency transport. The victim should then be transported to a medical facility.
- Ensure emergency responders and treating physicians are aware of the nature of the chemical exposure. Provide a copy of the SDS to emergency responders.

Inhalation:

If a large volume of vapor is inhaled:

- Immediately remove the victim to clean air. Call 3911, inform the emergency dispatcher of the exposure and request emergency transport.
- Ensure emergency responders and treating physicians are aware of the nature of the chemical exposure. Provide a copy of the SDS to emergency responders.

Important Locations:

Emergency Shower and eyewash station

- Document Location of Eyewash and Safety Shower

PPE Location

Hazardous Waste Disposal

- Document location of hazardous waste containers.
- Document Location of PPE

Documentation of Standard Operating Procedure Training (*signature of all users required*)

- Prior to beginning work on this SOP, laboratory personnel must be trained on the hazards involved in working with this SOP. How to protect themselves from the hazards, and emergency procedures
- Ready access to this SOP and to a Safety Data Sheet for each hazardous material described in the SOP must be made available
- The PI must ensure that their lab personnel have attended the required training
- **Please attach and include all supporting documentation when submitting the SOP to EHS & IRM. This includes SDSs, Protocols, and literature if available.**

