

CHEMICAL STANDARD OPERATING PROCEDURE TEMPLATE

Procedure Name			
Procedure Author			
Date of creation/ revision		Date created:	Date last revised:
Principal Investigator (PI)			
Phone#		PI phone #	
Location to be Performed		Building and room number#	
1.		THIS STANDARD OPERATING PROCEDURES (SOP) IS FOR:	
<input type="checkbox"/> Specific laboratory procedure or experiment (Examples: synthesis of chemiluminescent esters) <input type="checkbox"/> Generic laboratory procedure that covers several chemicals (Examples: distillation, chromatography) <input type="checkbox"/> Generic use of a specific chemical or class of chemicals with similar hazards (Examples organic azides, Hydrofluoric acid, mineral acids)			
2.		DESCRIPTION: <i>Briefly describe how the chemicals will be used. .</i>	
3.		RISK IDENTIFICATION: <i>Identify potential safety hazards-refer to section 2 of the SDS.</i>	
<input type="checkbox"/> Explosive <input type="checkbox"/> Pyrophoric <input type="checkbox"/> Flammable (liquid, solid, gas or aerosol) <input type="checkbox"/> Self-Reactive <input type="checkbox"/> Peroxide Forming <input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Oxidizing (liquid, solid or gas) <input type="checkbox"/> Water-Reactive <input type="checkbox"/> Compressed Gases <input type="checkbox"/> Cryogen <input type="checkbox"/> Corrosion to Metals	<input type="checkbox"/> Carcinogen <input type="checkbox"/> Sensitizer (respiratory and/or skin) <input type="checkbox"/> Irritant (skin and/or eye) <input type="checkbox"/> Corrosive (skin and/or eye damage) <input type="checkbox"/> Acute Toxicity (oral, dermal and/or inhalation)	<input type="checkbox"/> Germ Cell Mutagen <input type="checkbox"/> Reproductive Toxicity <input type="checkbox"/> Target Organ Systemic Toxicity: Single Exposure <input type="checkbox"/> Target Organ Systemic Toxicity: Repeated Exposure <input type="checkbox"/> Other (Specify):
Notes: (Include chemicals that will be used, additional cautions, permissible exposure limits, etc.)			
4.		ADDITIONAL MATERIALS TO BE REVIEWED BEFORE USING THIS SOP: <i>Identify any additional material that should be reviewed prior to proceeding.</i>	
DOCUMENT NAME		LOCATION OF DOCUMENT	
✓ Safety Data Sheets (SDS)		https://www.temple.edu/ehrs/SDS (CEMS account not required)	
✓ EHRs SOPs & Guidelines		https://www.temple.edu/ehrs/safety/chemical-safety/SOPChemicalSafety.asp	
<input type="checkbox"/> Laboratory/Experimental Protocol:			
5.		EXPOSURE CONTROLS: <i>Identify any required engineering, ventilation and PPE needed to safely perform this procedure or experiment.</i>	
5.1.		Engineering / ventilation controls Examples: fume hood use, gas sensors, equipment interlocks ✓ Personnel must work under/in/with the following equipment to minimize personal exposure: <input type="checkbox"/> Chemical Fume Hood <input type="checkbox"/> Snorkel <input type="checkbox"/> Splash Shielding <input type="checkbox"/> Blast/Explosion Shielding <input type="checkbox"/> Glove box <input type="checkbox"/> Other (list):	

5.2.	<p>Personal protective equipment (PPE) Examples: safety glasses, nitrile gloves, cryogen gloves, lab coat</p> <p>✓ Lab coats, long pants, long skirt or equivalent leg covering (no shorts); lab appropriate footwear.</p> <p>✓ Safety Glasses</p> <p>✓ Chemical Resistant Gloves (Specify type):</p> <p>Identify additional PPE requirements for work:</p> <p><input type="checkbox"/> Safety Goggles <input type="checkbox"/> Fire-Resistant Lab Coat <input type="checkbox"/> Acid Resistant Apron <input type="checkbox"/> Face Shield</p> <p><input type="checkbox"/> Other Gloves (Specify type): _____ <input type="checkbox"/> Other (list): _____</p>
6.	<p>STEP-BY-STEP METHODOLOGY: Provide a sequential, detailed description of procedure or experiment and when special safety equipment and safety precautions are to be utilized. Include temperature, pressure, and other conditions required in the experiment. Include schematics, diagrams and/ or photos for complex setups. May be attached to SOP.</p>
7.	<p>PARTICULARLY HAZARDOUS SUBSTANCES (PHS): All work involving materials classified as a Particularly Hazardous Substance (PHS) requires the completion of this section.</p>
7.1	<p>DESIGNATED AREA: Identify the designated work and storage location(s) and the necessary decontamination after completion of work. Designated Area Posting must be completed and posted in identified designated areas.</p>
<p style="text-align: center;">Use Location: Storage Location:</p>	
Building/Rooms:	Building/Rooms:
<p>Check all that apply PHS only:</p> <p><input type="checkbox"/> Entire Lab <input type="checkbox"/> Chemical Hood <input type="checkbox"/> Designated area</p> <p><input type="checkbox"/> Other (list): _____</p>	<p>Check all that apply to PHS only:</p> <p><input type="checkbox"/> Refrigerator/freezer <input type="checkbox"/> Chemical Fume Hood</p> <p><input type="checkbox"/> Vented cabinet <input type="checkbox"/> Flammable liquid storage cabinet</p> <p><input type="checkbox"/> Other (list): _____</p>
DECONTAMINATION	
<p>Are special decontamination procedures required for PHS? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, provide information below.</p>	
<p>Identify items that require decontamination:</p> <p><input type="checkbox"/> Work Areas <input type="checkbox"/> Non-disposable equipment <input type="checkbox"/> Glassware <input type="checkbox"/> Disposable lab equipment and supplies</p> <p><input type="checkbox"/> Other (list): _____</p>	
<p>Decontamination Method (describe)</p>	
7.2	<p>SPECIAL HANDLING PROCEDURES, TRANSPORT AND STORAGE REQUIREMENTS: Describe special handling and storage requirements for particularly hazardous substances and/or High-Risk chemicals used in this procedure. Describe secondary containment requirements for transport between laboratory rooms.</p>
<p>✓ Personnel must not work alone in the laboratory while handling this chemical.</p> <p>✓ Personnel must notify the PI or other PI approved knowledgeable and experienced senior laboratory staff prior to handling a chemical each day/event.</p>	
HAZARD COMMUNICATION AND SIGNAGE:	
<p>Confirm that the hazards of the chemical are communicated to laboratory personnel and visitors where PHS are used and stored.</p>	
<p>✓ All containers are clearly labeled with the identity and hazards of the chemical.</p> <p>✓ Designated storage and use locations within the laboratory have signage identifying the chemicals presence.</p> <p>✓ For entire lab cases: Doors signs at all lab entrances is updated to communicate the chemicals presence.</p>	
<p><input type="checkbox"/> Other Requirements (describe): _____</p>	

8. **WASTE DISPOSAL:** *Identify and list all hazardous waste and to be generated and appropriate disposal procedures. Include liquid and solid waste.*

Type of waste generated by this procedure/process (check all that apply): Solid Liquid Other(specify):

Waste hazard determination (check all that apply):

Type of Waste	Hazard Determination (Refer to CHE008.01-SOP-Chemical Waste Determination)							
Solid	<input type="checkbox"/> Ignitable	<input type="checkbox"/> Corrosive	<input type="checkbox"/> Toxic	<input type="checkbox"/> Reactive	<input type="checkbox"/> F-Listed	<input type="checkbox"/> P-Listed	<input type="checkbox"/> U-Listed	
Liquid	<input type="checkbox"/> Ignitable	<input type="checkbox"/> Corrosive	<input type="checkbox"/> Toxic	<input type="checkbox"/> Reactive	<input type="checkbox"/> F-Listed	<input type="checkbox"/> P-Listed	<input type="checkbox"/> U-Listed	
Other	<input type="checkbox"/> Ignitable	<input type="checkbox"/> Corrosive	<input type="checkbox"/> Toxic	<input type="checkbox"/> Reactive	<input type="checkbox"/> F-Listed	<input type="checkbox"/> P-Listed	<input type="checkbox"/> U-Listed	

✓ Chemical waste generated from this procedure will be collected and disposed of as hazardous waste according to the TU Chemical Waste Management Program and TU Chemical Waste Management Manual.

Chemical Waste Storage location:

9. **EMERGENCY PROCEDURES:** *Describe how spills, chemical exposure and other accidents should be handled and by whom. List emergency contact numbers. Attach specific procedures to be followed to this form.*

MEDICAL ATTENTION AND FIRST AID

Laboratory personnel- call TU Campus Safety Services at 215-204-1234 or 1-1234 (campus phone)

Are special first aid-supplies or procedures required (e.g. Calcium gluconate gel for HF) for work with this SOP?

Yes No If Yes, attached the specific procedures to be followed to this form.

Other Requirements (describe or attach to SOP):

EMERGENCY PROCEDURES AND SPILL RESPONSE

Emergency Safety Equipment: Are there any other specialized emergency spill control or clean-up supplies that are required when working with this SOP in addition to the equipment and supplies listed in section 6& 7? Yes No

If yes, list all required supplies/equipment with locations:

Other Requirements (describe or attach to SOP):

10. **TRAINING REQUIREMENTS:** *List the general and laboratory-specific training required for authorized users of this SOP.*

The Principal Investigator (PI) is responsible for ensuring that all laboratory personnel complete the following prior to handling and using this SOP:

- ✓ All laboratory personnel must at a minimum complete all of the EHRS required training courses.
- ✓ Read the SDS and SOP:
- ✓ Hands-on training with the PI or other PI approved knowledgeable and experienced senior laboratory staff. Must be able to demonstrate proficiency on procedures and methodology including this SOP, safety procedures and on executing emergency response procedures.

11. **PRINCIPAL INVESTIGATOR (PI) APPROVAL**

Signature	Effective Date