

**University of Delaware**  
**Department of Occupational Health and Safety**  
**Laboratory Process/Experiment/Equipment Standard Operating Procedure (SOP)**

**DIRECTIONS**

Standard Operating Procedures are required for all hazardous operations. The purpose of an SOP is to develop a written set of guidelines that identifies the hazards associated with an operation or experiment and provide a mechanism to mitigate the hazards. This is a fill-in form, all fields must be completed. Contact the University Chemical Hygiene Officer with any questions or concerns.

**SOP #:** \_\_\_\_\_ {Assign a unique identifier that will assist with filing, referencing and organization of the SOP's. The following format is required: Group Name-SOP Year-#.revision. For example: Eichinger-2005-1.04 (The first Eichinger Group SOP in 2005, revision 4)}

**SOP Title:** \_\_\_\_\_ {Assign a descriptive title for the SOP. The Title should be easily associated with the equipment, experiment or process. For example: Quenching the Bottom of a Solvent-Drying Still, Filling a Large Nitrogen Dewar or Operating the ABC HPLC Unit.}

Author: _____	
Signature: _____	Date: _____

Principal Investigator: _____ {The Principal Investigator should review and approve all SOP's used by the lab group.}	
Signature: _____	Date: _____

OHS Approver: _____ {OHS must approve all SOP's that involve a highly hazardous operation. The necessity to involve OHS will be determined during a process or experimental safety review. Contact OHS to determine if they need to approve the SOP.}	
Signature: _____	Date: _____

### 1.0 Introduction

{Include background or other information that will be useful to the reader to understand the nature of the operations covered by this SOP. Include a brief description of the principal hazards of concern associated with the particular operation}

### 2.0 Purpose

{State the intent and objectives of the SOP, for example:

The purpose of this SOP is to:

- Communicate the hazardous associated with this operation;
- Document the control measures that will be used to control the hazardous operations;

- Document the precautions and limitations applicable to this operation; and
- Define the required qualifications of personnel performing the operations }

### 3.0 Scope

{Describe the extent of coverage of the SOP. This would include applicable information concerning the location of the operation, the organizations involved, and the equipment involved. Include any exceptions or limitations that may apply. }

### 4.0 Responsibilities

Please select the general categories of personnel who could obtain approval to perform the process or experiment:

1. <input type="checkbox"/> Principal Investigator	2. <input type="checkbox"/> Graduate Students	3. <input type="checkbox"/> Undergraduates
4. <input type="checkbox"/> Technical Staff	5. <input type="checkbox"/> Post Doctoral Employees	
6. <input type="checkbox"/> Other (Describe): _____		

Please list the specific personnel and their approval level (Attach an addendum to this form for additional personnel):

1. _____	<input type="checkbox"/> Trained	Initial Training Date:
2. _____	<input type="checkbox"/> Trained	Initial Training Date:
3. _____	<input type="checkbox"/> Trained	Initial Training Date:
4. _____	<input type="checkbox"/> Trained	Initial Training Date:
5. _____	<input type="checkbox"/> Trained	Initial Training Date:

The Principal Investigator will update this section when any personnel changes occur. If changes occur, document the changes (include the record of training of additional personnel) in the laboratories files and submit an addendum to the University Chemical Hygiene Officer with all training documentation.

### 5.0 Hazards

{List and briefly describe the hazards associated with this operation }

### 6.0 Hazard Control Measures and Limitations

{Address the administrative, engineering and/or personal protective equipment measures that will be used to control each of the hazards listed in Section 5.0. This section should include safety rules, precautions and limitations applicable to this operation. Reference and review the SOP's and MSDS's for any of the chemicals that will be used in the operation. Attach any referenced SOP's as an addendum. Assure that all of the MSDS's are available in the laboratory. }

Process or experiment shall be performed only in the following designated areas.

Check all that apply:

1. <input type="checkbox"/> Demarcated Area in Lab (Describe): _____	
2. <input type="checkbox"/> Fume Hood	3. <input type="checkbox"/> Glove Box
4. <input type="checkbox"/> Other (Describe): _____	

### 7.0 Personal Protective Equipment

All personnel are required to wear the following personal protective equipment whenever performing the process or experiment:

1. Proper Laboratory Attire (Pants or dresses/shorts below the knees, sleeved shirt, close-toe shoes)
2. Safety Glasses
3. Lab Coat

Personnel may be required to wear other Personal Protective Equipment when working with this material. The Principal Investigator should contact the University Chemical Hygiene Officer to discuss the selection of chemical protective clothing (aprons, suits and gloves) and respirators. Please check all that apply:

1. <input type="checkbox"/> Chemical Safety Splash Goggles	2. <input type="checkbox"/> Face Shield
3. <input type="checkbox"/> Chemical Protective Gloves (Describe): _____	
4. <input type="checkbox"/> Chemical Protective Clothing (Describe): _____	
5. <input type="checkbox"/> Chemical Protective Splash Apron (Describe): _____	
6. <input type="checkbox"/> Respirator (Type): _____	
7. <input type="checkbox"/> Other (Describe): _____	

### 8.0 Procedural Steps

{This section is only necessary where specific procedural steps should be followed to ensure the safety or quality of specific tasks associated with the operation is properly completed. These should be consequential step-by-step instructions for completing the operation. The procedure section should be organized in a logical sequence that is compatible with the operation and the equipment. You can reference other written procedures or equipment instructions, provided they are attached as addendums.}

### 9.0 Training Requirements

{List all qualifications and training requirements for individuals performing all or specific tasks covered by this SOP.}

All users must demonstrate competency and familiarity regarding the safe handling and use of this material prior to purchase. The Principal Investigator is responsible for maintaining the training records for each user of this material. Training should include the following:

1. Review of current MSDS
2. Review of the OSHA Lab Standard
3. Review of the Chemical Hygiene Plan
4. Special training provided by the department/supervisor (Right to Know)
5. Review of the departmental safety manual if applicable
6. Safety meetings and seminars
7. One-on-One hands-on training with the Principal Investigator or other knowledgeable laboratory personnel.
8. Other required training topics:
  - a.

### **10.0 Emergency Procedures**

{Explain what is to be done in case of an emergency. Define example emergency situations and how to appropriately respond. At a minimum, the following information should be included:

1. Emergency Shut Down of the Equipment
2. Steps to Take During a Power Outage
3. Steps to Take Should a Chemical Spill Occur
4. Response to a Fire Situation
5. Any Other Anticipated Emergency Issues with the Equipment or Process }

### **11.0 Special Procedures**

{List any special procedures or task not listed above. Examples include waste disposal }

### **12.0 Attachments**

{List all attachments and addendums that should be attached with this SOP. Examples include other SOP's, instruction manuals, experimental protocols and directions }