

University of Delaware
Department of Environmental 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:

EHS Approver: _____	{EHS must approve all SOP's that involve a highly hazardous operation. The necessity to involve EHS will be determined during a process or experimental safety review. Contact EHS 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 SDS
2. ADV Chemical Hygiene/Right-To-Know
3. Chemical Waste Management
4. Fire Safety Training for Laboratories
5. Laboratory Ventilation Safety
6. Review of the OSHA Lab Standard
7. Review of the Chemical Hygiene Plan
8. Special training provided by the department/supervisor
9. Review of the departmental safety manual if applicable
10. Safety meetings and seminars
11. One-on-One hands-on training with the Principal Investigator or other knowledgeable laboratory personnel.
12. Other required training topics:
 - a.

10.0 Emergency Procedures

Below are a list of emergency numbers to contact in the event of an emergency:

1. Police, Fire or Medical Emergency, call – 911 on the Newark Campus, 9-911 for all others
2. Environmental Health & Safety – X8475

Please provide a list of other emergency phone numbers, such as after hour contacts for laboratory personnel or any other important phone number, to be used in the event of an emergency: _____

{Also 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 Waste Disposal

The authorized person using this material is responsible for the safe collection, preparation and proper disposal of waste unless otherwise stated below. Waste shall be disposed of as soon as possible and in accordance with all laboratory and University procedures. All personnel must obtain chemical waste disposal training via DEHS. In general, liquid waste will be placed inside a Nalgene waste container. The Nalgene container will have a safety waste funnel attached to it. The safety funnel has a hinged cover to keep emissions contained and spills to a minimum. This container also has a built in vent to minimize overflow. A "JustRite" waste container can also be used. This material should be appropriately labeled with the name and the quantity. Solid waste that is unable to go into a Nalgene container should be placed into a 6 mil poly bag or triple bagged into the normal trash bags. The bagged material should then be appropriately labeled with a hazardous waste label and set aside for pick up by the Department of Environmental Health & Safety. All waste materials must be labeled with a hazardous waste label. Dispose of waste through Environmental Health & Safety.

Specific instructions: _____

13.0 Decontamination Procedures for Equipment/Apparatus

{Outline and list decontamination procedures that need to be followed as needed}.

Specific instructions: _____

14.0 Attachments

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