**DATE: April 30, 2020**

**POLICY NUMBER: EHS-022C**

**Revision #1.0(4.30.2020)**

**SOP TITLE: BLANK**

**AUTHOR(S):**

**APPROVED BY:**

Standard Operating Procedure

Research Group:

Author:

Last revision date:

Room and Building:

Contact Information:

# Section 1: This standard operating procedure is for

□ The generic use of a chemical

□ A specific laboratory procedure involving a chemical

# Section 2: Chemical Information

*State name of chemical, physical properties, warning properties (if any) and MIOSHA (Michigan Occupational Safety & Health Administration) exposure limits.*

# Section 3: Potential Hazards

*List physical and health hazards associated with the chemical(s), and/or toxic chemical intermediates of the chemical(s). This should include any potential reaction (intentional or unintentional) that may release toxic, flammable or corrosive gases.*

*Suggested: (M)SDS (Materials Safety Data Sheets) -*

[*NIOSH Pocket Guide to Chemical Hazards*](http://www.cdc.gov/niosh/npg/) (http://www.cdc.gov/niosh/npg)

[*ATSDR Toxic Substances Portal*](http://www.atsdr.cdc.gov/substances/toxsearch.asp) (http://www.atsdr.cdc.gov/substances/toxsearch.asp)

# Section 4: Personal Protective Equipment

All work in laboratories must be performed under the guidelines for appropriate laboratory attire, as defined by the MSU Chemical Hygiene Plan:

* Close-toe shoes
* Long pants or long skirt covering the legs from the waist to the top of shoes
* Safety glasses or goggles, as appropriate
* Laboratory coat
* Chemical resistant gloves

A face shield and chemical-resistant apron must be worn when quantities greater than 1 liter are manipulated, or when the potential for splash or spatter can occur.

**In addition, flame resistant (FR) lab coats must be worn when working with flammable materials, including flammable liquids.**

*State where PPE for this procedure can be found in the laboratory. Identify the items to be worn for this procedure.*

*Identify documentation that gloves used with this compound are appropriate and resistant.*

# Section 5: Engineering Controls

Incompatible materials must be removed from the work station prior to beginning work.

State incompatible materials here.

Describe pathway and distance to the nearest emergency eyewash and shower. Indicate person responsible for weekly testing of eyewash.  
  
Hazardous chemicals must be manipulated in the fume hood.

*State the nearest location of fume hood.*   
  
Flammable solvents cannot be store in household refrigerators or cold rooms.

*State the appropriate cold storage location, if applicable.*  
*If a chemical is air or water reactive, describe in detail measures that will be used to keep the chemical in an inert atmosphere.*

# Section 6: Special Handling and Storage Requirements

*List anticipated purchase amounts and maximum amounts of chemical expected to be available at any time.*  
  
*Indicate number, size and type of storage cabinets to be used for storage of the chemical, if applicable.*  
  
Highly toxic chemicals, toxins, radioisotopes, controlled substances and certain biological materials have strict security requirements. *State these in this document, if applicable.*

Oxidizers must be stored away from flammable and combustible materials and chemicals, including solvents.

Do not store chemicals under sinks, office areas, closets, etc.

*Describe how secondary containers with will be labeled with chemical name and hazardous warning label(s).*

# Section 7: Accidental Release Procedures

*For chemicals requiring specialty fire extinguishers (reactive metals, etc.) state where the nearest fire extinguishers are located.*

Small spills (dry powder or <1 liter of solution): Don appropriate personal protective equipment and use the laboratory spill kit to clean the spill. Double-bag all of the material collected, and the materials used to clean the spill and sent to MSU EHS as contaminated debris waste.

Large spills >1 liter:

* Push the fume hood’s emergency purge button, if appropriate and safe to do so.
* Evacuate the laboratory.
* Close the laboratory door behind the last person.
* Call 911 for assistance.
* Pull the fire alarm if the release is reacting with other chemicals or materials and creating hazardous vapors outside the laboratory.
* Remain on scene in a safe location until help arrives.

# Section 8: Exposure Procedures

Skin exposure: For large exposures, or exposures to the face or eyes, call 911 immediately for assistance. Rinse affected skin with plenty of water while removing contaminated clothing and shoes. Rinse for at least 15 minutes or until help arrives. For small, uncomplicated skin exposures of low toxicity chemicals, rinse affected skin with plenty of water. Seek medical attention and/or proceed as directed by your PI or lab manager.

Eye exposure: Call 911 immediately. Wash eyes for at least 15 minutes or until help arrives, lifting the upper and lower eyelids.

Inhalation exposure: call 911 immediately. Move victim to fresh air, wait for paramedics to arrive.

# Section 9: Waste Disposal Procedures

Dispose of wastes by submitting [online waste pickup requests](https://db.ehs.msu.edu/chem-waste/new.htm) (https://db.ehs.msu.edu/chem-waste/new.htm) every 90 days to MSU EHS. Collect waste in a suitable waste container or polypropylene carboy provided by MSU EHS. Ensure a completed waste tag is always attached to the container.

*Describe who will be responsible for ensuring wastes are managed and relinquished to MSU EHS.*

# Section 10: Material Safety Data Sheet / Safety Data Sheet

*List location(s) of (M)SDS for the chemical(s). This should include a printed copy in the laboratory in an easily accessible location.*

# Section 11: Training and Awareness

Employees working with chemicals must complete the following training:

□ Chemical Hygiene and Hazardous Waste Initial / Refresher

□ Site Specific Training with PI or lab manager

□ Review and signature of this completed SOP

□ Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*If appropriate, identify other employees in the vicinity who may be affected should an unintended reaction or release of acetylene gas occur. Describe how those employees will be notified of this experiment, the location of this SOP and (M)SDS, and point contact person available for questions.*

# Section 12: Protocols

*Summarize the process or experiment, including an estimate of how long the process takes and how frequently it will be conducted. Provide a general sequential description of work, including details such as amounts of chemical used, special safety equipment utilized, etc.*

# Section 13: SOP Review and Prior Approval

I, the PI/Supervisor, grant the following laboratory personnel approval to perform the above SOP

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PI/Laboratory Supervisor signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_

I have reviewed and understood this Standard Operating Procedure, and agree to abide by the protocols described herein:

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A completed copy of this Standard Operating Procedure has been reviewed and approved by MSU Office of Environmental Health & Safety:

MSU EHS Staff: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**REVISION DATE:**

**REVISION SUMMARY:**

**REVISION COMPLETED BY:**