|  |
| --- |
|  **Chemical Name: XXXX****STANDARD OPERATING PROCEDURES**According to the Safety Data Sheet (SDS) for XXXX, special precautions must be taken when working with this chemical. This Standard Operating Procedure (SOP) briefly describes the use of equipment and supplies maintained in the lab/facility, procedures that must be followed, and the responsibilities of personnel when working in these labs/facilities. Lab Manager of the company or the designee should **amend this SOP by entering text in the highlighted words in yellow to include specifics for your labs.** Personnel shall not conduct experiments, even pilot studies, which are not described in this approved SOP. It is essential that all personnel follow the appropriate procedures outlined in this SOP. **Please provide the SDS associated with this chemical to all lab personnel working with it.** |
| **Lab Manager Information** |
| Lab Manager’s Name: |  |
| Company Name: |  |
| Date: |  |
|  |
| **1. Lab Manager Responsibilities**  |
| * Perform hazard assessments, develop/approve SOPs for the hazardous chemicals and procedures;
* Provide laboratory-specific training to laboratory personnel on the use of hazardous chemicals and the procedures described in this SOP and retain training records and all documentation;
* Implement and enforce rules and standards concerning health and safety for laboratories;
* Ensure compliance of laboratory personnel with this SOP;
* Ensure the availability and enforce the use of: appropriate Personal Protective Equipment, safety equipment, emergency equipment, Safety Data Sheets (SDSs), and relevant reference materials;
* Remain cognizant of chemicals stored and used in laboratories and their associated hazards;
* Dispose of chemicals no longer needed by following the TB5 program-specific procedures;
* Provide SDS and Laboratory-specific SOP via email to ehs@uh.edu upon request.
 |

|  |
| --- |
| **2. Chemicals/Hazards** |
| * CAS Number: Click here to enter text.
* Form (physical state): Click here to enter text.

**Indicate why this is a PHS (there may be more than one category):**

|  |  |  |
| --- | --- | --- |
|[ ]  High Acute Toxicity |[ ]  Carcinogen |[ ]   Reproductive toxin |
| [ ]   | Air Reactive/Pyrophoric material |[ ]  Water reactive |[ ]  Explosive/unstable |
|[ ]  Other (specify) |[ ]   |  |  |

 **Indicate other hazards:**

|  |  |  |
| --- | --- | --- |
|[ ]  Flammable |[ ]  Corrosive |[ ]  Oxidizer |
| [ ]  | Reactive |[ ]  Temperature sensitive |[ ]  Sensitizer  |
|[ ]  Other (specify) |  |  |  |  |

 **Indicate Circumstances of Use:** Click here to enter text.  |

|  |
| --- |
|  **3. Engineering Controls** |
| * Work with this chemical in a certified ducted fume hood to avoid exposure to dust generation.
* An eyewash/drench hose combination unit must be available in the immediate work area for any work with corrosive materials, including bleach.
* If large quantities of corrosives will be used, a safety shower will also be necessary.
* Review the SDS for the proper fire extinguisher(s) to use with the given material.

Please list the locations of the eye wash, safety shower and fume hood below.

|  |  |
| --- | --- |
| Type | Location (Building and Room Numbers) |
| Fume Hood(s) |  |
| Glove boxes if applicable |  |
| Biosafety Cabinet if applicable |  |
| Safety Shower (s) |  |
| Eyewash Station(s) |  |
| Fire extinguisher(s) |  |

**More lab-specific information regarding storage and segregation to train users:** Click here to enter text. |

|  |
| --- |
| **4. Personal Protective Equipment (PPE)** |
| Personal protective equipment is especially important.* Handle with \_\_\_ Click here to enter text. \_\_\_\_ **gloves (indicate the glove material)**. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
* Wear ANSI approved safety glasses or goggles when handling the chemical.
* Lab coats shall be worn. These laboratory coats must be appropriately sized for the individual and be buttoned to their full length. Laboratory coat sleeves must be of a sufficient length to prevent skin exposure while wearing gloves. Full length pants and close-toed shoes must be worn at all times by all individuals that are occupying the laboratory area. The area of skin between the shoe and ankle shall not be exposed.
* Respiratory protection may be needed if aerosol or vapor hazard is present and work is conducted outside of a fume hood. If any procedure may pose an external hazard it should be eliminated or strictly isolated. If a potential exposure hazard cannot be eliminated.

**More lab-specific information regarding PPE to train users:** Click here to enter text. |

|  |
| --- |
|  **5. Work Practice Controls (Preparation and Handling)** |
| **Preparation*** Consult with your Lab Manager to receive approval before working with particularly hazardous substances (PHSs). If possible, use safer chemical alternatives.
* Read the relevant Safety Data Sheets (SDS), technical bulletins, and guidance documents to understand how to mitigate the hazards. The SDS must be reviewed before using an unfamiliar chemical and periodically as a reminder.
* Perform a hazard analysis and identify the potential failures or weak points in your experimental design. Be prepared to handle accidents.
* Limit the amount purchased and do not accumulate unneeded PHSs.
* Users of PHSs must be trained in proper lab technique stated in Standard Operating Procedures (SOP) and be able to demonstrate proficiency.
* On-the-job training must be completed and documented.
* Conduct an emergency drill reviewing the procedures to be taken in an emergency.
* Review the location of the emergency equipment (safety shower, eyewash, and fire extinguisher, etc.) listed in Section 3.

**Designated Area*** All PHS material must be stored and used in a designed work area.
* You may designate your entire lab as a designed PHS work area.
* Post signage indicating the lab is designated for PHS use.

**More lab-specific information regarding Work Practice Controls to train users:**  Click here to enter text. |

|  |
| --- |
|  **6. Work Practice Controls (Storage and Transport)** |
| Keep container tightly closed and store in a secondary containment. Label the chemical bottle, the secondary container, and the secondary containment with the PHS hazards labels. For example: “Carcinogens”. Keep in a cool, well-ventilated area. Separate flammables from oxidizers, acids from bases, organics from inorganics, and reactives from air or water.**Any incompatible materials or conditions:** Click here to enter text.**More lab-specific information regarding storage and segregation to train users:** Click here to enter text.  |

|  |
| --- |
| **7. Spill and Accident Procedures****[Specific cleaning and waste disposal procedures must be determined.]** |
| Chemical spills must be cleaned up as soon as possible by properly protected and trained personnel. All other persons should leave the area. Spill response procedures must be developed based on the chemical and potential spill or release conditions. Clean up spills using contents of the laboratory spill kit. Do not attempt to clean up any spill if not trained or lack of proper PPE. If trained and equipped, only clean up manageable spills. In addition, please define manageable for this chemical class or process in terms of volume or mass and concentration, (e.g. less than XXX ml, less than XXX%) . If the spill is larger, more concentrated, or people have been exposed, evacuate the area, and call emergencies for help. If a person is exposed follow EXPOSURE PROCEDURES in section 8 below.**SPILL CLEANUP PROCEDURES****Manageable spills:**1. Close hood sash, cordon off area then notify your Lab Manager.
2. Personnel must wear appropriate PPE when handling spills.
3. If spill is extensive within the containment, clean all interior surfaces after completion of the spill cleanup.
4. Bag all waste in plastic bags labeled as chemical spill debris and store in fume hood away from incompatible chemicals. Follow the TB5 program-specific procedures to remove the hazardous waste with the help of the waste service company.

**Large spills:**1. Evacuate all personnel from the laboratory and restrict access. Call emergencies contacts by following the TB5 program-specific procedures. Notify your Lab Manager.
2. Be prepared to provide the following information:
* Name and phone number of a knowledgeable person that can be contacted
* Name of chemical spilled, concentration and amount spilled, liquid or solid type spill
* Number of injured, if any (refer below to EXPOSURE PROCEDURES)
* Location of spill

**More lab-specific information regarding emergency to train users:** Click here to enter text. |

|  |
| --- |
|  **8. Exposure Procedures in Case of Emergency** |
| **Provide First Aid Immediately** * If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
* In case of skin contact, wash off with soap and plenty of water for 15 minutes. Take victim immediately to hospital. Consult a physician.
* In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
* If swallowed, never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Get Help** 1. After first aid measures, seek medical attention if needed at the nearest Emergency Clinics, as appropriate.
2. Call emergencies contacts by following the TB5 program-specific procedures. Give details of exposure:
	1. Chemical name and concentration
	2. Amount of exposure
	3. Route of exposure (skin, eyes, respiratory)
	4. Time since exposure
3. Bring the SDS and SOP of the chemical to the Emergency Department.
4. Notify your lab manager as soon as possible for assistance.
5. Secure area before leaving. Lock doors and indicate spill if needed.

**Report Incident** For all incidents and near misses, please follow the TB5 program-specific procedures. **More lab-specific information regarding first aid measures to train users:** Click here to enter text. |

|  |
| --- |
|  **9. Waste Disposal** |
|  **WASTE COLLECTION AND DISPOSAL**Please provide a plan for waste management and disposal complying with all applicable federal, state and local laws and regulations.  |

|  |
| --- |
|  **10. Lab-specific Protocol/Procedure**  |
|  This SOP must be customized for each lab using XXXX. Use this section to describe or attach what is being done with this chemical, including specific laboratory procedures and quantities used.  |

|  |  |  |
| --- | --- | --- |
| Particularly HazardousSubstance involved? | X YES: | Blocks #11 to #13 are Mandatory |
|  NO: | Blocks #11 to #13 are Optional. |
|  |
| **11. Approval Required** |
| All personnel working with XXXX must be trained on this SOP prior to starting work. They must also be trained on the XXXX SDS, and it must be readily available in the laboratory. All training must be documented and maintained by the lab manager or their designee. |
| **12. Decontamination** |
| All surfaces and non-disposable equipment will be decontaminated with/by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| **13. Designated Area** |
| * All work with XXXX must be done in a designated laboratory, workspace, and fume hood. This work will be conducted in *[room #]*.
 |
| Lab Manager’s Name: |
| Company:  | Date: |
| Signature: |  |

|  |
| --- |
| **[Company Name]****Documentation of Training\*****Standard Operating Procedure for XXXX**  |
|  *“I have read and understand this SOP. By signing below, I agree to fully adhere to its requirements.”* |
| Last | First | PSID | Email | Signature | Date |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

\* This document, and associated training materials, including the signature page with signatures by all involved personnel shall be maintained by the Lab Manager of the company, and be submitted electronically via ehs@uh.edu or hard copy upon request.