STANDARD OPERATING PROCEDURE- ACUTELY TOXIC CHEMICALS

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| **CONTACT INFORMATION** |
| **Location** | Building: | Room: |
| **Street Address:** |  |
| **Lab Safety Contact:** | Name: |
| Lab Phone: | Office Phone: |
| **Emergency Contact** | Name: | Phone: |
| **TYPE OF STANDARD OPERATING PROCEDURE** |
| Indicate which type of Standard Operating Procedure applies[ ]  Specific Process or Equipment [ ]  Specific Hazardous Chemical[x]  Hazard Class for a Group of Chemicals |
| **DESCRIBE PROCESS/EQUIPMENT, HAZARDOUS CHEMICAL or HAZARD CLASS** |
| **Acutely Toxic Chemicals** (examples: Bromine, Cyanide salts, Hydrogen cyanide, Nickel carbonyl, Organolead compounds, Organomercury compounds, Organotin compounds, Osmium tetroxide).  Acutely Toxic Chemicals are chemicals that fall in category 1 or 2 of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) with respect to acute toxicity. They pose significant adverse health effects for immediate or short-term exposures (usually less than 24 hours) at very low concentrations. An acute toxicity category 1 represents the most severe toxicity. They are categorized by their median lethal dose (LD50) or median lethal concentration (LC50) values. \* For more information, consult the following link: <https://www.unece.org/fileadmin/DAM/trans/danger/publi/ghs/ghs_rev06/English/03e_part3.pdf>  |
| **HAZARD SUMMARY** |
| Acutely toxic chemicals are highly toxic by inhalation, injection, ingestion, or skin absorption that cause damage after a single or short-term exposure incident. Their health effects can range from illness to death and are not typically general to all tissues but targeted to specific ones. Acutely toxic chemical hazards can vary based on the compound; users must familiarize themselves with the specific hazards of the compound that they are working with. This information is available on the compound’s Safety Data Sheet (SDS). |
| **SPECIAL HANDLING AND STORAGE REQUIREMENTS** |
| Consult the chemical’s Safety Data Sheet (SDS) for specific handling instructions. If possible, eliminate or substitute for a less hazardous material. Designate an area where work may be conducted with acutely toxic chemicals. Design your experiment to use the least amount of compound as possible. Volatile or powdered acutely toxic chemicals should not be weighed outside of a fume hood. The tare method can be used if unable to weigh the compound inside of a fume hood. This is done by adding the chemical to a pre-weighed container inside of the fume hood. The container is then sealed and can be re-weighed outside of the hood. If the chemical weight needs to be adjusted the jar is to be taken back into the fume hood to complete this action. This way all open chemical handling is conducted in the laboratory hood. When leaving the work area remove PPE and wash hands. At the end of the workday, thoroughly decontaminate the work area in accordance to the compound’s SDS.  **Storage:**Store at or below eye level (~5 feet). Acutely toxic by inhalation chemicals should be stored in vented/ exhausted chemical cabinets. Do not store with incompatible chemicals.   |
| **ENGINEERING AND VENTILATION CONTROLS** |
| Use a properly functioning certified chemical fume hood when handling acutely toxic chemicals. Keep the fume hood’s sash as low as possible when working to provide a physical barrier and to avoid any chemical vapors from escaping. If the process does not allow for the handling of such materials in a fume hood, contact USF Environmental Health and Safety (EHS) to review the adequacy of ventilation measures. In procedures that require the use of a vacuum pump, use two collection flasks with an inline filter to prevent contamination. Laboratory Equipment or analytical equipment that generate vapors or aerosols during their operation must be locally exhausted or vented into a fume hood. Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential exposure. |
| **PERSONAL PROTECTIVE EQUIPMENT** |
| **PPE Requirements:** [x]  Long pants or clothing that covers all skin below the waist[x]  Shoes that cover the entire foot[x]  Gloves; indicate type: Chemical-resistant gloves must be worn. It is important that the type of glove being worn, is resistant to the particular acutely toxic chemical. Refer to a chemical glove compatibility chart to choose appropriate chemical resistant gloves specific to the chemical being use. Inspect gloves before use. Use proper glove removal technique to avoid skin contact with outer surface of glove. Wash hands after removing gloves.[x]  Safety goggles [ ]  Safety glasses[ ]  Face shield [x]  Lab coat[ ]  Flame-resistant lab coat [ ]  Other: Click here to enter text.If the use of an N95, half mask, or full face respirator is requested, the individual and/or their supervisor must first contact Environmental Health & Safety for a consultation to determine if respirator use is necessary. If EH&S determines the use of a respirator is necessary, the individual must participate in the University’s respirator program. This includes a medical evaluation; respirator fit test, and training. |
| **EMERGENCY PROCEDURES** |
| In case of fire or large and/or extremely hazardous chemical releases pull the fire alarm and evacuate the area  If someone is seriously injured or unconscious**CALL 911 or CAMPUS POLICE AT <enter your campus PD #>**From a safe place, provide as much information as possible to the emergency responders including chemical name, volume, hazards, injuries, and location. **Chemical Exposure**: Consult SDS for guidance on appropriate first aid for the specific acutely toxic chemical. Where medical attention is required, bring the SDS(s) of chemical(s) to aid medical staff in proper diagnosis and treatment. **Skin/Eye Exposure**: Remove any contaminated clothing, and IMMEDIATELY flush contaminated skin with water for at least 15 minutes following any skin contact. For eye exposures, IMMEDIATELY flush eyes with water for at least 15 minutes, then seek immediate medical attention. **If Ingested:** If chemical is ingested do not induce vomiting unless directed by the SDS. Seek immediate medical attention. **If Inhaled:** If chemical is inhaled immediately move to fresh air. Seek immediate medical attention. **If Injected:** If chemical is injected wash the injection site with antibacterial soap and seek immediate medical attention. **Evacuation Procedure*** Immediately evacuate the building via the nearest exit when the fire alarm is activated.
* If unable to evacuate due to a disability, shelter in the area of rescue / refuge, typically a stairwell landing, and wait for assistance from drill volunteers or emergency responders.
* Instruct visitors and students to evacuate and assist them in locating the nearest exit.
* Do not use elevators to exit the building during an evacuation as they may become inoperable.
* Carry only those personal belongings that are within the immediate vicinity.
* Close doors to limit the potential spread of smoke and fire.
* Terminate all hazardous operations and power off equipment.
* Close all hazardous materials containers.
* Remain outside of the building until the building is released for reentry.
* Do not restrict or impede the evacuation.
* Convene in the designated grassy gathering area and await instruction from emergency responders or drill volunteers. Avoid parking lots.
* Report fire alarm deficiencies, (e.g., trouble hearing the alarm) to facilities personnel for repair.
* Notify evacuation drill volunteers or emergency responders of persons sheltering in the areas of rescue/ refuge.
* **Never assume that an alarm is a “false alarm”. Treat all fire alarm activations as emergencies. Get out of the building!**

**Incident and Near Miss Reporting**: Report any incident that occurs in any University of South Florida affiliated teaching or research laboratory/studio or field research project. An incident means any unplanned event within the scope of a procedure that causes, or has the potential to cause, an injury or illness and/or damage to equipment, buildings, or the natural environment. Due to medical privacy concerns, no personal medical information of the person involved in the incident shall be entered on or submitted with the form. <http://www.usf.edu/administrative-services/environmental-health-safety/reporting/index.aspx>**Workers’ Compensation Procedure:** Supervisor and employee (if possible) call AmeriSys at 800-455-2079 to report a work-related injury or illness. Complete the [Consolidated Injury/Illness Reporting Form](https://www.usf.edu/administrative-services/environmental-health-safety/reporting/injury-illness-reporting.aspx), and send it to EH&S within 24 hours. |
| **WASTE DISPOSAL** |
| All chemical waste generated within USF System laboratories is considered hazardous waste and must be disposed of as hazardous waste in accordance with USF Hazardous Waste Management Procedure, the EPA, and the DEP. Sink disposal is not permitted. The USF Hazardous Waste Management Procedure can be found using the following link, <https://www.usf.edu/administrative-services/environmental-health-safety/documents/hazwaste-managementprocedure.pdf>  |
| **TRAINING REQUIREMENTS** |
| All individuals working with chemicals in USF laboratories must take EH&S’s Laboratory & Research Safety Training. To register for Laboratory & Research Training, please use the following link, <https://www.usf.edu/administrative-services/environmental-health-safety/training/course-descriptions.aspx#labsafety>.This procedure may warrant additional safety training per the PI, EH&S, or an authorizing unit such as the Biosafety or Radiation Safety programs. Check training requirements for this activity below:[x] Research Specific Training from the PI/Lab Supervisor or their designee[x] EH&S Laboratory & Research Safety Training [ ] EH&S Safety and Compliance in the Arts[ ] EH&S Respirator Fit Test[ ] EH&S Biomedical Waste[ ] EH&S Universal Pharmaceutical Waste Training[ ] EH&S Fire Prevention Safety[ ] EH&S Slips, Trips, and Falls[ ] RIC Biosafety Core Course[ ] RIC Shipping Biohazardous Materials[ ] RIC BSL 3[ ] RIC Radiation Safety[ ] RIC Laser Safety[ ] RIC Boating Safety[ ] RIC Scientific Diving[ ] Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **PRIOR APPROVALS** |
| [x]  This activity requires prior approval from the PI/designee.[x]  If this box is checked, working alone is not allowed. |

By signing and dating here the Principal Investigator or a designee certifies that the Standard Operating Procedure (SOP) for **Acutely Toxic Chemicals** is accurate and effectively provides safe standard operating procedures for employees and students in this lab who will handle this hazardous chemical.

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Signature Printed Name Date

I affirm that I have read and understand the Standard Operating Procedure for Acutely Toxic Chemicalsand have undergone the EH&S Laboratory & Research training and any lab specific training regarding this SOP.

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| Printed Name | Signature | Date |
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