STANDARD OPERATING PROCEDURE- REPRODUCTIVE TOXINS

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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  Hazard Class for a Group of Chemicals | | | |
| **DESCRIBE PROCESS/EQUIPMENT, HAZARDOUS CHEMICAL or HAZARD CLASS** | | | |
| **Reproductive Toxins (Examples: Ethylene dibromide, ethylene glycol monomethyl (and ethyl) ethers, Ethylene oxide, Lead, Mercury compounds, Toluene)**  Reproductive toxins are hazardous substances that adversely affect reproductive capabilities in both males and females, as well as causing adverse effects on offspring’s development. | | | |
| **HAZARD SUMMARY** | | | |
| Reproductive toxins damage reproductive organs and can cause chromosomal damage, sterility, birth defects, or loss of pregnancy. These chemicals may present extreme risk to laboratory workers if not handled properly and additional control measures may be needed. Reproductive toxins are categorized as mutagens or teratogens.  **Mutagens** are agents that cause change in an organism’s DNA, increasing the frequency of mutations that can result in disease or abnormalities in future generations. Sometimes mutagens can be passed along as a cell divides, causing cancer.  **Teratogens** are agents that can disturb or cause a malformation in the development of an embryo or fetus. They may cause birth defects or the termination of the pregnancy.  Reproductive toxins can act on the body through absorption, injection, ingestion, or inhalation.  The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) designates reproductive toxins by one or more of the following H codes:   * **H340** May cause genetic defects * **H341** Suspected of causing genetic defects * **H360** May damage fertility or the unborn child * **H361** Suspected of damaging fertility or the unborn child * **H362** May cause harm to breast-fed children | | | |
| **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 reproductive 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). Reproductive toxic chemicals should be stored in labeled secondary containment (e.g. polypropylene bin). Highly toxic reproductive toxins should be segregated and stored in a closed container, away from other materials. 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:**  Long pants or clothing that covers all skin below the waist  Shoes that cover the entire foot  Gloves; indicate type: Chemical-resistant gloves must be worn. It is important that the type of glove being worn, is resistant to the particular reproductive toxins. 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.  Safety goggles  Safety glasses  Face shield  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 for 15 minutes. 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 identifying information of the person involved in the incident shall be entered or submitted with the form.  <http://www.usf.edu/administrative-services/environmental-health-safety/reporting/index.aspx>  **Workers’ Compensation Procedure:** Call AmeriSys at 800-455-2079 to report a work-related injury or illness. Complete the Supervisor’s Accident Investigation Report available at the link above and send it to EH&S within 24 hours. | | | |
| **WASTE DISPOSAL** | | | |
| Describe how to dispose of the chemical waste produced from this activity.  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 Safety Training. To register for Laboratory Safety 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:  Research Specific Training from the PI/Lab Supervisor or their designee  EH&S Laboratory Safety Training  EH&S Hazard Communication  EH&S Hazardous Waste Awareness and Handling  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** | | | |
| This activity requires prior approval from the PI/designee.  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 **Reproductive Toxins** 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 **Reproductive Toxins** and 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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