**BIOLOGICAL TOXIN TEMPLATE SOP**

*[Customize to specific procedures and equipment in your laboratory.]*

**Standard Operating Procedures for *[Toxin]***

| **TOPIC** | **PROCEDURE** |
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| 1. **Chemicals/Hazards** | [*Obtain specific toxin hazard information from MSDS/SDS]*  CAS number: *[XXX]*  Routes of exposure: *[XXX]*  How exposure might occur: *[XXX]*  Target organs: *[XXX]*  Signs/symptoms of exposure: *[XXX]* |
| 1. **Preparation** | Hazardous chemical and specific SOP training will be provided to personnel working with toxin and any other personnel authorized or required to be in the laboratory during toxin work. Refer to [Biological Toxin Safe Work Practices](https://www.ehs.washington.edu/system/files/resources/biotoxin-safety.pdf).  *[Toxin]* inventory for the laboratory will be entered into MyChem.  Appropriate inactivation method(s) for [*toxin*] will be determined and supplies for inactivation and spill cleanup of *[toxin]* will be readily available.  *[List vaccinations or antitoxins required or recommended for toxin]*. If vaccinations or antitoxins are required, contact Employee Health Center (EHC) at 206-685-1026. |
| 1. **Designated Area** | All work with [*toxin*] must be done in a designated laboratory, work space and *[fume hood/glove box/BSC]*. Signage must be placed on door to room when *[toxin]* is used. This work will be conducted in *[Room #]* |
| 1. **Environmental/**   **Ventilation Controls** | Work with *[toxin]* will be performed in a *[fume hood/glove box/BSC]*.  In-line HEPA filters will be used on vacuum lines.  Safety centrifuge cups or sealed rotors will be used if centrifuging materials containing *[toxin]*, and the outside surfaces will be routinely decontaminated after each use. |
| 1. **Personal Protective Equipment (PPE)** | The following PPE will be worn when working with *[toxin]*: *[Customize list]*   * Laboratory coat or gown with long sleeves * Disposable lab coat * Safety glasses with side shields or chemical safety goggles * Face protection such as a face shield * Gloves that are impervious to *[toxin]* and diluent * Respiratory protection *[if aerosol hazard is present]*   Gloves will be changed immediately if contaminated, torn, or punctured. |
| 1. **Special Handling Procedures & Storage Requirements** | **HANDLING**  Prep   * Sign will be posted on the room door when toxin is in use stating: “Toxins in Use -- Authorized Personnel Only.” * All preparation of *[toxin]* will be performed over plastic-backed absorbent pads in a *[fume hood/glove box/BSC]*. Pads will be disposed of immediately upon contamination and after completion of tasks. * Describe how toxin will be prepared*: [Example: Vials of [toxin] will be purchased in pre-weighed powder form and then reconstituted in a [fume hood/glove box/biological safety cabinet (BSC)]. Weighing the [toxin] is not necessary as reconstitution will occur in the purchased vial and then aliquoted into vials with caps.]*   Use   * Only needle locking (Luer-Lock type) syringes or disposable syringe units will be used for injection or aspiration of *[toxin]*. * A sharps container will be in the immediate vicinity for safe sharps disposal. * Containers will be decontaminated before they are removed from *[fume hood/glove box/BSC]*. * The *[fume hood/glove box/BSC]* will be decontaminated upon completion of tasks with *[decontaminant and concentration]* for *[contact time]*. * All potentially contaminated disposable items will be placed in a hazardous waste bag and decontaminated before disposal. * Hands will be washed upon completion of tasks.   **STORAGE**   * *[Toxin]* will be stored in locked *[freezer/refrigerator/cabinet/box/other]* in *[secure location room #]*.   **TRANSPORT**   * *[Toxin]* will be transported in labeled and sealed non-breakable secondary containers. |
| 1. **Spill and Accident Procedures**   *[Specific cleaning, decontamination agents (and contact times)/equipment and waste disposal procedures must be determined.]* | All spills will be cleaned by properly protected and trained personnel. Wash hands thoroughly after completing any spill clean-up. If you are not trained or comfortable cleaning up a spill, call the EH&S spill hotline for assistance at 206-543-0467. If it is an emergency (risk of exposure to others such as an on-going toxin release), call 9-1-1.  **Liquid spills:**  Personnel cleaning up a liquid spill will wear a lab coat/gown, goggles, and two pairs of nitrile gloves. Cover spill with absorbent paper towels and apply *[inactivating agent + concentration]*, starting at the perimeter and working towards the center, allowing *[XX min]* contact time to deactivate *[toxin]*. Clean the spill area with *[inactivating agent]*, then soap and water. The decontaminated spill waste will be double bagged and disposed of in regular trash.  **Powder spills inside of [*fume hood/glove box/BSC]*:**  Personnel cleaning up a powder spill will wear a lab coat/gown, goggles, and two pairs of nitrile gloves. Gently cover powder spill with dampened absorbent paper towels to avoid raising dust. Apply *[inactivating agent + concentration]*, starting at the perimeter and working towards the center, allowing *[XX min]* contact time to deactivate *[toxin]*. Clean the spill area with *[inactivating agent]*, then soap and water. The decontaminated spill waste will be double bagged and disposed of in regular trash.  **Powder spills outside of a *[fume hood/glove box/BSC]*:**  Remove all personnel from the room and restrict access; do not attempt to clean up the spill.  As soon as possible report the spill by notifying EH&S (during business hours, Monday-Friday 8 a.m. to 5 p.m. call 206‑543-0467, outside of business hours call 9-1-1). Tell them that a spill has occurred, and you need EH&S to obtain a spill cleanup contractor.  Be prepared to provide the following information:   * Name and phone number of knowledgeable person that can be contacted: *[emergency contact name and phone number]* * *[Toxin name]*, concentration and amount spilled, liquid or solid spill * Number of injured, if any * Location of spill   This information can also be used in reporting to the Emergency Department after potential exposure.  The involved person or supervisor is required to complete and submit the [online accident reporting system (OARS)](https://oars.ehs.washington.edu/) form within 24 hours of the incident to EH&S for any spill incident.  For questions on spill cleanup, contact EH&S spill consultants at 206-543-0467 for guidance. |
| 1. **EXPOSURE PROCEDURES**   **In Case of Emergency** | 1. **Provide First Aid Immediately**  * For **inhalation** exposure, move out of contaminated area. Get medical help. * For **sharps** injury (needlestick, puncture wound, animal bite/scratch), wash exposed area thoroughly for 15 minutes using warm water and sudsing soap. * For **skin** exposure, use the nearest safety shower for 15 minutes. Stay under the shower and remove clothing. Use a clean lab coat or spare clothing for cover-up. * For **eye** exposure, use the eye wash for 15 minutes while holding eyelids open.  1. **Get Help**  * Call 9-1-1 and follow the instructions given. Provide information about exposure including:   + Chemical name   + Dose   + Route of exposure   + Time since exposure   + Safety Data Sheet (SDS) * Notify your supervisor as soon as possible for assistance. * Secure area before leaving. Lock doors and indicate spill if needed.  1. **Report Incident to Environmental Health & Safety**  * Notify EH&S immediately after providing first aid and/or getting help.   + During business hours (M-F/8-5) call 206-543-7262.   + After hours call 206-685-UWPD (8973) to be routed to EH&S staff on call. * For all incidents and near misses, the involved person or supervisor completes and submits the [UW Online Accident Reporting System (OARS)](https://oars.ehs.washington.edu/) form within 24 hours (8 hours if serious injury or hospitalization). |
| 1. **Waste Disposal and Cleaning** | Any waste *[toxin]* will be decontaminated or autoclaved as appropriate before disposal or given to EH&S for disposal whenever possible.  Work space surfaces must be wiped down after completion of tasks with *[inactivating agent + concentration]* during the length of the experiment. Absorbent pads will be replaced after completion of tasks or immediately if contaminated. Used and potentially contaminated absorbent pads, PPE, etc. will be placed in a hazardous waste bag and autoclaved.  If in-lab inactivation is not possible for *[toxin]* waste, it must be managed as hazardous chemical waste. Be aware that some form of treatment in the lab may be required before it can be managed as chemical waste. Contact EH&S Environmental Programs Office at 206-616-5835 for disposal instructions.  Request a [chemical waste collection](https://www.ehs.washington.edu/chemical/hazardous-chemical-waste-disposal) on the EH&S website. |
| 1. **Special Precautions for Use of [Toxin] in Animals**   *(This section must be completed if working with toxin in animals)* | Use of toxins in animals will be documented and approved by IACUC.  *[Give detailed procedures for safely completing tasks, decontamination information, and any special disposal requirements.]*  *[Animals will be anesthetized or placed into a restraining apparatus before procedures using [toxin] are performed. Once the animal has been properly fitted into the restraining apparatus, the syringe will be loaded just prior to injection.]*  After procedures are complete, the restraining apparatus and surrounding work station will be decontaminated *[inactivating agent + concentration]*. All reusable lab equipment will be autoclaved.  *[Give any special disposal requirements]* |
| 1. **Training and Documentation** | All staff working with *[toxin]* must be trained on this SOP prior to starting work. They must also be trained on the *[toxin]* SDS, and it must be readily available in the laboratory. All training must be documented and maintained by the PI. (training log at the end of document) |

**Name:**

**Title:**

**Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date:**

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| ***[Laboratory Name]***  **Documentation of Training**  **Standard Operating Procedure for *[Toxin]*** | | |
| **Name** | **SOP Training Date** | **Signature** |
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