Select Toxin SOP Template

Note: This template is intended for UI laboratories that possess exempt quantities of CDC select toxins. For a complete list of CDC select toxins, please visit <http://www.selectagents.gov/SelectAgentsandToxinsList.html>

*[To create your lab-specific SOP, replace blue text with the specific toxin and laboratory information.]*

# Hazard Identification

* CAS number: *[XXX]*
* Routes of exposure: *[XXX]*
* How exposure might occur: *[XXX]*
* Target organs: *[XXX]*
* Signs/symptoms of exposure: *[XXX]*

# Administrative Requirements

* 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.
* In addition to lab specific training, EHS’s online training course, “Toxins, Select Agent Quantity”, must be completed by all laboratory staff involved in toxin-related research.
* A current inventory for *[toxin]* will be maintained by the laboratory at all times. A print out of the [Select Agent Toxin Inventory Record Form](https://ehs.research.uiowa.edu/select-agent-toxin-inventory-record-form)  must be kept current within the laboratory. This form is designed to track specific toxin use and personnel access.
* **To ensure that the exempt quantity limits are not inadvertently surpassed, inventories are to be promptly updated after every container of toxin is:**
	+ Acquired (by purchase/intra-campus transfer);
	+ Depleted (by consumption /intra-campus transfer); or
	+ Inactivated.
* Current toxin inventories may also be kept in the online EHS Assist system. However, use of the EHS Assist system cannot be used in lieu of the Select Agent Toxin Inventory Record Form noted above.
* Appropriate inactivation method(s) for [*toxin*] will be determined and supplies for inactivation and spill cleanup of *[toxin]* will be readily available.

# Engineering 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.

# Personal Protective Equipment (PPE)

Appropriate PPE will be provided by the PI. *Note: if respirators are necessary, contact Periyasamy Subramanian (Subu) at 335-8299 for required respirator use approval and compliance documentation.*

The following PPE will be worn when working with *[toxin]*:

* *[List PPE that will be used]*

Gloves will be changed immediately if contaminated, torn, or punctured.

Contaminated and potentially contaminated protective clothing will be decontaminated upon completion of tasks with *[decontaminant and concentration]* for *[contact time]* before removal from the laboratory for disposal or cleaning.

# Special Handling Procedures

## Toxin Preparation

* + - A designated area will be established for work with the toxin.
		- A sign will be posted on the room door when toxin is in use stating: “Toxins in Use -- Authorized Personnel Only.”
		- All preparations of *[toxin]* will be performed in a *[fume hood/glove box/BSC]*.
		- Before containers are removed from the *[fume hood/glove box/BSC]*, the exterior of the closed primary container will be decontaminated and placed in a clean secondary container.
		- Toxin will be prepared as follows*: [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)]. OR Weighing the [toxin] is not necessary as reconstitution will occur in the purchased vial and then aliquoted into vials with caps.]*

## Toxin Use

* + - Only needle locking 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]*.
		- Contaminated and potentially contaminated PPE or equipment will be decontaminated upon completion of tasks with *[decontaminant and concentration]* for *[contact time]* before removal from the laboratory for disposal, cleaning or repair.
		- 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.

# Security, Storage & Transport

* + [*Toxin*] will be stored in locked [*freezer/refrigerator/cabinet/box/other*] in [*secure location room #*].
	+ [*Toxin*] will only be accessed by authorized personnel. Before becoming an authorized user, the PI must ensure that each person has received training as described above.
	+ The PI will maintain a list of authorized toxin users (include those having access to toxin materials).
	+ The lab must keep track of who uses the stock (and who has access to the freezer), recording each use.
	+ *[Toxin]* will be transported in labeled and sealed non-breakable secondary containers.

# Spill Procedures

[*Specific cleaning, decontamination agents (and contact times)/equipment and waste disposal procedures must be determined by the PI.*]

All spills will be cleaned by properly protected and trained personnel only. Wash hands thoroughly after completing any spill clean-up. EHS may be used as a resource to guide personnel through cleanup. If it is an emergency (risk of exposure to others such as an on-going toxin release), call 911.

## Liquid spills:

Personnel cleaning up a liquid spill will wear [*insert PPE that will be worn*]. 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.

## Powder spills inside of [*fume hood/glove box/BSC]*:

Personnel cleaning up a powder spill will wear [*insert PPE that will be worn*]. 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.

## Powder spills outside of a *[fume hood/glove box/BSC]*:

Remove all personnel from the room and restrict access.

As soon as possible report the spill by notifying EHS (EHS business hours 335-8501, outside business hours 911). Tell them that a spill has occurred with [*toxin*], and you are seeking guidance.

When calling EHS for spill response guidance, it will be given in one of two ways:

1. Guidance will be given on the phone or in person to help you safely manage and clean up a simple spill (one that is not endangering people or the environment and is not spreading rapidly) or;
2. You may be advised to call 911, evacuate, and wait for emergency responders. Responders will contain the spill to control immediate health and environmental hazards. If additional cleanup or decontamination is required, the individual or department responsible for the spill would complete cleanup or, if unable, contract with specialized cleanup services.

# Exposure Procedures

* + Cleanse the exposed area thoroughly using mild soap and water. For a mucus membrane exposure, flush the area with copious amounts of water.
	+ Report the incident immediately to your supervisor.  Refer to the [University Operations Manual](http://www.uiowa.edu/~our/opmanual/)(Part III. Human Resources, Chapter 34: Accidents) for the policy.
	+ Report directly to UIHC Emergency Department for medical treatment; they can be reached at 356-2233 or by dialing 911.
	+ During your medical evaluation you should:
	+ Inform medical personnel of the material to which you were exposed.
	+ Provide medical personnel with the toxin’s SDS if possible.
	+ Inform medical personnel of the conditions and route under which exposure occurred.
	+ The supervisor must ensure a [Worker's Compensation form](https://hris.uiowa.edu/portal/ss06/driver.php) is completed online through the Employee Self Service site within 24 hours.  As soon as possible, document the exposure route and circumstances of the incident.

# Waste Disposal

Any [*toxin*] waste will be decontaminated/inactivated prior to disposal.

* Free liquids and stock vials containing free liquids: may be disposed of down the drain, provided there is no other characteristic of the waste that makes it a hazardous waste, such as heavy metals, flammability, etc, in which case it must be given to EHS for disposal as chemical waste.
* Emptied stock vials and other non-liquid materials: A small amount of residual liquid is acceptable. Deface container labeling. Place in biohazard waste container, with the same conditional statement as above.
* Work space surfaces will be wiped down after completion of tasks with *[inactivating agent + concentration].* Dispose of used wipes in biohazard waste container.