

BIOLOGICAL SPILL RESPONSE PROCEDURES

The response to a biohazardous material spill varies based on several factors, including the actual agent and the associated risks, the agent's biosafety level, the amount of material spilled, type of spill and the location of the spill. These biological spill procedures are general guidance for a rapid, appropriate, and safe response to a biohazardous spill. Each lab working with biohazardous material must develop area-specific spill response procedures.

Minimizing personnel exposure shall take priority over clean-up. If any person is exposed to biohazardous materials, they should immediately remove contaminated clothing or PPE and wash the affected areas with soap and water. If medical assistance is needed, immediately contact University Police at 568-8999. Note that if the spill involves large amounts (greater than 50mL) of BSL 1 or 2 material, or any amount of BSL 3 or rDNA material, immediately call the BSO.

Procedures for Spills Inside the Laboratory

- Notify other employees and clear area immediately, closing the lab door upon exiting. Wait at least 30 minutes for aerosol to settle before entering spill area.
- Remove all contaminated clothing and place in biohazard bag. Run the bag through an autoclave at a later time.
- Put on necessary PPE including disposable gown, safety glasses and gloves.
- Place dry paper towels on the spill then layer a second set of disinfectant soaked paper towels over the spill.
- Encircle the spill with additional disinfectant being careful to minimize aerosolization while assuring adequate contact. Allow a minimum of 20 minutes contact time to ensure germicidal action of disinfectant.
- Wipe up spill, working from the edges to the center. Clean spill areas with fresh paper towels soaked in disinfectant.
- Decontaminate all items within the spill area.
- Disinfect all mops and cleaning tools.
- Discard contaminated disposable materials using appropriate biohazardous waste disposal procedures.
- Wash hands thoroughly with soap and water immediately after the clean-up is complete.

Procedures for Biosafety Level 3 Spills

- Do not breathe if a spill of contaminated material occurs outside the biological safety cabinet.
- Immediately put on required respirator.
- Surround the area of the spill with spill dikes to keep from spreading, carefully pour appropriate disinfecting solution (e.g., Amphyl) onto spill, cover area with paper towels or absorbent cloths, and then flood spill area again with disinfecting solution.
- Phone outside for help, if necessary. The access office has complete face shield-style respirators, which must be worn by any person who enters the BSL 3 laboratory to assist.
- Allow disinfectant to remain on spill for at least an hour. Afterwards, remove and bag the spill dikes and paper toweling for autoclaving, flood spill area again with disinfectant, cover with towels for another hour, repeat, a third time, and then clean entire affected area thoroughly.

- If clothes or PPE has been splattered with contaminated material, they must be removed and autoclaved before leaving the BSL 3 laboratory. A set of surgical greens shall be made available to wear in the case of accidental spills.
- The spill must be reported as soon as possible to the laboratory supervisor, University Police, and the BSO. Any occupational exposures shall be documented using the appropriate Incident/Accident reporting forms.

Procedures for Spills Inside the Biological Safety Cabinet

- Wear laboratory coat, eye protection and gloves during clean-up.
- Allow cabinet to continue running during clean-up.
- Apply approved disinfectant (one part bleach to nine parts water is acceptable for most small spills; apply concentrated disinfectant for large spills) and allow a minimum of 15 minutes contact time.
- Wipe up spillage with disposable disinfectant-soaked cloth or tissue.
- Wipe the walls, work surface and any equipment in the cabinet with a disinfectant-soaked cloth.
- Discard contaminated disposable materials in appropriate hazardous biological waste container(s) and autoclave before discarding as waste.
- Place contaminated reusable items in biohazard bags or in autoclavable pans with lids before autoclaving and cleanup.
- Expose non-autoclavable materials to disinfectant and allow 15 minutes contact time before removing from the biological safety cabinet.
- Remove protective clothing used during cleanup and place in a biohazard bag for autoclaving if necessary.
- Wash your hands thoroughly with soap and water immediately after the clean-up is complete.
- Run cabinet at least 15 minutes after cleanup before resuming work or turning cabinet off.

Procedures for Spills Inside the Centrifuge

- Ensure centrifuge is closed. Notify other employees and clear area immediately, closing the lab door upon exiting. Wait at least 30 minutes for aerosol to settle before entering spill area.
- Put on necessary PPE including a laboratory coat, eye protection and gloves during cleanup.
- Remove rotors and buckets to nearest biological safety cabinet for clean-up.
- Thoroughly disinfect inside of centrifuge, rotors, and buckets by applying an approved disinfectant (one part bleach to nine parts water is acceptable for small spills; apply concentrated disinfectant for large spills) and allow a minimum of 15 minutes contact time.
- After thorough disinfection of rotor or rotor cups, remove contaminated debris and place in appropriate hazardous biological waste container(s) and autoclave before disposing as infectious waste.

Procedures for Spills Outside the Laboratory, In Transit

- Prior to transporting biohazardous materials, secure materials in an unbreakable, well-sealed primary container placed inside of a second unbreakable, lidded container (cooler, plastic pan or pail). Label the outer container with the biohazard symbol if material is BSL or Risk Group 2 or higher.
- Should a spill occur in a public area, do not attempt to clean it up without appropriate PPE.

Contact University Police immediately, and notify EH&S to assist in the clean-up.

- Secure the area, keeping all personnel clear of the spill.
- As an interim measure, wear gloves and place paper towels, preferably soaked in disinfectant, directly on spilled materials to prevent spread of contamination. To assure adequate contact, surround the spill with disinfectant, if available, taking care to minimize aerosols.
- Wash your hands thoroughly with soap and water immediately after the clean-up is complete.
- Stand by during spill response and cleanup activity to provide information and assistance.

Procedures for Biological Spills Involving Radioactive Materials

When a biohazardous spill also involves radioactive materials, cleanup procedures may have to be modified. The extent of the modification will depend on the level of radiation and the nature of the isotope involved. The Radiation Safety Officer should be called immediately at 504-314-5989.