

Biohazardous Spill Response

A biohazardous spill occurs anytime there is an unplanned release of potentially infectious material into the work environment. Proper response to these incidents can ensure personnel and community safety while eliminating environmental contamination. In order for a biohazardous spill response to be effective and safe for the campus community, affected work groups must:

- Implement a spill response procedure for their work environment;
- Assure that spill cleanup materials are available for use;
- Assure that all personnel are trained in the provisions of the spill response procedure.

Biohazardous Spill Kits

Each work group that has a potential for a biohazardous spill should have sufficient and appropriate spill cleanup materials available to respond to the largest anticipated spill for that area. The basic items that should be included in a kit are:

- Gloves: nitrile or latex (multiple pairs) – Change annually
- Splash goggles (Check straps annually)
- Absorbent powder (i.e. Superfine, SSS Clean-up Powder)
- Absorbent towels
- Disinfectant (EPA registered tuberculocidal product or a product effective for destruction of HIV and hepatitis B virus, i.e. bleach) – Change as required
- Mechanical tools (i.e. forceps, dustpan/broom, tongs, plastic scrapers)
- Biohazard bags
- Antimicrobial towelettes – Change annually

Additional items might include: a fluid resistant smock to protect street clothes and a sharps container if contaminated sharps may be present.

Adopting A Biohazardous Spill Response Procedure

Biohazardous spills can happen in a number of different situations. When developing or adopting a spill procedure, assure that it is appropriate for your work area's specific needs. In addition, the following principles should be kept in mind:

- Minimize the spill responder's risk of exposure to both biological and chemical hazards. Eliminate unnecessary handling of the disinfectants (particularly in concentrated form) and spilled material. Prior to using a disinfectant, review the manufacturer's recommendations and material safety data sheet to assure safe and appropriate use of the product.
- Follow prescribed contact times and concentrations for disinfectants. These two parameters are critical to the effectiveness of these products.
- Be prepared. Supervisors must provide or arrange for training for all affected personnel regarding the spill protocol. Assure that spill materials are available and accessible.

A general sample response procedure is provided. If implemented, it can be modified to meet specific departmental needs. For more information on responding to spills in a biosafety containment lab, please refer to the MSU Biosafety Manual.

Sample Biohazardous Spill Procedure

This procedure is applicable to spills on a nonporous surface such as a tile floor or concrete floor.

1. Notify others working in the area of the hazard present.
2. Get your biohazard spill kit and review spill procedure before proceeding with cleanup.
3. Remove spill supplies from kit and line bucket/container with a biohazard bag. (Retrieve a sharps container for disposal of sharps if necessary.)
4. At a minimum, wear two pairs of gloves and splash goggles.
5. If applicable, using mechanical means (i.e. dustpan/broom, tongs), pick up any contaminated sharp items (needles, broken glass, etc.) and place them in an approved sharps container for disposal.
6. Cover the spill with an absorbent material (i.e. Superfine, SSS Clean-up Powder).
7. Remove the absorbent material by using a mechanical means (i.e. dustpan and broom, plastic scrapers) and deposit it along with the mechanical tool into a biohazard bag.
8. Spray the spill area with disinfectant and allow the appropriate contact time as recommended by the disinfectant manufacturer's instructions (i.e. 10 minute contact time for bleach)
9. Remove residual disinfectant with paper towels. Dispose of the towels in the biohazard bag.
10. Repeat steps 8 and 9 for sufficient disinfection of contaminated surfaces.
11. Remove outer pair of gloves only and dispose of them in the biohazard bag.
12. Remove splash goggles with inner gloves still on, and clean the goggles with an antimicrobial towelette (can also dispose of goggles if contaminated)
13. Remove inner pair of gloves and place them in the biohazard bag for disposal.
14. Close the bag and dispose of as biohazardous waste
15. Wash your hands with soap and water as soon as possible.
16. Return spill kit to designated location. Ensure that the spill kit is restocked for next use.

Treatment of contaminated items (solid, non porous items such as glassware, kitchen equipment, etc.):

1. Spray the item with disinfectant and allow a ten minute contact time (or as recommended by the disinfectant manufacturer's instructions).
2. Remove the contamination by wiping down the item with a paper towel.
3. Reapply the disinfectant and allow a ten minute contact time (or as recommended by the disinfectant manufacturer's instructions).
4. Remove excess disinfectant with a paper towel and allow to air dry.
5. If the treated surface is one that people will come in contact with (such as a toilet, faucet handles, etc.), assure that ALL disinfectant is removed from the item. Most disinfectants are corrosive and can cause irritation if they come in contact with the skin.

Treatment of contaminated items (porous surfaces such as fabric items):

- If the item is university-owned (such as a lab coat, sheets, etc.), contain it in a biohazard bag and deliver it to University Laundry for decontamination.
- If the item is a personal item and is heavily contaminated, contain it in a biohazard bag and deliver it to University Laundry for decontamination.

In some situations, it may not be appropriate for personnel to clean up a biohazardous spill. This may be the case if:

- An employee has not received training in biohazardous spill cleanup;
- Appropriate spill materials are not available;
- The spill is a combined hazard spill (i.e. radiation and biohazard);
- The spill is too large to be handled by your staff.

In these situations, personnel should take the following primary response steps:

1. Notify others in the work area of the spill;
2. Close off the area where the spill is located;
3. Call the designated spill responders (custodial staff, the ORCBS, etc.);
4. Keep others out of the spill area until responders arrive and spill hazard is removed.

For more information regarding biohazardous spill response procedures, or for assistance with developing a departmental procedure, please contact the Biosafety Staff at the ORCBS at 355-0153.