Biohazard spill response procedures

Overview

Biohazardous material spill response depends on both the size and hazard of the material spilled. Generally, response will vary between what is considered a small spill (less than ~50 mL) and a large spill (greater than ~50 mL). It is critical that you understand the nature of the material you are working with and what the appropriate response is in the event of accidental release. A highly hazardous pathogen where inhalation is the primary route of infection presents a serious risk even if less than 50 mL is released.

This document does not take the place of training. The steps provided below are purposely general. Before you begin work with any biohazardous material, always read through the Pathogen Safety Data Sheet (PSDS) to determine the Risk Group (RG), required Containment Level (CL), how to protect yourself from exposure, and any symptoms that might help you identify a Laboratory Acquired Infection (LAI). The PSDS will also provide information on the minimum effective decontamination technique and required contact time. Do not hesitate to contact EHS with any questions.

Biosafety contact information

<table>
<thead>
<tr>
<th></th>
<th>SFU Local</th>
<th>Cell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director, Research and Lab.</td>
<td>2-7265</td>
<td>(604) 375-3310</td>
</tr>
<tr>
<td>Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biosafety Program Manager</td>
<td>2-6740</td>
<td>(607) 762-0676</td>
</tr>
</tbody>
</table>

Biohazard spill kit contents

All of the items listed below are available at SFU Science Stores. Your Biohazard Spill Kit should be geared toward the type of biohazards you are working with, and should include but is not limited to the items below. Check the contents and condition of your spill kit once a month.

- Biohazard spill response procedures (this document)
- PPE (e.g., gloves, goggles, and N95 respiratory for two people)
- Disposable shoe covers
- Absorbent paper towels and absorbent pads
- Appropriate disinfectant (e.g., bleach)
- Bucket (use also to store spill kit contents)
- Tongs or forceps to pick up broken glass or contaminated sharps
- Red biohazardous sharps container
- Sturdy plastic bags and autoclave bags
- Biohazard spill warning signage and flagging tape
Small Biohazardous Spill (less than ~50 mL)

Information

1. Advise lab occupants of the spill and secure the area.

Risk assessment

2. If aerosols from the spilled material pose a significant risk, evacuate the lab, close the door, and contact EHS.
3. If you are not able to clean up the spill, or it is unsafe to do so, evacuate the lab, post a “Do Not Enter” sign on the door, and contact Campus Public Safety and EHS.

Clean up

4. If safe to do so, wearing a lab coat, gloves, and safety glasses, use tongs or forceps to remove any broken glass for autoclaving.
5. Cover the spill with paper towels and an appropriate disinfectant.
6. Don’t spray the spill directly with disinfectant. Rather, soak paper towels in the disinfectant and place over the spill to prevent the generation of aerosols.
7. Wait for the appropriate contact time.

Disposal

8. Collect all paper towels or absorbent material and autoclave before disposing of via the appropriate waste stream.
9. Wipe area of the spill again with disinfectant.
10. Dispose of gloves in autoclave bag.
11. Disinfect any non-disposable equipment that cannot be autoclaved.
12. Wash hands.

Documentation


Large Biohazardous Spill (greater than ~50 mL)

Information

1. Advise lab occupants of the spill and secure the area.

Preparation

2. Evacuate the lab, taking the spill kit with you. Place a “Do Not Enter: Biohazardous Spill” sign on the door.
3. Remove contaminated clothing and decontaminate.
4. Decontaminate contaminated skin if required.
5. Contact supervisor and EHS.
6. Allow aerosols to settle for at least 30 minutes.
Clean up

7. If safe to do so, have two people re-enter the lab to clean up the spill.
8. Wearing a lab coat, gloves, safety goggles, shoe covers, and face protection (if required), use tongs or forceps to remove any broken glass for autoclaving.
9. Pour disinfectant around the spill in concentric circles. To reduce aerosol generation, do not pour directly onto the spill.
10. Cover the spill with paper towels soaked with more disinfectant, working from the perimeter to the centre of the spill.
11. Wait for the appropriate contact time.

Disposal

12. Collect all contaminated materials and dispose of in autoclave bag.
13. Disinfect any non-disposable equipment that cannot be autoclaved.
14. Wash hands.

Documentation


**Spill in a biosafety cabinet (BSC)**

1. Keep the BSC running after the spill and during cleanup procedure.
2. If gloves were contaminated from the spill, don new gloves.
3. Pour an effective disinfectant in concentric circles to cover the spill. If necessary, flood the work surface in the BSC as well as the drain pans and catch basins below the work surface. Ensure drain valve is closed before flooding with disinfectant.
4. Wipe all equipment with a suitable disinfectant.
5. Allow disinfectant to act for an appropriate contact time.
6. Collect disinfectant through the drain valve.
7. Wipe up residual disinfectant with paper towels.
8. Wipe down all surfaces with disinfectant again.
9. Dispose of all contaminated materials via the appropriate waste stream.
10. Remove PPE, treating gloves as contaminated, and wash hands.
11. Allow the BSC to run for ten minutes after the spill has been cleaned up before shutting off.

**Spill in a centrifuge**

1. Close the centrifuge and wait for at least 30 minutes for aerosols to settle.
2. Remove centrifuge rotor/cups/buckets and centrifuge tubs. Place in a container to prevent leaks and place in the BSC. Watch for broken glass.
3. Remove any broken glass from the centrifuge using tongs or forceps. Dispose into a biohazardous sharps container.
4. Use an appropriate disinfectant to decontaminate the inside chamber of the centrifuge.
5. Use an appropriate disinfectant to decontaminate the rotor/cups/buckets/tubs inside the BSC.