

Biological Spill Procedures



Biohazard Spill Clean-Up Materials:

Laboratories conducting experiments involving biological hazards such as microorganisms, human-derived materials, and recombinant/synthetic acid molecules must have plans for handling accidental spills. The following items should be conveniently accessible in any lab using potentially infectious materials, and all lab personnel must know the location of these materials:

- Gloves (latex or nitrile)
- Lab coat or disposable gown
- Safety glasses or goggles
- Disinfectant solution*
- Tongs, forceps, dustpan, broom
 - A mechanical device must be used to remove sharps without using gloved hands
- Absorbent materials (e.g., paper towels)
- Signage to post at lab entrance for controlling access (“Biohazard Spill – Do Not Enter”)
 - On the sign, include the date and time of the spill as well as contact information for the individual involved in the spill
- Biohazard bags for collecting all contaminated materials generated during the cleanup, and a puncture-resistant biohazard sharps container if spill involves contaminated sharps
- A copy of all applicable biological spill procedures

*A freshly prepared 10% bleach solution is effective for the decontamination of most biological spills. Some laboratories have the potential for spills involving agents or materials that may be resistant to a 10% bleach disinfectant. In these cases, it is important for the lab to use an effective disinfectant. A list of selected EPA-registered disinfectants is available online at <https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants>.

If an exposure occurs it must receive immediate attention before cleaning up the spill, and personnel must follow the approved procedures for post-exposure evaluation and follow-up.

General Biological Spill Procedures:

1. **DO NOT PANIC!**
2. Alert people in the immediate area that a spill occurred (to avoid spreading spilled material)
3. Remove any contaminated clothing, avoiding contact with exposed areas. Place contaminated clothing in an autoclave bag to be autoclaved later.
4. Put on appropriate personal protective equipment (e.g., gloves, lab coat, safety glasses)
5. Cover the spill with absorbent material (e.g., paper towels)
6. Carefully soak the paper towels and spilled material with disinfectant (avoid splashing)
7. Allow a 20-minute disinfectant contact time (some agents may require a longer contact time)
8. Wipe down any contaminated equipment with disinfectant
9. Remove broken glass or other sharps with a brush and dustpan, tongs, or forceps
 - a. Place contaminated sharps in a puncture-resistant biohazard sharps container
10. Use absorbent material to wipe up the spill
11. Clean the area once more with absorbent material and disinfectant solution
12. Place contaminated disposable materials in a leak-proof biohazard bag for autoclaving, and properly decontaminate any non-disposable materials prior to reuse
13. Remove gloves and thoroughly wash hands
14. Notify personnel when the clean-up has been completed
15. Complete the EH&S lab incident report form and submit it to the Biosafety Officer.

Procedures for BSL-2 Spills Outside a Biosafety Cabinet:

1. If the agent poses an inhalation risk, avoid inhaling airborne material while quickly leaving the room. Notify others in the room to leave. Close door, and post the [warning sign](#).
2. Allow aerosols to disperse for at least 30 minutes before reentering the laboratory. Assemble clean-up materials (disinfectant, paper towels, forceps if sharps are involved, and biohazard bags)
3. Follow general biological spill procedures
4. Remove the warning sign once spill clean-up is complete
5. If it is a spill involving recombinant or synthetic nucleic acid materials, complete and submit the NIH Guidelines incident reporting form in lieu of the EH&S lab incident report form.

NOTE: If an exposure occurs, it must receive immediate attention before cleaning up the spill, and personnel must follow the approved procedures for post-exposure evaluation and follow-up.

Spills Inside a Biosafety Cabinet (BSC):

1. **Do NOT turn off the BSC**

2. Follow above general biological spill procedures.

NOTE: The room does not need to be evacuated for a spill in a BSC of materials requiring BSL-2 containment (as long as the BSC remains running and is functioning properly).

3. If material has spilled into the catch basin below the work surface: a) close the drain valve; b) flood the drain with disinfectant (volume equal to quantity in basin; c) wait 20 minutes (disinfectant contact time); d) absorb remaining liquid with paper towels

4. Leave the cabinet running at least 10 minutes after the completion of clean-up

Spills Inside a Centrifuge:

1. Turn off the centrifuge & wait 20 minutes before opening lid to allow aerosols to settle

2. Follow above general biological procedures

3. Remove buckets and rotors and move them to closest biosafety cabinet before opening

4. Disinfect interior of centrifuge & disinfect buckets/rotor per manufacturer's instructions

When centrifuging high concentrations or large volumes of infectious agents, these materials may be centrifuged in the open laboratory using sealed rotor heads or centrifuge safety cups.

Spills during Transport:

Biohazardous materials should be transported in such a way as to minimize exposure to infectious agents. During transport, a leak proof primary receptacle (vial, Eppendorf tube, etc.) and a sturdy, leak proof outer container must be used. The outer container must be labeled with a biohazard symbol if the materials are potentially infectious. If there is a potential for biological samples to spill during transport, then proper spill clean-up materials should be readily accessible. If transporting in a vehicle, a spill kit must be present in the vehicle.

1. Keep people out of the vicinity of the spill and secure the area. Initiate clean-up as soon as possible

NOTE: Do not attempt to clean up the spill if proper personal protective equipment and spill clean-up materials are not available. Contact the Biological Safety Officer (777-1625, smiths69@mailbox.sc.edu) if PPE and spill clean-up materials are not available.

2. If proper PPE and spill clean-up materials are available, follow the general biological spill clean-up procedures.