A biohazardous spill involving radioactive material requires emergency procedures that are different from the procedures used for either material alone. Use procedures that protect you from the radionuclide as you disinfect the biohazardous material.

Before any clean-up, consider the type of radionuclide, the characteristics of the microorganism and the volume of the spill. Contact the RSO at 603-862-3607 for the isotope clean-up procedures.

First Steps

1. Avoid inhaling airborne material and quickly leave the room.
2. Notify others to leave.
3. Close door and post with warning sign.
4. Remove contaminated clothing, turn exposed area inward and place in a biohazard bag.
5. Wash all exposed skin with disinfectant, followed by a three-minute water rinse.
6. Inform your supervisor and the RSO (603-862-3607) of the spill and monitor all exposed personnel for radiation. If assistance is needed in handling the microorganism, contact the LSO (603-862-4041).
7. Allow aerosols to disperse for at least 30 minutes before reentering the laboratory. Assemble clean-up materials (e.g., disinfectant, autoclavable containers, forceps, towels and sponges).
8. Confirm with the RSO if it is safe to enter the lab.

If a high dose is expected, the dose rate must be determined by the Radiation Safety Officer prior to clean-up. If not, disinfect the biohazard first and then complete a dose assessment of the spilled material. Contact the RSO at 603-862-3607 for assistance.

1. Put on protective clothing (gown, surgical mask, gloves and shoe covers). Depending on the nature of the spill, it may be advisable to wear a HEPA filtered respirator instead of a surgical mask.
2. Cover the area with disinfectant-soaked towels and carefully pour disinfectant around the spill. Avoid enlarging the contaminated area. Use additional concentrated disinfectant as it becomes diluted by the spill. Allow at least 20 minutes contact time. Do not use chlorine bleach solutions on iodinated materials: radioiodine gas may be released. Instead, use an alternative disinfectant such as an iodophoric or a phenolic compound.
3. Handle any sharp objects with forceps.
4. Do not autoclave contaminated waste unless approved by the RSO (603-862-3607).
5. Wipe surrounding areas, where the spill may have splashed, with disinfectant.
6. Soak up the disinfectant and spill and place the decontamination materials, along with protective clothing, into an approved radiation waste container and label it according to Radiation Safety Guidelines.

7. Wash hands and exposed skin areas with disinfectant and monitor personnel and spill area for residual radioactive contamination. If skin contamination is detected, repeat decontamination procedures under the direction of the RSO. If spill area has residual activity, determine if it is fixed or removable and handle it accordingly.

8. Contaminated protective clothing must be disinfected prior to disposal as radioactive waste. Contact the RSO at 603-862-3607 for instructions.

9. If any items are found to be radioactive, spray with disinfectant and allow at least a 20 minute contact time.

10. Wrap the item(s) inside the adsorbent paper and dispose of as radioactive waste.

The waste involved in this type of clean-up is called “mixed-waste” because it contains biological infectious agents and radioactive material. Therefore, it must be labeled with a “radioactive material” tag and the “biohazard symbol.”