

BIOSAFETY LEVEL 3 (BSL-3) SPILL

Use the guidelines below for response to spills of BSL-3 material outside of the biosafety cabinet or any other incident that may have generated an aerosol in the containment laboratory such as failure of physical containment devices during centrifugation.

- Hold your breath and leave the room immediately. Notify others in the room to evacuate immediately.
- Quickly remove outer gloves before leaving and drop gloves on floor before entering the ante room.
- Remove personal protective equipment in the airlock or access zone. Turn potentially contaminated clothing inward. Remove gloves last and wash any exposed skin areas with antiseptic soap and warm water.

In the event of an exposure incident:

- **For a needlestick/puncture wound:** Wash the affected area with disinfectant, antiseptic soaps and warm water for 15 minutes. Squeeze around the area to encourage the flow of blood out of wound.
- **For mucous membrane exposure:** Use eye wash for 15 minutes to flush the affected area.
- Post a Biohazard Spill Sign at the entry to BSL-3 lab door with the recorded date and time of spill.
- Notify your Principal Investigator and Environmental Health and Safety.
- Do not re-enter the laboratory until it has been cleared for re-entry by the Principal Investigator or Environmental Health and Safety. In general, a period of at least 30 minutes should be allowed before cleanup is attempted, but the time is contingent upon the supply and exhaust features of the lab.

Composition of BSL-3 Spill Kit

- Undiluted household bleach
- Forceps for handling sharps or collecting small objects
- Paper towels or other suitable absorbent
- Biohazard bags for the collection of contaminated spill cleanup items
- Sharps container, if necessary, for collection of needles or other sharps
- Personal protective equipment: Gloves (household utility gloves afford additional protection), face protection such as masks and eyewear, back-fastening gowns, Tyvek jump suits (will not drag into spill area when cleaning), plastic booties and a powered-air-purifying-respirator (PAPR) with HEPA filters.
NOTE: Researchers using respiratory protection equipment must be enrolled in the Yale University Respiratory Protection Program and have training in the use and fit of their respirators prior to use.

Store the BSL-3 spill kit and respirator in a secure location outside of the BSL-3 laboratory. This will prevent contaminating the kit or the need to reenter a BSL-3 spill situation to obtain your response kit.

Replace spill kit components as they are used so you are prepared for the next incident

Cleaning the BSL-3 Spill

If the spill involves radioactive materials, contact the Radiation Safety Office at 203-785-3555.

Once clearance has been given to re-enter the spill area by the Principal Investigator in consultation with Environmental Health and Safety, wear the appropriate personal protective equipment and enter the lab.

- While wearing personal protective equipment, cover the spill area with paper towels or disinfectant-soaked paper towels.
- Slowly pour concentrated disinfectant around the edge of the spill, working toward the center to avoid enlarging the contaminated area). Avoid splashing or the creation of aerosols during this step.
- Allow a 15-20-minute contact time for the disinfectant.
- While waiting, decontaminate the surrounding floor and work surface areas where splashes or larger aerosols may have settled around the spill. Use disinfectant-soaked towels to wipe these areas (1-10 percent household bleach is suitable for this purpose).
- After the 15-20-minute contact time, place soiled paper towels inside the biohazard bag.
- Repeat the decontamination procedure.

After Performing the Decontamination

- Decontaminate any reusable items such as forceps by wiping with and then soaking in a disinfectant solution. A soak in 1-10 percent household bleach for 15-20 minutes is sufficient. Since bleach is corrosive, follow the decontamination with a water wipe to remove any corrosive residues.
- Remove personal protective equipment, turn any exposed areas inward and place in the biohazard bag. Generally, gloves are removed last. However, to avoid touching your face with gloved hands, remove gloves just before removing masks or eyewear.
- Wipe down the exterior portions of any reusable personal protective equipment such as the powered-air-purifying-respirator and utility gloves with the bleach solution. Perform the disinfectant wipe down twice.
- Wash your hands well with soap and water for at least 15-30 seconds.
- Autoclave all waste generated from the spill cleanup. Use fresh gloves for transport to the autoclave and wash hands after removing gloves.