

BIOHAZARDOUS MATERIAL EMERGENCY RESPONSE REFERENCE GUIDE

Laboratories that work with biohazardous, human bloodborne pathogen, or recombinant or synthetic nucleic acid materials should review emergency procedures and equipment at least annually. A spill kit and appropriate disinfectant should be available and easily accessible in areas with biohazardous material.

BIOHAZARD EMERGENCY

Immediately Contact NUPD emergency line at 617-373-3333 or use SafeZone App if:

1. Life threatening emergency
2. Major spill, high-risk biological material, or unknown spill
3. Environmental release, not appropriately trained, or uncomfortable cleaning spill

BIOHAZARD EXPOSURE

1. For puncture, cut, or broken skin, **wash the area** with soap and water for **15 minutes** or for eye exposures, with the eyewash station for 15 minutes.
2. **Seek medical attention immediately.** Contact the Occupational and Environmental Health Network (OEHN) at 866-360-8100 who will help direct you to appropriate medical care. Be prepared to describe the biological material, dose, concentration, and route of exposure.
3. **Report the incident** to your supervisor/PI and Biosafety at 617-373-2769.

BIOHAZARD SPILL

1. **Secure the Area** and Minimize Exposure
 - a. Notify personnel in immediate area
 - b. Restrict access and post "Caution: do not enter. Spill clean-up in process" signage
 - c. Leave area for 30 minutes to allow aerosols to settle if outside containment
2. Put on **Personal Protective Equipment (PPE)**: lab coat, gloves, eye protection, closed toed shoes, legs covered.
3. **Obtain Spill Kit**: absorbent material (i.e. paper towels or spill pads), biohazard waste bags, dustpan/broom, tape/zipties, appropriate disinfectant for agents
4. **Contain the spill** by blocking with absorbent material
5. Collect sharps or broken glass with tweezers, tongs, or dustpan/broom in sharps container (do not pick-up sharps with hands). **Ensure any sharps are contained** prior to clean-up.
6. Cleaning Spill
 - a. Use absorbent pads or paper towels to **cover spill**
 - b. **Slowly pour appropriate disinfectant** (Note: 10% fresh bleach for contact time of 20 minutes, 1 part bleach with 9 parts water, is effective against majority of agents) from outside to center of spill
 - c. Allow to sit for **20-minutes contact time**
 - d. Use biohazard bags for waste
 - e. Repeat steps
 - f. Final cleaning with compatible detergent
 - g. **Place bags in biowaste box** double lined with red bags

7. **Report the incident** to your supervisor/PI and Biosafety at 617-373-2769.

DISINFECTANT AND DECONTAMINATION CONSIDERATIONS

1. Regularly disinfect work surfaces and equipment, including biosafety cabinets, centrifuges, and incubators. If spill in a BSC or centrifuge: clean all potentially contaminated surfaces (e.g. rotors, safety cups, inside walls of BSC, under the plenum) and keep BSC running.
2. Use freshly prepared household bleach dilution (within 24 hrs.) 1% (1:100) to 10% (1:10) bleach for a 10-minute contact time for surface disinfection and 30-minute for liquid disinfection. To prevent corrosion, remove residual bleach with water or 70% ethanol.
3. 70% ethanol is not a suitable disinfectant for human or non-human primate, bloodborne pathogen material or adeno-associated virus (AAV).
4. 70% ethanol or isopropanol may be used to disinfect enveloped viruses and vegetative bacteria, such as, *E. coli*, *P. aeruginosa*, *S. aureus*, *S. pyogenes* with a contact time of 1-minute to 10-minutes provided excessive organic material is not present. Organic material inactivates alcohol, and to a lesser extent, bleach.
5. Alternative disinfectants and contact times may be used for decontamination based on biological material. This must be approved on IBC biological research registration. Consult EPA Disinfectant list: <https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants>.