

Section 6 – Emergency Preparedness and Response

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A. BIOHAZARDOUS SPILL CLEAN-UP PROCEDURES

This section provides spill clean-up procedures for BSL-1 and BSL-2 laboratories. These procedures apply to biohazardous agents and all recDNA. For BSL-2 laboratories with BSL-3 practices and BSL-3 laboratories, refer to your laboratory specific biosafety manuals for spill clean-up procedures.

1. Responsibility

Each PI is responsible for developing spill clean-up procedures appropriate for the materials used in the laboratory, as well as assuring that a spill kit is assembled and placed in a strategic location outside of, but near, the area where a spill could occur.

Furthermore, anyone working with biological materials must receive training in spill clean-up appropriate for the materials routinely used.

2. Biohazard Spill Kit

The following items should be assembled in a single container that can be easily moved to the spill area. A large bucket is practical for the container as it can double as the secondary container for transporting waste away from the spill. See the [EH&S Biohazard Spill Kit page](#) for more information.

1. An appropriate chemical decontaminant: In most cases a 1:10 dilution of freshly prepared household bleach is appropriate.



2. Materials to absorb liquids after decontamination: This could include paper towels, absorbent lab pads, or special materials designed to absorb large volumes of liquid.
3. Appropriate PPE to wear during clean-up: Nitrile or heavy duty gloves, a long-sleeve laboratory coat or gown, and goggles are always necessary. Facial protection should be considered for large spills as well as protection against splash and splatter of the chemical decontaminant.
4. A mechanical means for handling broken glass: This could include tongs, forceps, small disposable scoops and sponges, autoclavable dust pans, or any other method that prevents direct contact with the broken glass.
5. Biohazard bags, sharps containers, and/or other containers: The containers are used to hold the material for further treatment and disposal.

3. Spill Advice

For biohazardous spill advice contact EH&S ROS at 206-221-7770 during business hours (Monday – Friday; 8:00 a.m. – 5:00 p.m.). Outside of business hours, call UW Police Department at 206-685-UWPD to be redirected to EH&S on-call staff.

4. Biohazardous Spill Inside a BSC

This section provides spill clean-up procedures for biohazardous agents and all recDNA inside a BSC.

a. Spill inside a BSC that stays contained on the work surface

- Operate to prevent escape of contaminants from the cabinet. Spill cleanup procedures should be initiated immediately while the cabinet continues to operate.
1. Remove any sharp, contaminated objects from the spill area using mechanical means (like tongs or forceps) and never with hands. Discard contaminated sharps in a sturdy, leak-proof, biohazard labeled sharps container.
 2. Cover the spill with paper towels or other absorbent material. Slowly pour a decontaminant solution appropriate for the agent involved (Section 4.E) around the spill and allow the solution to flow into the spill. Paper towels soaked with the decontaminant may also be used to cover the area. An example of an appropriate decontaminant for use in BSCs is freshly prepared 1:10 dilution of household bleach, 0.5% sodium hypochlorite (left on for an appropriate contact time), followed by a final rinse with water to avoid any corrosion caused by bleach on stainless steel work surfaces.
 3. At least 30 minutes is generally considered an appropriate contact time for decontamination but this varies with the decontaminant and the microbiological agent. Manufacturer's directions should be followed.
 4. Wipe up the spill, work surfaces, walls, and any equipment in the cabinet with paper towels dampened with decontaminant. Do not place your head in the cabinet to clean the spill; keep your face behind the sash.
 5. Place contaminated paper towels and other spill clean-up materials in biohazard bags or autoclavable pans with lids for autoclaving.
 6. Decontaminate the spill area again. Place all used spill materials into a biohazard bag.
 7. Remove any contaminated PPE in a manner to avoid cross-contamination; dispose of per standard lab practices.
 8. Wash hands thoroughly after removing gloves.

b. Spill inside a BSC that flows past the work surface through the front or rear grills

A large spill inside a BSC that flows past the work surface through the front or rear grilles requires more extensive decontamination. To prevent escape of contaminants from the cabinet, spill clean-up procedures should be initiated at once while the cabinet continues to operate.

1. Ensure the drain valve under the BSC is closed.
2. Remove any sharp, contaminated objects from the spill area using mechanical means (like tongs or forceps) and never with hands. Discard contaminated sharps in a sturdy, leak-proof, biohazard labeled sharps container.
3. Flood the top work surface tray and, if a Class II BSC, the drain pans and catch basins below the work surface with a decontaminating solution that is appropriate for the agent involved (Section 4.E). An example of an appropriate decontaminant for use in BSCs is a freshly prepared 1:10 dilution of household bleach, 0.5% sodium hypochlorite (left on for an appropriate contact time), followed by a final rinse with water to avoid any corrosion caused by bleach on stainless steel work surfaces.
4. At least 30 minutes is generally considered an appropriate contact time for decontamination but this varies with the disinfectant and the microbiological agent. Manufacturer's directions should be followed.
5. Remove excess decontaminant from the work surface tray by wiping with a sponge or cloth. For Class II BSCs, drain the tray into the catch basin below the work surface, lift the tray and take out the removable front intake grille. Wipe the top and bottom (underside) surfaces of the grille with a sponge or cloth soaked in the decontaminant. Then place the tray in position, drain the decontaminant from the cabinet base into an appropriate container, and dispose of the decontaminant in the sewer.
6. Place spill clean-up materials (e.g., contaminated gloves, cloth and/or sponge) in autoclavable pans with lids for autoclaving.
7. Decontaminate the spill area again. Place all used spill materials into a biohazard bag.
8. Remove any contaminated PPE in a manner to avoid cross-contamination and dispose of per standard lab practices.
9. Wash hands thoroughly after removing gloves.

5. Biohazardous Spill Outside a BSC

This section provides spill clean-up procedures for biohazardous agents and all recDNA outside a BSC.

a. Small spills that can be easily absorbed by one standard paper towel

Agents transmitted by inhalation (e.g., adenovirus, influenza)

1. Hold your breath and leave the room immediately. Ask other lab occupants to also leave the room and close the door. One good way to identify the spill area is to drop your laboratory coat on the area on your way out.
2. Warn others not to enter the contaminated area and post a sign on the door.
3. Remove contaminated garments and put into a container for autoclaving. Thoroughly wash any exposed areas of the body.
4. Wait 30 minutes to allow dissipation of aerosols created by the spill.
5. Follow the decontamination steps below.

Agents not transmitted by inhalation

1. Assemble spill clean-up materials.
2. Put on appropriate PPE (e.g., long-sleeve lab coat, goggles, and nitrile gloves).
3. Remove any sharp, contaminated objects from the spill area using mechanical means (e.g., tongs or forceps). Discard contaminated sharps in a sturdy, leak-proof, biohazard labeled sharps container.
4. Pour a decontaminant solution (e.g., freshly prepared 1:10 dilution of household bleach) around the spill and allow to flow into the spill. Paper towels soaked with the decontaminant may also be used to cover the area. To avoid aerosolization, never pour decontaminant solution directly onto the spill.
5. Let stand for 30 minutes to allow an adequate contact time and place all used spill materials in a biohazard bag.
6. Decontaminate the spill area again. Place all used spill materials into a biohazard bag.
7. Remove any contaminated PPE in a manner to avoid cross contamination and dispose of per standard lab practices.
8. Wash hands thoroughly after removing gloves.

b. Large spills that require more than one paper towel to absorb

1. Hold your breath and leave the room immediately. Also ask other lab occupants to leave the room and close the door. One good way to identify the spill area is to drop your laboratory coat on the area on your way out.
2. Warn others not to enter the contaminated area and post a sign on the door.
3. Remove contaminated garments and put into a container for autoclaving. Thoroughly wash any exposed areas of the body.
4. Wait 30 minutes to allow dissipation of aerosols created by the spill.
5. Assemble spill clean-up materials.
6. Put on appropriate PPE (e.g., long-sleeve gown, goggles, and nitrile or heavy duty gloves) before re-entering the room.
7. Remove any sharp, contaminated objects from the spill area using mechanical means (e.g., tongs or forceps). Discard contaminated sharps in a sturdy, leak-proof, biohazard labeled sharps container.
8. Pour a decontaminant solution (i.e., a freshly prepared 1:10 dilution of household bleach) around the spill and allow to flow into the spill. Paper towels soaked with the decontaminant may be used to cover the area. To avoid aerosolization, never pour decontaminant solution directly onto the spill.
9. At least 30 minutes is generally considered an appropriate contact time for decontamination, but this varies with the disinfectant and the microbiological agent. Manufacturer's directions should be followed.
10. Using an autoclavable dust pan and squeegee, transfer all contaminated materials (paper towels, glass, liquid, gloves, etc.) into a deep autoclave pan.
11. Decontaminate the spill area again. Place all used spill materials into autoclave pan.
12. Separate reusable items from non-autoclavable plastic as the plastic will melt, becoming impossible to remove from other items in contact with it. Cover the pan with a lid and autoclave according to standard directions.

13. Remove any contaminated PPE in a manner to avoid cross-contamination and dispose of per standard lab practices.
14. Wash hands thoroughly after removing gloves.

6. Spills Outside the Laboratory in Public Spaces

Samples must be transported in secondary, leak-proof containers to minimize the potential for spills. However, if a spill does occur in a common hallway or public space and cannot be immediately decontaminated, cordon off the area, restrict access, and contact EH&S ROS at 206-221-7770 for consultation.

7. Radioactive Biohazardous Spill

Anyone working with both radioactive and biohazardous materials should develop a spill clean-up plan appropriate for all materials used. Some general principles should apply: a) contain the spill, b) prevent spreading the contamination, and c) choose methods for decontamination that do not create “[mixed waste](#)”. Decontamination procedures involving the use of bleach may be incompatible with some radioactive materials, especially those containing radioiodine. Contact EH&S Radiation Safety at 206-543-0463 for additional information concerning these materials.

B. INJURY POLICY AND ACCIDENT REPORTING

1. Injury Policy

An exposure incident is defined as a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with biohazardous agents, which includes all recDNA. Examples of exposure incidents include needlesticks, splash/splatter to the mucous membranes of the face, and any other incident that involves contact between blood or OPIM and non-intact skin (cuts, scratches, chapped skin, etc.).

If the injury/accident involves a potential exposure to a biohazardous agent, including all recDNA, the steps in Section 4.B.2 below must be initiated immediately. If the accident/incident is of a nature that emergency assistance is required, call 911.

The [UW Administrative Policy Statement 10.8](#) requires that any accident, injury, work-related illness, or on-the-job incident which could have caused an injury/illness must be reported to EH&S via the [OARS Report](#). The procedures for reporting are also outlined in the following section.

If an injury exposure involves significant personal exposure to recDNA, EH&S may need to notify the NIH.

This policy applies to all students, faculty, and staff of the UW.

2. Immediate Response

- a. For an exposure incident, follow these steps immediately:

1) Provide First Aid Immediately

Sharps injury (needlestick and subcutaneous biological exposure): Scrub exposed area thoroughly for 15 minutes using warm water and sudsing soap.

Skin exposure: Use the safety shower or drench hose for 15 minutes. Stay under the shower and remove clothing. Use a clean lab coat or spare clothing for cover-up.



Eye exposure: Use the eye wash for 15 minutes while holding eyelids open.

Inhalation: Move out of contaminated area. Get medical help.

2) Get Help

Be ready to share the details of the exposure (agent, dose, route, time since exposure, MSDS).

For medical emergencies involving chemical exposures call 911 or go to the emergency room.

For sharps injuries and biological and radiological exposures do the following:

During business hours:

- Call the UW Employee Health Center at 206-685-1026. At Harborview sites, call 206-744-3081.
- Radiological exposures call EH&S Radiation Safety at 206-543-0463.

Outside of business hours or if Employee Health Center is closed:

- Chemical and radiological exposures: call 911 or go to the nearest emergency room.
- Biological exposures: go to the nearest emergency room or call 911.

Notify your supervisor as soon as possible for assistance.

Secure area before leaving.

3) Report Incident to Environmental Health & Safety

If serious accident, hospitalization, or fatality, after providing first aid and/or getting help, notify EH&S immediately.

- During business hours, call 206-543-7262.
- Outside of business hours, call 206-685-UWPD (8973) to be routed to the EH&S staff on call.

For all accidents and near misses, complete the [OARS Report](#) within 24 hours.

For incidents involving recDNA, notify EH&S Research and Occupational Safety as soon as possible at 206-221-7770.

b. Injuries involving animal contact and exposures

- 1) For injuries involving animal contact and exposures, immediately stop work and begin cleansing steps outlined above. Seek medical care from the UW Employee Health Center at Hall Health/UWMC ER as described above. If working with ABSL-2 animals, take the BUA Appendix A (Hazardous Material Information for Animal Husbandry Staff) with you.
- 2) For injuries involving contact with non-human primates, after following the cleansing steps outlined in Section 4.B.2 above and/or using the scrub kit provided to you by the WaNPRC, call the UW Employee Health Center at 206-685-1026 and proceed as directed. Contact the WaNPRC at 206-543-8686 for additional information about non-human primate exposure procedures.

For exposures from animal that previously received recDNA, notify EH&S Research and Occupational Safety as soon as possible at 206-221-7770.

3. Accident Reporting

The [UW Administrative Policy Statement 10.8](#) requires that any accident, injury, work-related illness, or on-the-job incident that could have caused an injury/illness must be reported to EH&S.

The exposed worker or the PI/lab manager must complete the on-line accident/incident report within 24 hours of the occurrence by using the OARS. If the accident/incident involves recDNA, this must be noted in the description of the incident.

In the case of a serious or fatal accident or hospitalization, notify EH&S immediately (within 8 hours) at 206-543-7262; after hours, contact the UW Police Department at 206-685-UWPD.

Both the Washington State Department of Labor and Industries and OSHA require employers to record work related injuries and illnesses. Both of these regulations and the Health Insurance Portability and Accountability Act (HIPAA) rules expressly permit disclosure of this protected information (45 CFR 164.512). UW employees having access to this report must treat it as private and should not disclose it to others unless authorized by statute. An employee may not be discriminated against for reporting a work-related fatality, injury, or illness.

