
1. BI Emergency Procedure Policy – Spills, Biohazardous

- a. This policy outlines procedures for biohazardous spills. For hazardous spills, refer to the BI Spill Policy – Hazardous Spills. For designated substance spills, refer to the specific risk assessment and SOP. For other emergency procedures, refer to all BI Emergency Procedures Policies.
- b. Prior to working with biohazardous agent(s), users should be familiar with the agent(s) SDS/PSDS, PPE requirements, and decontamination, handling and emergency procedures.
- c. Prior to working with biohazardous agents, users should ensure the appropriate disinfectant(s) are available; refer to the biohazardous agent SDS/PSDS for appropriate decontamination protocols.
- d. Users should only clean up minor spills if they are comfortable and if it is safe to do so. They should seek assistance from BI staff, or McMaster Security, as needed.
- e. Users must wear the appropriate PPE when working with biohazardous agents, and when cleaning up a biohazardous spill. Consult the biohazardous agent SDS/PSDS and the BI PPE Policy.
- f. Users must notify supervisor(s) and BI staff of biohazardous spill occurrences.
- g. Users must complete a McMaster Injury/Incident Report and submit to EOHSS, and provide a copy to BI staff. Medical follow-up may be required.
- h. For disposing of biohazardous waste resulting from a spill and its clean up, refer to the BI Waste Disposal Policy – Biohazardous Waste.

1.1. Biohazardous Spill Kit

- a. Each BI laboratory has a biohazardous spill kit in a designated location (usually under a sink). Biohazardous spill kits contain gloves, adsorbent material, bleach, plastic bags, biohazardous spill policy and spill notice signs.
- b. BI culture laboratories where biohazardous agents are handled house 70% ethanol and bleach. Refer to the BI Biohazardous Work Policy.
- c. User should be familiar with spill kit locations.
- d. Users should not attempt to clean up spills that are beyond the spill kit capacity.
- e. After using items from a spill kit, users must notify BI staff.
- f. BI staff will replace depleted or damaged spill kit items as needed.

1.2. Biohazardous Spill Assessment

- a. In the event of a spill, move away from the spill and determine if the spill is minor or major, and if there are aerosol risks.
- b. Ensure the appropriate disinfectant(s) are available. Disinfectants must be effective against the biohazardous agent given agent concentration and contact time. Generally, 20% bleach solutions for a contact time of 30 minutes are appropriate; refer to the biohazardous agent SDS/PSDS for disinfection protocols.

1.2.1. Biohazardous MINOR spill criteria

- a. The spill amount is safe to clean up. There is no aerosol risk.
- b. The spill is easily contained from drains, ignition sources, and incompatible materials and there is NO potential for release into the environment.
- c. There is NO immediate danger to life or health.
- d. There is NO likelihood of fire or explosion.
- e. The appropriate PPE IS available and the user is appropriately fit tested and trained in its use.
- c. The appropriate spill kit and disinfectant(s) are available and the user knows how to use them properly.

1.2.2. Biohazardous MAJOR spill criteria

- a. The spill amount is NOT safe to clean up. There is an aerosol risk.
- b. There IS a potential for the spill to release into atmosphere, discharge to sewer, leak into soils or surface water.
- c. There IS immediate danger to life or health.
- d. There IS likelihood of a fire or explosion.
- e. Appropriate PPE is NOT available and the user has NOT been fit tested or trained on its use.
- d. The appropriate spill kit and disinfectant(s) are NOT available.

1.3. Biohazardous Spill Procedures – Minor Spills

1.3.1. Minor Spill *outside* Containment Equipment – No Aerosol Risk

- a. For a small spill outside containment equipment, that does not pose an aerosol risk, stop working immediately.
- b. Discard any contaminated clothing (e.g. gloves, lab coat) into solid biohazardous waste. Refer to the [BI Laboratory Waste Disposal Policy - Biohazardous Waste](#).
- c. Wash hands with soap and water.
- d. Alert people in area; post signs. Notify supervisor. Alert BI staff.
- e. Bring the appropriate Spill Kit, absorbent material and/or other necessary materials to the site of the spill.
- f. Consult the biohazardous agent SDS/PSDS and don the appropriate PPE.
- g. Contain spill and prevent its spread. Remove padded tube/sock and place around drain to prevent spill from entering. Cover the spill with absorbent material (e.g. pads, cloth or paper towels). Work from the outside to the centre of the spill.
- h. Pour an appropriate amount of disinfectant over absorbent material for an appropriate amount of disinfectant contact time (e.g. 20% bleach for 30 minutes; refer to biohazardous agent SDS/PSDS). Add more absorbent material if needed.
- i. Work from the outside to the centre of the spill.
- j. Dispose of contaminated materials into the appropriate biohazardous waste channel. Refer to the [BI Waste Disposal Policy – Biohazardous Waste](#).
- k. Do not handle sharps; use the appropriate handling equipment (e.g.

dustpan/broom, forceps).

- l. Disinfect the spill area again, the surrounding area and any contaminated equipment with the appropriate disinfectant. Use more absorbent material if needed. Dispose of contaminated materials into the appropriate biohazardous waste channel. Refer to the [BI Waste Disposal Policy – Biohazardous Waste](#).
- m. If using corrosive chemicals such as sodium hypochlorite or bleach, follow decontamination by rinsing the affected area with water (3x). Use more absorbent material if needed. Dispose of contaminated materials into the appropriate biohazardous waste channel. Refer to the [BI Waste Disposal Policy – Biohazardous Waste](#).
- n. Any tools (e.g. dustpan/broom, forceps) utilized in the clean-up procedure should be decontaminated appropriately.
- o. Always inform BI staff of spill(s) and cleanup procedure(s).
- p. Complete an injury/incident report, with biohazardous information (e.g. SDS/PSDS) attached. Provide a copy to BI staff.

1.3.2. Minor Spill *inside* Containment Equipment (BSC) – No Aerosol Risk

- a. For a small spill inside a BSC, that does not go past the air curtain grill, stop working immediately.
- b. Leave the BSC ON with the sash at the recommended height.
- c. Discard any contaminated clothing (e.g. gloves, lab coat) into solid biohazardous waste. Refer to the [BI Laboratory Waste Disposal Policy - Biohazardous Waste](#).
- d. Wash hands with soap and water.
- e. Consult the biohazardous agent SDS/PSDS and don the appropriate PPE.
- f. Cover the spill with absorbent material (e.g. pads, cloth or paper towels) to contain it. Work from the outside to the centre of the spill.
- g. Pour an appropriate amount of disinfectant over absorbent material for an appropriate amount of disinfectant contact time (e.g. 20% bleach for 30 minutes; refer to biohazardous agent SDS/PSDS). Add more absorbent material if needed.
- h. Dispose of contaminated materials into the appropriate BSC waste container(s). Refer to the [BI Waste Disposal Policy – Biohazardous Waste](#).
- i. Do not handle sharps; use the appropriate handling equipment (e.g. forceps).
- j. Disinfect the spill area again, the surrounding area and any contaminated equipment with the appropriate disinfectant. Use more absorbent material if needed. Dispose of contaminated materials into the appropriate biohazardous waste channel.
- k. If using corrosive chemicals such as sodium hypochlorite or bleach, follow decontamination by rinsing the affected area with water (3x). Use more absorbent material if needed. Dispose of contaminated materials into the appropriate BSC waste container(s).
- l. Dry the BSC work surface and disinfect with 70% ethanol.
- m. Insect the catch basin. If the spill entered the catch basin, inform BI staff. BI staff will clean and disinfect the catch basin as needed.

- n. Any tools (e.g. forceps) utilized in the clean-up procedure should be decontaminated appropriately.
- o. Always inform BI staff of spill(s) and cleanup procedure(s).

1.3.3. Minor Spill *inside* Containment Equipment (Centrifuge) – No Aerosol Risk

- a. If **breakage occurs or is suspected while centrifuging**, stop centrifugation, leave centrifuge closed and allow an appropriate amount of time for aerosols to settle (e.g. 30 minutes; refer to biohazard agent SDS/PSDS).
- b. If **breakage is discovered upon opening** the centrifuge, close the door immediately and allow an appropriate amount of time for aerosols to settle (e.g. 30 minutes; refer to biohazard agent SDS/PSDS).
- c. Discard any contaminated clothing (e.g. gloves, lab coat) into solid biohazardous waste. Refer to the BI Laboratory Waste Disposal Policy - Biohazardous Waste.
- d. Wash hands with soap and water.
- e. Alert people in area; post signs. Notify supervisor. Alert BI staff.
- f. Consult biohazardous agent SDS/PSDS and don the appropriate PPE.
- g. Do not turn off equipment. Open the door to the centrifuge if/when safe.
- h. If **the spill is contained in a centrifuge bucket**, remove the bucket from the centrifuge and soak it, along with the tube insert, in the appropriate disinfectant for an appropriate amount of disinfectant contact time (e.g. 20% bleach for 30 minutes; refer to biohazardous agent SDS/PSDS). Dispose of decontaminated liquids according to the BI Waste Disposal Policy – Biohazardous Waste.
- i. If **the spill is in the centrifuge chamber**, apply absorbent materials to the spill. Pour an appropriate amount of disinfectant over absorbent material for an appropriate amount of disinfectant contact time. Add more absorbent material if needed. Do **not** use bleach if there are exposed electrical components.
- j. Dispose of contaminated materials into the appropriate biohazardous waste channel. Refer to the BI Waste Disposal Policy – Biohazardous Waste.
- k. Do not handle sharps; use the appropriate handling equipment (e.g. forceps).
- l. Disinfect the spill area again, the surrounding area and any contaminated equipment with the appropriate disinfectant. Use more absorbent material if needed. Dispose of contaminated materials into the appropriate biohazardous waste channel.
- m. If using corrosive chemicals such as sodium hypochlorite or bleach, follow decontamination by rinsing the affected area with water (3x). Use more absorbent material if needed. Dispose of contaminated materials into the appropriate biohazardous waste channel.
- n. Spray the centrifuge chamber with 70% ethanol and leave open.
- o. Any tools (e.g. forceps) utilized in the clean-up procedure should be decontaminated appropriately.
- p. Always inform BI staff of spill(s) and cleanup procedure(s).

1.4. Biohazardous Spill Procedures – Major Spills

1.4.1. Major Spill *inside* Containment Equipment (BSC) - Aerosol Risk

- a. When a biohazardous spill inside a BSC poses an aerosol risk, stop working immediately.
- b. Leave the BSC ON with the sash at the recommended height.
- c. Discard any contaminated clothing (e.g. gloves, lab coat) into solid biohazardous waste. Refer to the [BI Laboratory Waste Disposal Policy - Biohazardous Waste](#).
- d. Inform individuals in the affected room they are to stop working and MUST leave immediately due to a biohazard spill with aerosol risk. They should remove and discard of PPE appropriately, wash hands and leave the area.
- e. Wash hands when exiting.
- f. Close door(s) and post “DO NOT ENTER – Biohazard Spill” signs at entry points.
- g. Seek assistance. Notify supervisor. Alert BI staff. Be prepared to provide details of the spill and nature of biohazardous agent (e.g. SDS/PSDS).
- h. Complete an incident/injury report, with SDS attached. Provide a copy to BI staff.
- i. Entry should be delayed until the BSC has filtered the contaminated air and aerosols have settled. Consult with BI staff prior to re-entry.
- j. BI staff should assess and handle clean-up. The spill will be cleaned according to Biohazardous Spill Procedures - Minor Spills inside Containment Equipment – No Aerosol Risk”. All items in the BSC at the time of the spill will be decontaminated. BI staff will clean and disinfect the BSC sash and catch basin.

1.4.2. Major Spill *outside* Containment Equipment – Aerosol Risk

- a. When a biohazardous spill occurs outside containment equipment and poses an aerosol risk, stop working immediately.
- b. Discard any contaminated clothing (e.g. gloves, lab coat) into solid biohazardous waste. Refer to the [BI Laboratory Waste Disposal Policy - Biohazardous Waste](#).
- c. Inform individuals in the affected room they are to stop working and MUST leave immediately due to a biohazardous spill with aerosol risk. They should remove and discard of PPE appropriately, wash hands and leave the area.
- d. If it is safe, prevent environmental leakage by blocking the drain with a padded tube/sock.
- e. Wash hands when exiting.
- f. Close door(s) and post “DO NOT ENTER – Biohazard Spill” signs on entry points.
- g. Seek assistance. Notify supervisor. Alert BI staff. Be prepared to provide details of the spill and nature of biohazardous agent (e.g SDS/PSDS).
- h. Complete an incident/injury report, with SDS attached. Provide a copy to BI staff.
- i. Entry should be delayed until aerosols have settled (e.g. with air exchange, 24 hours). Consult with BI staff prior to re-entry.
- j. BI staff should assess and handle clean-up. Depending on the nature of the spill, it will either be cleaned according to “Biohazardous Spill Procedures - Minor Spill

outside Containment Equipment – No Aerosol Risk” or a complete room decontamination will be necessary.

1.5. Biohazardous Spill Procedures – Direct Exposure

1.5.1. Direct Spill onto the User

- a. Remove any contaminated PPE and clothing (e.g. gloves, lab coat) into solid biohazardous waste. Refer to the [BI Laboratory Waste Disposal Policy - Biohazardous Waste](#).
- b. If **cutaneous (e.g. skin) exposure**: wash affected area with disinfectant soap and rinse with plenty of water.
- c. If **percutaneous (e.g. through skin) or mucous membrane (e.g. nose, mouth, eyes, etc.) exposure**: flush the area to copious amounts of water. Use the emergency eyewash or shower stations, as appropriate. Refer to the [BI Incident and Emergency Response Policy](#).
- d. Seek assistance. Notify supervisor. Alert BI staff. Be prepared to provide details of the spill and nature of biohazardous agent (e.g. SDS/PSDS).
- e. Complete an incident/injury report, with biohazardous agent SDS/PSDS attached. Provide a copy to BI staff.
- f. Seek medical attention, as necessary.

1.6. Biohazard Spill Paperwork

- a. BI Biohazardous Spill Procedures Poster.
- b. “Biohazardous Spill” sign.