



## Biological Spills

### 1. Purpose:

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To provide step by step guidance on responding to spills or release of biological materials.

### 2. Scope:

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Applies to all faculty, staff and students who work with biological materials.

### 3. Prerequisites:

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Applies to all authorized Principal Investigators (PIs) and authorized laboratory personnel working in the LM-CL2 facility (DB440).



### 4. Responsibilities:

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It is the responsibility of faculty, staff and students to follow the procedures described in this SOP.

### 5. Personal Protection Equipment (PPE):

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Personal Protective Equipment (PPE)	Spill Kit Contents
	 <p data-bbox="909 1629 1325 1701"><b>+ Biological Spill SOP + Spill use report form</b></p>

- Items in the spill kit: Goggles, disposable suit, shoe covers, dust pan and broom, caution tape, absorbent powder

## 6. Procedure:

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### S.T.O.P

**S** – Stop. Secure the area.

**T** – Think about the material that was spilled and its associated hazards. Consult the material's SDS or PSDS for information about associated hazards.

**O** – Observe what has spilled: biological material, sharps, potential sources of fire, etc.

**P** – If safe to do so, proceed with spill cleanup.

### Personal Exposure:

In the case of a biohazard spill, always check first to see if there was personal exposure.

- i) If this is the case, take off your PPE if necessary, wash the contaminated areas at the sink with soap and water. Rinse at the eyewash for 15 minutes if spill came into contact with eye(s). If needed, the nearest safety shower is located in LM438. Immediately notify the PI and [chem.safety@utoronto.ca](mailto:chem.safety@utoronto.ca). Seek medical attention if necessary.

### Spill outside the Biosafety Cabinet (BSC):

- 1) If personal exposure, follow the steps above.
- 2) If risks of biohazard aerosols are present, leave the lab immediately. Place the sign found in [Appendix 1](#) on the lab's door to prevent people from entering.
  - i. Wait 20 minutes before re-entering to proceed with cleaning up the spill.
  - ii. **DO NOT** leave the spill unattended.

### Clean up procedure:

- 3) Use the spill kit available in DB440. Put on shoe covers, double gloves, goggles, and the disposable suit found in the spill kit.
- 4) Secure the area using the caution tape found in the spill kit.
- 5) Remove any visible sharps using the broom and dust pan found in the spill kit.
- 6) For small volumes of liquid spill (less than 50 mL), use paper towels as absorbent material. For larger volumes, use the absorbent powder found in the spill kit.
- 7) Dispose the contaminated absorbent materials (paper towels or powder) using the broom and dustpan as solid biohazard waste. **Do not** use your hands to do this due to the potential of sharps.
  - i) NOTE: Throw away the contaminated broom and dustpan in the Bio waste pail.
- 8) Decontaminate the spilled surface using freshly prepared 1% sodium hypochlorite solution. Soak paper towel with 1% sodium hypochlorite leaving it in contact with the contaminated surface for 30 minutes. Repeat the process twice.
- 9) Afterwards, contact [chem.safety@utoronto.ca](mailto:chem.safety@utoronto.ca) to request caretaking services.
- 10) Dispose of all PPE worn during spill cleanup with the exception of the lab coat in the Bio waste pail. Wash your hands with soap and water.
- 11) Follow Steps 1 and 2 under "[Reporting Spill Incidents](#)"

## Spill inside a Biosafety Cabinet (BSC):

- 1) If personal exposure, follow the steps under the [Personal Exposure](#) section.
- 2) While you get the supplies needed to clean the spill, secure the area by closing the sash of the BSC and placing the sign found in [Appendix 2 on the BSC](#).

### *Clean up procedure:*

- 3) Before you start cleaning the spill, observe potential splashes on the BSC's inner walls or contamination under the grills. Ensure all surfaces are taken care of. **Do not leave the spill under the grill unattended.**
- 4) Put on double gloves.
- 5) If there are contaminated broken sharps, use forceps/tweezers to pick them up and dispose of them into the sharps container. **Do not** use your hands to do this.
- 6) For small volumes of liquid spill (less than 50 mL), use paper towels as absorbent material. For larger volumes, use the absorbent powder found in the spill kit.
- 7) Dispose the contaminated absorbent materials (paper towels or powder) as solid biohazard waste. **Do not** use your hands to do this due to the potential of sharps.
- 8) Decontaminate the spilled surface using freshly prepared 1% sodium hypochlorite solution. Soak paper towel with 1% sodium hypochlorite leaving it in contact with the contaminated surface for 30 minutes. Repeat the process twice.
- 9) Wipe the spill area with 70% ethanol and then with water. IMPORTANT, THIS STEP IS NECESSARY TO PREVENT CORROSION OF THE BSC.
- 10) Dispose of your gloves into the Bio waste pail. Wash your hands with soap and water.
- 12) Allow the BSC to run for at least 10 minutes. Then follow Steps 1 and 2 under "[Reporting Spill Incidents](#)".
- 13) See [video](#) for more information on small spills inside BSC:

## Spill inside the Eppendorf™ 5810R Centrifuge:

Centrifugation is a procedure that produces aerosols. To prevent personal exposure to aerosolized biohazards, follow Step 1.

- 1) If during a run you suspect a spill has occurred (noise of broken tube) then stop the run immediately and **DO NOT** open the lid for 30 minutes.  
**OR**  
If you discover that a spill has occurred after a run, immediately put the lid back on and **DO NOT** open for 30 minutes.
- 2) While waiting, secure the centrifuge by placing on it the sign found in [Appendix 2](#).
- 3) Put on double gloves and obtain the following supplies to clean the spill:
  - i) 1% sodium hypochlorite, 70% ethanol, paper towel, forceps, sharps container and Bio waste pail
- 4) After 30 minutes, open the lid, turn the centrifuge off and **disconnect it from the power plug**.

***If biosafety caps used:***

- 5) Take the buckets with the biosafety caps on to the nearest BSC.
- 6) Open the caps and take out the contents. Wipe the tubes exteriors with 70% ethanol.
- 7) If applicable, use forceps to pick up sharps fragments/debris in the buckets and discard them in the sharps container.
- 8) Use paper towels as absorbent material. Dispose the contaminated paper towels as solid biohazard waste.
- 9) Decontaminate the bucket and biosafety caps by soaking paper towel/lint-free cloth with 1% sodium hypochlorite leaving it in contact with the contaminated surface for 20 minutes.
  - i) Clean thoroughly with soap and water. Rinse a minimum of 3 times with water.
  - ii) Do a final disinfection rinse with 70% ethanol.
  - iii) Dispose of the contaminated cleaning materials as solid biohazard waste.

***If biosafety caps were not used:***

- 10) Take the bucket and rotor out.
- 11) If applicable, use forceps to pick up sharps fragments/debris in the centrifuge and discard them in the sharps container.
- 12) Use paper towels as absorbent material. Dispose the contaminated paper towels as solid biohazard waste.
- 13) Decontaminate the body of the centrifuge and the exterior of the buckets by soaking paper towel/lint-free cloth with 1% sodium hypochlorite and leaving it in contact with the surface for 20 minutes.
  - i) Clean thoroughly with soap and water. Then rinse a minimum of 3 times with water.
  - ii) Do a final disinfection rinse with 70% ethanol.
  - iii) Dispose the contaminated cleaning materials as solid biohazard waste.

***Final Steps:***

- 14) Clean the centrifuge by following the manufacturer's [instructions](#), which are also posted on-site.
- 15) Dispose of your gloves in the Bio waste pail. Wash your hands with soap and water.
- 16) Follow Steps 1 and 2 under "[Reporting Spill Incidents](#)".

**Reporting Spill Incidents:**

- 1) Notify your supervisor and [chem.safety@utoronto.ca](mailto:chem.safety@utoronto.ca). Your supervisor should fill out the [Accident/Incident report form](#).
- 2) To ensure replenishing of spill kit supplies, complete the "spill kit usage" form using the dry erase marker found in the biological spill kit. Take a picture of it and send it to [chem.safety@utoronto.ca](mailto:chem.safety@utoronto.ca)



**SPILL INSIDE.  
DO NOT ENTER.**



**SPILL INSIDE.  
DO NOT OPEN/USE.**