



# Standard Operating Procedure

## Biological Spills

**I. POLICY:** The Puerto Rico Clinical and Translational Research Consortium (PRCTRC) ensure the safety and well-being of participants in research studies performed in its facilities.

**II. PURPOSE:** This Standard Operating Procedure (SOP) is intended to guide the user in preparing for and responding to spills, so as to minimize the severity of such incidents.

**III. Area(s) of Responsibility:** This policy applies to the Principal Investigator (PI) and all the laboratory personnel including students.

### IV. Procedures:

#### Small Spills

1. Evacuate all personnel from the room and close the door if aerosols are a concern – wait 30 minutes to allow aerosols to settle before attempting to clean up the spill.
2. Alert others to avoid contamination (post spill sign).
3. Remove any contaminated clothing or personal protective equipment and place in a biohazard (red) bag for disposal as biomedical waste. Wash your hands.
4. Put on clean gloves and impervious gown or lab coat; (Put on clean disposable face mask and protective eyewear if splashing of fluids is anticipated).
5. Remove any solid/sharp objects using tongs, dustpan and broom or other mechanical device.
6. Clean up the spill by either:
  1. Gently pouring solidifier/disinfectant completely over spill.
    - Allow solidifier/disinfectant to stand for 10 minutes;
    - Clean up the spill working in a circular motion from the outer rim of the spill to the center;
    - Place spill clean-up materials in a biomedical container (red bag);
    - Wash hands with soap and water.

#### OR

2. Cover spill completely with paper towels and gently pour approved germicide or sodium hypochlorite (bleach) solution over paper towels.
  - Allow paper towels soaked with disinfectant to stand for 30 minutes;
  - Clean up the spill working in a circular motion from the outer rim of the spill to the center;

- Rinse area with 70% ethanol or water if bleach is used to disinfect (to remove any corrosive residues);
- Place spill clean-up materials in a biomedical container (red bag);
- Wash hands with soap and water.

7. Report incident to supervisor

### **Large Spills, High Hazard Spills, Spills Outside of the Laboratory**

1. Evacuate all personnel from the room and close the door if aerosols are a concern – wait 30 minutes to allow aerosols to settle before attempting to clean up the spill;
2. Alert others to avoid contamination (post spill sign);
3. Remove any contaminated clothing or personal protective equipment and place in a biohazard (red) bag for disposal as biomedical waste. Wash your hands;
4. Report incident to supervisor
5. Notify the Office for Safety in Research Laboratories (OSLI) at 787-758-2525 ext. 1687 or 1688 and at (787) 766-3062.

### **Spill in a Biological Safety Cabinet**

1. Leave the biological safety cabinet blower on and begin cleanup immediately.
2. While wearing PPE cover the spill area with paper towels. Do not place your head in the cabinet to clean the spill, keep your face behind the view screen;
3. Saturate the paper towels with concentrated disinfectant;
4. If necessary, flood the work surface as well as the drain pans and catch basins below the work surface, with disinfectant; be sure the drain valve is closed before flooding the area under the work surface;
5. Wipe cabinet walls, work surfaces, and inside the viewscreen with disinfectant;
6. Lift the front exhaust grill and work surface; wipe all surfaces with disinfectant;
7. Be sure no paper towels or soiled debris are blown into the area under the spill tray;
8. Soak up any disinfectant on the work surface or in the drain pan and catch basin;
9. Place a container under the drain valve and drain the disinfectant under the work surface into the container. Use a container large enough to handle the volume of disinfectant and tall enough to protect from splashes;
10. Wipe the areas under the work surface to remove residual disinfectant; if bleach is used, follow by wiping with 70% ethanol to remove any corrosive residues;
11. Dispose of spill clean-up materials into a biohazard (red) bag or container;
12. Wash hands and exposed skin with soap and water;
13. Notify the Principal Investigator or supervisor.

### **Centrifuge Spill**

1. Always use sealed safety-caps, sealed buckets or sealed rotors with O-rings. Examine O-ring and replace if worn, cracking or missing. Check tubes and bottles for cracks and deformities before each use;
2. Wait five minutes before opening the centrifuge following the end of a run with potentially hazardous biological material if using safety caps or sealed rotors. If a spill is identified after the centrifuge lid is opened, carefully close the lid and evacuate the laboratory and

close the laboratory door. Remain out of the laboratory for at least 30 minutes. Post a sign on the laboratory door indicating there is a biohazard spill and do not enter.

3. Remove any contaminated protective clothing and place into a biohazard bag. Wash hands and any exposed skin surfaces with soap and water.
4. Notify your supervisor and the Office for Safety in Research Laboratories (OSLI) at 787-758-2525 ext. 1687 or 1688 and at (787) 766-3062.

*After 30 minutes...*

1. Enter the lab with personal protective equipment and spill cleanup materials. Full-face protection, lab coat and gloves should be worn;
2. Keep rotors and buckets closed and transfer them to a biological safety cabinet, if available;
3. Immerse rotor/buckets in 70% ethanol or a non-corrosive disinfectant effective against the agent in use. Allow at least a one hour contact time. Intact tubes may be wiped down and placed into a new container;
4. Handle any broken glass with forceps and discard into a sharps container;
5. Carefully retrieve any broken glass from inside the centrifuge using forceps and discard into a sharps container. Smaller pieces of glass may be collected with cotton or paper towels held with forceps. Carefully wipe the inside of the centrifuge with disinfectant;
6. Spray the inside of the centrifuge with disinfectant and allow to air dry. If bleach is used, follow by wiping with 70% ethanol to remove any corrosive residues;
7. Place contaminated items and disposable personal protective equipment in biohazard (red bag) for disposal;
8. Wash hands with soap and water.