

SOP BIO-007 CLEANING A BIOLOGICAL SPILL INSIDE THE CENTRIFUGE

SCOPE

The SOP applies to the situation in which a tube(s) containing human blood or other biological fluids is broken or spilled inside a centrifuge. Biological fluids such as cell suspension, bacteria culture, blood, or any other human bodily fluid of human origin are considered potential infectious and should be handled following appropriated practices with PPE.

MATERIALS

Before beginning the decontamination and cleaning process, gather the following materials:

1. Forceps or tweezers;
2. Paper towels;
3. Container to soak contaminated parts of the centrifuge;
4. Approved EPA disinfectant or freshly prepared bleach 10% solution
5. Spray bottle with 70% Ethanol or 70% isopropanol;
6. Sharps disposal container;
7. Biohazard waste container.

Disinfectant Solutions

Choose the appropriate EPA approved disinfectant that will not damage the centrifuge but is effective against bloodborne pathogens (HepB, HIV, Mycobacterium, etc.).

EPA recommended disinfectants and CDC disinfection can be found at EPA¹ and CDC² websites:

Household bleach is 5.25% to 6.15% sodium hypochlorite, (approx. 60,000ppm of Chlorine) depending on manufacturer, and is commonly used diluted in water at 1:10. Recommended contact time of 20 to 30 minutes is effective to disinfect items contaminated with blood. Bleach should be wiped off with water to avoid corrosion in equipment like centrifuge parts or surfaces of BSC. Plastic parts can be soaked in 10% household bleach and rinse with abundant water before final rinse in distilled water and air dried.

¹ <https://www.epa.gov/pesticide-registration/list-e-epas-registered-antimicrobial-products-effective-against-mycobacterium>

² http://www.cdc.gov/hicpac/Disinfection_Sterilization/17_00Recommendations.html

Before Cleaning

1. Be sure to wear double gloves, lab coat, and safety glasses or a face shield;
2. Unplug the centrifuge and allow the rotor to completely stop;
3. Allow 20-30 minutes for any aerosols that were generated to settle before opening the centrifuge;
4. Put a visible sign to inform others about the spill in the centrifuge;
5. Be sure to choose the right disinfectant that will not damage the centrifuge and parts.

PROCEDURES FOR CLEANING THE SPILL

1. Use a mechanical device, like forceps or tweezers, to remove the broken tube and any pieces and dispose them in a sharps container;
2. Remove the tube adapter from the rotor to a container that can fit all pieces of the centrifuge;
3. Soak all pieces in a disinfectant solution for 20 minutes;
4. After soaking, use forceps to retrieve all parts from the disinfectant solutions to be washed and rinsed;
5. Before cleaning the interior of the centrifuge, be sure that all visible pieces of glass have been removed;
6. Use paper towels to soak all the liquid or blood that is spilled in the bottom of the centrifuge. Repeat this step until all liquid has been absorbed;
7. Dispose all contaminated paper towels in the Biohazard Waste Container;
8. Spray disinfectant in the interior of the centrifuge and let it stand for at least 10 minutes;
9. Wipe the surface of the centrifuge twice with paper towels wet with distilled water, and twice with 70% ethanol or isopropanol;
10. Place material in the Biohazard Container;
11. Soak the tube adapter in disinfectant for 20 minutes. Rinse, let it dry, and spray with 70% ethanol or isopropanol;
12. Remove gloves and dispose of them in the Biohazard Waste Container;
13. Remove lab coat if contaminated, and place in Biohazard Container or Contaminated Laundry Container;
14. Wash hands thoroughly with soap and water.

For additional information on any biosafety issues; contact EEM-EHS at biosafety@uml.edu or Ext. 4-2618.