1. OBJECTIVE

The objective of this document is to provide guidance on how biological incidents are to be handled and contained safely to minimize the risk of contamination. It also gives details to the laboratory personnel on how to protect them and how to respond to spills to minimize the risk of infection in the Department of Physics.

2. SCOPE

This SOP is applicable to all laboratory personnel who handle biological agents.

3. RESPONSIBILITY

3.1 It is the responsibility of the PI in conjunction with the departmental Safety Committee to ensure the following:

a. Assessing the accident/incident and the course of action required to control the accident/incident effectively.
b. Ensuring that an accident/incident report is filed in the lab’s Accident/Incident Register, and submitted to OSHE online at https://staffweb.nus.edu.sg/oshe/submit_airs.htm
c. Implementing any corrective measures as stipulated by the departmental Safety Committee, Head of Department, Deanery or OSHE.

3.2 It is the responsibility of all relevant lab users to acquire sufficient knowledge in biological safety and to follow this SOP in case of spill.

4. PROCEDURES

4.1 Response

4.1.1 Spill inside a Biological Safety Cabinet

a. Leave the cabinet switched on.
b. Put on gloves and a lab coat.
c. Spray or wipe cabinet walls, work surfaces, and equipment with disinfectant equivalent to a 1:10 bleach solution. If necessary, flood the work surface including drain pans and catch basins below the work surface with disinfectant.
d. Wait for at least 20 minutes.
e. Soak up the disinfectant and spill with paper towels. Drain catch basin into a container. Lift front exhaust grill and tray and wipe all surfaces. Ensure that no paper towels or solid debris are blown into the area beneath the grill.
f. Autoclave all clean-up materials before disposal in the biohazardous waste container according to the procedure for biohazardous waste disposal.
g. Wash hands with appropriate soap/disinfectant and any exposed surfaces thoroughly after the clean-up procedure.

4.1.2 Spill outside a Biological Safety Cabinet in BSL1 lab
This is for spills that can be covered by a few paper towels.

a. Notify others in the area, to prevent contamination of additional personnel and environment.
b. Put on gloves and a lab coat.
c. Cover spill with paper towels and gently apply disinfectant, proceeding from the outer edge of the spill to its center.
d. Leave in place for at least 30 minutes.
e. Discard the soaked paper towels and discard them into yellow biohazard waste bags. Use forceps to pick up any broken glass and discard them into a sharps container.
f. Wipe the spill area again with disinfectant.
g. Remove gloves and thoroughly wash hands.

4.1.3 Spill outside a Biological Safety Cabinet in BSL2 lab

a. Hold your breath and leave the area immediately.
b. Alert others in the area to stay out of the spill area to prevent spread of contamination to prevent spread of contamination.
c. Notify PI or lab supervisor and departmental Safety Committee.
d. Post a biohazard warning sign near the spill area. Secure the incident area (use barrier tape if necessary) and restrict admission to only those persons cleaning up the spill.
e. Remove any contaminated clothing and put it into a yellow biohazard waste bag for autoclaving.
f. Wash exposed skin and hands thoroughly.
g. Put on personal protective equipment (lab coat, gloves, mask, eye protection, shoe covers) and assemble clean-up materials.
h. Wait for 30 minutes before re-entering the contaminated area to allow dissipation/settling of aerosols.
i. Cover the spill with paper towels and gently apply disinfectant, proceeding from the outer edge of the spill to its center. Refer to MSDS for appropriate type of disinfectant.
j. Wait for at least 30 minutes. Refer to MSDS for the effective contact time.
k. Collect all treated materials and discard in yellow biohazard waste bags. Use forceps to pick up any broken glass and discard in a sharps container.
l. Wipe the spill area again with disinfectant.
m. Remove gloves and wash hands thoroughly.
n. Dispose biohazardous wastes according to procedures.
4.2 Biological Waste Disposal
Refer to Biological Waste Disposal SOP (SOP-PHY-BWD-2012).

4.3 Accident/Incident Reporting and Investigation

4.3.1 Inform the PI/Lab Supervisor immediately.
4.3.2 Report to departmental Safety Committee immediately.
4.3.3 Safety committee will Investigate and recommend any corrective actions.
4.3.4 Submit a report to OSHE via the online Accident/Incident Reporting System (AIRS) within 24 h.

5. RECORDS

5.1 Submit an accident/incident report online to OSHE within 24 h via the Accident/Incident Reporting System at https://staffweb.nus.edu.sg/oshe/submit_airs.htm
5.2 Update the lab’s Accident/Incident Register with details of the accident/incident, including completion of any corrective actions recommended by the departmental Safety Committee in the Incident Report.
5.3 Incident Report by departmental Safety Committee.
5.4 All records to be filed in the lab’s Safety Management System folder.