

Engineering Physics / C.E.D.T. Research Hazards Safety Report

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1. Potential hazards in the research projects:

Class A: High pressure – CO₂ cylinder, liquid nitrogen tank
Class B: Flammable materials – 70% and 99% ethanol
Class D2: Long-term toxic effects – Cholera toxin, hydrocortisone
Class D1B: Toxic material causing immediate and serious toxic effects - Adenine
Class E: Corrosive materials – Acetic acid
Radiation: Laser – Microscopes
Electrical: High voltage enclosed – Laser sources
Extreme low temperature – Liquid nitrogen
Potential falling objects – Items on shelves
Biohazards – CP-A and CP-B cells (Barrett's esophagus)
Very bright light – UV light, microscope light
Loud noise

2. Routine Operating Procedures:

It is important to handle the biological reagents, BSL2 cells in the biological safety cabinet and the personal protective devices such as gloves and the lab coat. Ensure that no open wound is exposed and please wear the fully covered shoes. When handling harmful chemicals as listed above, it is necessary to wear safety glasses and specified respirator in the MSDS, along with the gloves and the lab coat. After handling the biological hazard, the waste should be packed and sealed in the plastic bag and disposed to the red bin indicated "Biohazard". Biological reagent should be bleached using 10% bleach before disposing. Wipe the working surface with 70% ethanol and turn on the UV light in the biological cabinet after each use, and must wash hands with disinfectant hand washer after all lab work.

3. Emergency Preparation (Note: for immediate assistance, dial 5555 (the Biophotonics Facility is located in the hospital))

In case of fire, indicate the causes of fire and acquire the corresponding fire extinguishers located besides the entrance doors. If the fire is large, alert surrounding staff, pull the fire alarm, and evacuate the building from the exit to MDCL main floor.

In case of chemical spill, acquire the spill kit based on the nature of the chemicals (base, or acid) located across the tissue culture room. You can also access the first aid kit at the same location. Cover the spill with the appropriate absorbent material. Spray the disinfectant on top of it and let sit for 30 minutes. Discard the waste and wipe down the area with disinfectant.

In the case of skin and eye contact, follow the instructions on the MSDS sheets. The eye wash station sign is posted and can be found in the tissue culture room.