

Standard Operating Procedures For Torkkeli-French Lab General Lab Safety

Facility: 3C Tupper, Department of Physiology and Biophysics
PHT office: 902 494-2672, cell 902 488-6760
ASF office: 902 494-1302, Cell: 902 452-3891
Lab phone number 902 494-2673

Scope: This SOP details general lab safety procedures to be followed in the ASF-PHT lab.

Date: 16 October 2017

Emergency Phone Numbers and Contacts:

Dalhousie Safety office web-site <https://www.dal.ca/dept/safety.html>

Environmental Health and Safety Office 902 494-**2495**

In case of an emergency, contact Security 902 494-**4109** ****Dial Security before calling 911****

Dalhousie Health Services 494-**2171**

General Safety and Laboratory Procedures:

- Know where the eye wash station and nearest safety shower are located and how to use each
- Prepare all solutions using double distilled water, label containers (date, initials, contents).
- Clean up after yourself - don't leave a mess for someone else to clean
- After use, rinse all glassware, immerse in soapy tap water in the sink. Rinse at least four times with plenty of tap water and in the end once with distilled water. Leave to drip dry – do not use paper towels for drying. This leaves residue to the containers.
- Lab ware used for in situ hybridization should be soaked 30 min or longer in 10% bleach and then rinsed multiple times with tap water, followed by one rinse with distilled water.
- No eating, drinking, smoking or storing of food, personal belongings or food utensils in the lab areas
- No application of cosmetics or insertion/removal of contact lenses in the lab
- Long hair must be tied back in a safe manner to prevent contact with hands, equipment

and containers or open flames

- Suitable footwear with closed toes must be worn in lab area at all times
- Use face and eye protection if necessary – safety glasses are located under the pipette puller in a drawer
- Wear gloves for all procedures that may involve direct skin contact with hazardous materials.
- Needles, syringes and glass waste must be disposed of properly in the labeled containers
- Hands should be washed after removal of gloves, before leaving the lab and after handling any chemical or material which is considered hazardous
- Main lab door is to be kept closed at all times. It is not necessary to lock the door unless the lab is empty. Be sure to lock when there are no people in the lab.

Hazard Identification

- All containers must have a legible, firmly attached label showing the contents of the container
- Material safety data sheets (MSDS) are either in MSDS data book or can be found at supplier website
- Determine safe handling procedures before opening chemical containers - gloves and mask if necessary, fume hood if needed, cautions and procedures required
- Read warning labels and MSDS sheets before using chemicals, especially for the first time

Medical Program

- Medical surveillance including consultation and follow-up shall be necessary under the following circumstances:
 1. An employee reveals an exposure to a chemical which has medical surveillance requirements
 2. Whenever a lab employee develops signs or symptoms that may be associated with a hazardous chemical to which the employee may have been exposed to in the lab
 3. Whenever a spill, leak or explosion results in the likelihood of hazardous exposure.
- First aid kits are located in the lab, and in the office in room 3-B2
- If an employee is transported by ambulance and is unable to provide necessary information at the time of transport a coworker should accompany the injured employee

- Accidents and injuries have to be reported to lab PI's and treated immediately. Injuries may be treated by using the first aid kit if there is a staff member who is capable of doing so.
- Written record of any spills, accidents or exposures should be maintained on file by the PI

Emergency Equipment

- Each lab member must be familiar with the location, application and correct ways to operate the following safety equipment:
 1. Fire extinguishers
 2. Fire alarms
 3. Safety Shower
 4. Eye wash station
 5. First aid kit
 6. Location of emergency telephone numbers and telephones
- Safety showers are located in the washrooms of each floor. Eye wash stations are in the corridor.
- Fire extinguishers are located in the corridor and in the lab. Fire extinguishers are distinctly marked for appropriate hazards. Each lab is responsible for notifying Security at **4109** if extinguishers are removed, used for fire or is in need of repair.
- Fire alarms are located in the main hallways. Pull down on the lever if you need to sound the alarm. First aid kits are available for minor injuries in the office or in the labs.
- If the fire alarm sounds, you **MUST** exit the building. Use the stair well and proceed outside and remain at least 100 ft from the building. Fire Safety Wardens will check floors to ensure everyone is evacuated. You will not be allowed re-entry until the building has been cleared by the Halifax Fire Department. At this point, the alarm will stop sounding and the Fire Safety Wardens will usher you back into the building.
- Wear gloves, lab coat and goggles whenever dealing with chemicals that may splash
- Do not wear contact lenses when dealing with solvents
- If splashed with contaminated materials, remove affected clothing, flush area with water for at least 15 minutes and call Security at **4109** for assistance.

Employee Training

- All lab employees must be kept up to date with WHMIS training. It is available online for those who have taken it before. WHMIS training is required to be updated every 2 years.

- All employees shall be notified of the dangerous chemicals located in the lab.

Waste Disposal

- There are special containers for specific waste, such as glassware, sharps and chemicals for waste disposal.
- **Broken glass** will be disposed in a sturdy cardboard box, taped shut and clearly marked with BROKEN GLASS, lab phone number and contact name and placed by the freight elevators for disposal.
- **Biological waste:** Any material that could be pathological or infectious must be collected in the appropriate containers and sterilized or disinfected before disposal. Autoclaving is the preferred method of rendering biological waste non-infectious prior to disposal. These items must be double bagged on polyethylene bags. At least the outer bag should be standard orange bag. No other items to the orange bags! There is a room at the loading dock for this waste.
- Waste containing materials such as phenol or formaldehyde must not be autoclaved!
- Chemical containers which have been emptied by all practicable means (i.e., pouring, pumping scraping etc.), are considered trash. The Safety Office recommends triple rinsing empty containers with water before putting them into the dumpster. Labels on containers should be defaced or removed before disposal. Glass containers should be disposed with broken glass.
- Generally, **chemically contaminated labware** can only be placed into the regular trash if they are nonhazardous, Examples include disposable items such as gloves, pipets, test tubes. Package them in a **thick clear plastic bag or leak-proof container** and label with a hazardous waste tag as “Chemically Contaminated Labware” with the name and approximate percentage of chemical contaminants.
- **Sharps** are to be placed in the Yellow biohazard collection container. When 3/4 full, these are to be replaced and the full container will be brought to the loading dock of the Tupper building during a monthly collection day.
- A list of all **waste chemicals** “Chemical Lab Pack Disposal Form” has to be e-mailed to safety officer at least 2 days before the collection date. The waste chemicals must be clearly labeled with chemicals present, molarity, and sealed tightly to prevent leaks. Chemicals may be stored in the fume hood until these products are brought to the Hazardous Waste collection. Dates: <https://www.dal.ca/dept/safety/programs-services/environmental-protection/chemical-waste-collection.html>

Compressed Gas Cylinders

- Must be stored upright, strapped. Cylinders are under extreme pressure and sudden

release of this energy can cause serious and fatal injuries.

- Ensure pressure gage and regulator are fitted tightly before opening the valve at the top of the cylinder
- Cap the cylinders before transport and use approved transport carrier.
- Be sure to mark empty cylinders as such with EMPTY, lab name and phone number on a piece of tape for return to cylinder company

Freezers and Fridges

- An online chemical list has details for all laboratory chemicals including the contents of the freezers and fridges. Please contact Paivi when you need information about chemicals.
- When opening the -80° freezer, wear protective gloves.
- The -80° freezer and the -20° freezer have a suction seal - when you open the door then close it, it will seal the door for approximately 15 seconds before you are able to re-open it. **DO NOT** pull on the door - the freezer or fridge may fall on top of you.
- The freezers and fridges must remain on at all times. The building has an emergency power circuit. If you notice the freezer or fridge is not on or the buzzer sounds, ask for assistance.

Power and After Hours

- Tupper building has been outfitted with an emergency back up power system which should immediately come on if there is a power failure.
- If you enter Tupper building or are already in the building when there is a power failure, call **4109** to alert Security. Do not use the elevators. Stairwells will remain lit with emergency lighting for approximately 30 minutes after the power failure. If necessary, evacuate the building. Do not re-enter until the building has been cleared by Security.
- If necessary to gain access to Tupper Building after hours, be sure to have your Dalhousie ID card with B00 number. You will not be allowed entry without it. If you need to get in and have no key, contact Security at **4109**. They will use their discretion.

Lab Equipment

- All staff members will be trained on equipment as required. If you are unsure how to use a piece of equipment, do not touch any equipment without training.
- Please alert the PI if there is a problem with a piece of lab equipment

- There is a departmental autoclave and distilled water system in room 3F. Other departmental equipment is in 4th floor.

Animal Facility

- Animal facility is located in 3C4. This facility is for lab members only or visitors with the permission of the PI's.
- Staff should be properly trained before handling the animals.
- Please inform the PI if you notice any problems with the Animals or the facility.