Department of Animal Science Safety Manual

Contents

Introduction

The Department of Animal Science strives to maintain a safe environment and relies upon each individual to use due diligence when working or studying in the various lab spaces. People who are aware of their responsibilities and who undertake tasks with due caution are critical to a safe working environment. All new staff and students must work through the onboarding procedure with their supervisor to complete all necessary training in preparation to safely carry out their duties.

General department safety

- Understand and comply with safety rules, procedures (SWP) and protocols.
- All employees are responsible for understanding the Workplace Safety and Health Act and taking precautions to prevent work-related injuries or illness. For more information visit the Workplace Safety and Health website and complete the Health and Safety General Orientation.
- Be aware of hazards, and the procedures for dealing with those hazards, before you start your work.
- Along with your supervisor, arrange for appropriate safety training based on risks applicable to the work you will be conducting. This may include WHMIS, biosafety, and/or radiation safety training for example for those working in lab spaces.
- Consult the Environmental Health and Safety Office (EHSO) website for further information on laboratory safety.
- Keep research lab doors closed to maintain proper ventilation in the space. If unoccupied, labs should be locked to avoid unauthorized entry.
- Never block emergency exits, emergency equipment or electrical panels.
- Keep fire doors closed at all times; self-closing fire doors must not be blocked or propped open.
- Familiarize yourself with all safety equipment and procedures in your work area (telephone, exits, fire extinguishers, fire alarms, safety shower, eyewash fountain, first aid kit, evacuation routes).
- Post suitable warning signs if a specific hazardous situation exists; include the name and phone number of individual(s) responsible.
- Maintain a tidy workplace.

Safety equipment, emergency exits, etc.

Animal Science research labs are equipped with safety equipment. Familiarise yourself and know the locations of the following:

- Emergency exit routes

- Fire alarms and fire extinguishers
- Personal protective equipment
- Spill kits
- First aid kit
- Emergency eyewash/showers
- Safety Data Sheets (SDS)
- Telephone

Working alone or in isolation

Working alone

For other members of the Department, Working Alone is usually defined as being the sole person performing work for that employer at that workplace at any time, and who is not directly supervised by the employer (or anyone else designated as a supervisor) at any time.

(A supervisor is defined as a person who has charge of a workplace or authority over a worker. It is not restricted to people with that particular job title.)

Consider if:

- Nobody can hear or see you (being completely by yourself),
- None of your coworkers can hear or see you (you might be surrounded by other people but you are still considered to be working alone when you are the only person from your employer performing work at that specific location).
- When your employer or your supervisor is not directly supervising you,

Working alone may include working in the lab or office outside of normal working hours (8:30 a.m. to 4:30 p.m., Monday through Friday) by yourself; working in the laboratory by yourself but may be surrounded by students, contractors, etc.

Individuals may work alone if their laboratory work is of a non-hazardous nature and if there is someone else working on the same floor of the building.

If for some reason hazardous work must be performed outside normal working hours, then the following procedure must be followed:

- The work must have your supervisor's approval,
- A second co-worker must be available in case of emergency, or
- Your working location (room number) should be communicated to a second person, and he or she can keep checking on you by phone. A template for providing contact information when working alone is provided here.

If you are working late at night, both the **Campus Security Service** (474-9312) and the **Safe Walk Program** (474-9341) are available.

Students must not work alone in a laboratory at any time. A second person must be present and must assume responsibility for supervision of the student. The work carried out must be authorized by your supervisor.

Working in isolation

Working in Isolation means working in situations or locations where assistance is not readily available in the event of injury, illness, or emergency.

Working in isolation may include working in a remote area doing research for the University, where Emergency Services will not be able to get to you right away or at all if needed; or working in a storage room where people outside of this room might not be able to assist you.

In order to determine whether or not assistance is readily available, the following conditions should be considered:

- Presence of others: Are other people in the vicinity?
- Awareness: Will other persons capable of providing assistance be aware of the worker's need?
- Willingness: Is it reasonable to expect those other persons will provide assistance?
- Timeliness: Will assistance be provided within a reasonable period of time?

For regulation definitions please refer to Workplace Safety and Health Act and Regulations.

Prior to working Alone or In Isolation

The person assigned to work alone and the supervisor or employer assigning the working alone work activity must work together to identify the hazards and risks that may arise from the specific activities to be performed, the workplace where the work is to be completed, and the variety of conditions or circumstances that may occur while working alone.

Following the identification of risks and hazards associated with performing work alone, the development of procedures to address these identified hazards and risks is required in order to prevent, eliminate, or reduce these hazards and to enable the individual working alone to perform his/her work safely.

Below are some examples of what an employer/supervisor and individual to perform work alone should consider and discuss:

Hazard and Risk Identification:

Further information on working alone is available here along with a customizable Risk Assessment tool. Workers and their supervisors must consider the following:

- What are the specific hazards to arise from the work activity to be performed?
- What is the risk associated with the task at hand?
- Are there controls in place to eliminate or reduce the hazards arising from the work activity to be performed? Some examples include:

Working off the main campus

If you work at a facility off of the campus, e.g. Glenlea, consult the unit manager or other designated personnel to ensure you obtain all required site-specific safety information and training, e.g. operation of machinery, working with animals, etc.

Glenlea Research Station requires that anyone working at the site complete an annual safety and biosecurity orientation, after which designated workers will receive an authorization number. Contact Jason Bourcier to arrange this.

If working at the **Ian N. Morrison Field Research Farm** in Carman, MB additional site-specific safety training will be required, usually offered in early May. Consult with your supervisor for more information.

Refer also to the Faculty of Agricultural and Food Sciences Biosecurity Protocol for any work where there is potential to transfer soil or pathogens between sites.

Travelling in Department vehicles

Anyone wishing to drive a Department vehicle (Caravan or Suburban) must hold a valid driver's license and be comfortable driving a larger vehicle, in the current conditions (may be rural/highway or city travel through wind, snow, rain, etc.). All rules of the road must be followed, as the driver of the vehicle is responsible for his/her own safety, as well as the safety of any passengers. The driver is also responsible for paying any fines incurred if speeding or driving distracted.

If you perceive any possible safety risks as it pertains to vehicle maintenance or repair (i.e. flat tire), contact Brittany Bedard and do not proceed until safe to do so.

Working with animals

Anyone working with animals must follow an approved **Animal Use Protocol** and have completed Animal User Training, available via self-registration in UM Learn. Wet labs specific to the species you are working with should also be arranged through your supervisor and Denise Borowski, Lab Animal Training Coordinator with the Research Ethics and Compliance Office.

Consult your supervisor for information on species-specific Safe Working Procedures (SWPs) and Standard Operating Procedures (SOPs).

Emergency procedures

Fire Emergency

WHEN THE FIRE ALARM SOUNDS:

1. Stop what you are doing and leave.
2. Do not assume it is a drill.
3. Close all doors and windows in your area if safe to do so.
4. Fire Wardens check that everyone evacuates.
5. Exit the building.

WHAT TO DO IF YOU DISCOVER SMOKE OR ANY FIRE:

1. Activate the nearest **fire alarm** by pulling the alarm pull box as you leave. If safe to do so, shut down critical experiments and turn off heating devices before you leave.
2. Close doors and windows to prevent fire from spreading.
3. Evacuate via the nearest safe exit. **Animal Science and Entomology Building** has **two front entrances**, use the nearest of these doors to evacuate the building. The meeting point of our building is in the front of the building on Dafoe Road (**North side of the Building**).
4. Always use stairs to exit. **Do not use elevator** and follow all other directions of Building Fire Wardens.
5. Advise a Fire Warden of the location and nature of the fire. Help the Fire Warden so that everyone in the building is notified and gets out immediately.
6. Stay outside the building until Fire Alarm sound has stopped and re-entry is permitted by the Fire Department Officer in charge, or Physical Plant Staff.

IN THE EVENT OF A FIRE ALARM WHEN WORKING IN A BSC:

Assess the immediate threat to your personal safety.

If threat is high, leave immediately.

If threat is low and it is safe to do so:

1. Close any open containers or vessels being used and pull down sash of BSC if possible. This is to minimize exposure in the event of a power outage.
2. Doff PPE.

3. Wash your hands.
4. Leave the building according to your building's Fire Safety Plan.
5. In the event that there is also a chemical spill in the BSC when the fire alarm is sounding, follow the chemical spill procedures as required.

SHOULD YOU TRY TO PUT OUT A FIRE?

Only if you have activated the fire alarm, and if there is no significant personal risk, and it is relatively easily extinguishable, **but if you could not put fire out within 30 seconds, evacuate through a safe exit.**

Emergency Phone Numbers

To call 911 from a campus phone, dial 4-911.

The emergency phone number on campus **is 555.**

If using your BellMTS or Rogers cell phone Dial **#555.**

All 555 calls go directly to Security Services who will send the appropriate response and accompany outside emergency response vehicles to the correct location.

From all other phones, Security Services can be reached by dialing **204-474-9341.**

First Aiders and Fire Wardens

FIRST AIDERS:
Dave Holder (Room 215C/Basement)
Robert Stuski (T.K. Cheung Centre)
Brittany Bedard (Room 154)
Deanne Fulawka (Room 154)

WHMIS COORDINATORS:
Brittany Bedard, Animal Science (Room 154)
Lisa Babey, Entomology (Room 214B)

CHIEF FIRE WARDEN: Dave Holder
Alternate Fire Warden: Deanne Fulawka

Area	***Primary Fire Wardens***	***Alternate Fire Wardens***
Basement	Dave Holder	Deanne Fulawka
1st floor	Lan Shi Atanas Karamanov	Fernando Esposito Brittany Bedard
2nd floor	Sandra Anderson Zoe Rempel	Charlene Hawryluk Lisa Babey
Annex	Atanas Karamanov	Brittany Bedard

Hazardous spills

A spill is defined as an uncontrolled release of a chemical. Spills can be categorized into two types: 1) Major spills and 2) Minor spills.

EHS provides a training document for chemical spill procedures. The EHS Hazardous Waste Management program should be contacted to properly dispose of any hazardous waste resulting from a spill.

Major Spill Criteria

- There is fire or potential for fire or explosion.
- The spill poses an immediate danger to life or health.
- There are injuries requiring medical attention.
- You do not know the properties or hazards of the spilled material.

Major spills require an external emergency response, i.e. Winnipeg Fire Department.

WHAT TO DO FOR MAJOR SPILLS:

1. Pull the fire alarm
2. If possible to do so safely:
    a. Evacuate others from the space
    b. Attend to injured persons
    c. Shut off all ignition sources
    d. Try to control spread of spill
3. Exit the building
4. Share incident details
        a. During business hours - locate the Chief Fire Warden Dave Holder and brief him on the nature of the emergency and other possible hazards in the area.
        b. After hours - call Security Services and brief them on the nature of the emergency and other possible hazards in the area. Wait for first responders or Security Services to arrive and identify yourself. Provide any additional information requested.

5. Required notifications

    a. During business hours - contact EHS (474-6633) as soon as possible. They will ensure that mandatory provincial notifications take place.

    b. After hours – Security Services will notify the Emergency Response Manager who will deal with notifications.

For spills resulting in injuries requiring medical attention that do not pose any of the risks above:

- Contact Security Services (dial 555 or 474-9341 or use red phones)
- Notify your direct supervisor as soon as possible
- Do not disturb the accident scene if there were serious injuries (injuries requiring emergency medical treatment).

Minor Spill Criteria

Minor spills are spills that do not meet the criteria of a major spill and can be safely dealt with by University personnel. Environmental Health and Safety (EHS) can provide technical advice or onsite assistance. Caretaking staff do not have the appropriate training to clean up a chemical spill.

WHAT TO DO FOR MINOR SPILLS:

1. If there is a need, evacuate the area. The room's ventilation system should control any spread of gases or vapours to the rest of the building with the doors shut.
2. Attend to any contaminated persons and alert any others working in the area about the spill.
3. Refer to safety data sheets (SDS), or any existing safe work procedure (SWP), for hazard and cleanup information. If there are concerns about safely cleaning up the spill:
    a. During business hours - contact EHS (474-6633). If you are unable to contact EHS in a timely manner contact Security Services (dial 555 or 474-9341).
    b. After hours - contact Security Services (dial 555 or 474-9341).
4. Control spread of the spill. This may include covering or damming floor drains.
5. Notify your supervisor or technician in charge of that area as soon as possible.
6. Clean up spill using designated spill kit. Always use personal protective equipment e.g. Gloves, goggles and face shield.

7. If any spilled materials were released to the environment, eg. entered the sewer system:

   a. During business hours - notify EHSO (474-6633) as soon as possible

   b. After hours – notify Security Services (dial 555 or 474-9341 or use red phones)

Ask for help if **someone** is **nearby** and immediately inform **Primary** or **Alternative** member in the event of any spill, fire and medical emergency. Also notify your supervisor and technician in charge.

Don't panic; remain calm to assess the situation. Always remember, your safety comes first; never put yourself in a position where you will become a victim.

SPILL KITS

- Every lab should be equipped with a suitable, well-marked spill kit and have established response procedures.
- The following list suggests some generic supplies to consider as part of a spill kit. Individual needs of each lab may vary. Contact EHS (474-6633) for additional information or assistance.
- The following items should be included in every spill kit:
    - Universal absorbent pads: Suitable for the absorption of virtually all liquid chemical spills. These pads are nearly a stand-alone spill kit. Available from chemical supply houses.
    - Granular absorbent material. Available from most lab supply houses. This material comes under many different names such as Zorball. Unscented kitty litter is the same product. ***Do not use granular absorbent on spills of radioactive material.***
    - Gloves. Nitrile is resistant to a wide range of chemicals. However care should be taken in selecting the appropriate gloves for your lab. Consult the SDS for a spilled material to ensure that appropriate gloves are available.
    - Protective eyewear: Different spills will require different eyewear. Goggles should be suitable for many lab spills.
    - Mercury spill kit: Many types are available from lab supply houses. EHS has special equipment available for dealing with larger mercury spills.
    - 20 L plastic pail (or equivalent tight closing plastic container) identified as: SPILL KIT. Used to contain spill equipment. When emptied is also useable as a disposal container for contaminated absorbents.
    - Black garbage bags to use as a liner for the 20 L pail. Note that if the pail is not used, the materials for EHS pick-up should be segregated and placed in a clear plastic bag to avoid inadvertant collection by caretakers.

- Duct Tape: Many creative uses exist for duct tape. They include temporary fixes for damaged containers and temporary seals for damaged lids. Remember that duct tape is a temporary solution.

Biohazardous spills

Biohazardous spills outside a biosafety cabinet (BSC)

Immediate response

1. Stop what you are doing and assess the immediate danger and extent of the spill.
2. Notify all staff in the immediate vicinity that a spill has occurred.
3. All personnel move to a safe area within the facility.
4. If biohazardous agents have splashed into the eyes, flush in eyewash.
5. Remove any contaminated or potentially contaminated personal protective equipment (PPE) and clothing and dispose or package for decontamination.
6. Wash hands and any other contaminated areas of the body to remove the spilled material.
7. Render first aid as appropriate and seed medical attention if required.

Spill cleanup

1. Notify the lab supervisor of the incident.
2. Post signage in the area to notify others of the spill to restrict access.
3. Allow aerosols to settle for 30 minutes before re-entering the area.
4. Assemble required clean-up materials (e.g. biological spill kit) and disinfectant at the entrance to the facility.
5. Don fresh PPE appropriate for direct work with the biohazardous materials.
6. Cover the area with paper towels sufficient to control the spill.
7. Pour an appropriate disinfectant (1% sodium hypochlorite is most common) on the paper towel starting at the outer edge and circling inward.
8. After the appropriate contact time, 30 minutes for bleach, collect the paper towels and debris, and package securely to prevent leaks.
9. Glass and other sharps must be handled carefully using forceps or other tools where possible. If this is not possible, fragments should be collected in a dustpan or container in such a way as aerosols and splashes are kept to an absolute minimum.
10. Dispose of contaminated materials in a leak-proof, puncture-resistant waste disposal container.
11. Doff PPE.
12. Contact the Biosafety Program for waste disposal procedures.

Biohazardous spills inside a biosafety cabinet (BSC)

The following general procedure is recommended for spills inside a BSC:

1. Stop what you are doing and assess the immediate danger in the spill area.
2. If safe to do so in the cabinet remove gloves and discard within the BCS. If two pairs are worn, discard the outermost layer.
3. If the lab coat or gown are contaminated; exit the cabinet and doff the lab coat or gown and package for decontamination.
4. Leave the BCS running.
5. If personal clothing is contaminated it should be removed and packaged for decontamination.
6. Wash hands and don fresh personal clothing and PPE.
7. Cover the spill, disinfect, collect, and package for disposal as per Part 2 Spill Cleanup.
8. Package waste to the autoclaved, surface disinfect all items (incl. waste packages) before removal from the cabinet.
9. If material has spilled through the grill of the BSC, pour disinfectant through the grill to flood the catch basin underneath and leave the disinfectant for an appropriate contact time (1 hour for 1% sodium hypochlorite).
10. Drain the catch basin using the drain cock at the bottom of the basin after contact time has elapsed. Contact Biological Safety Office for disposal procedure.
11. Wipe all inside surfaces with disinfect.
12. Raise the work surface, clean the catch basin, and then replace the work surface.
13. Allow BSC to run for at least 10 minutes before resuming work or shutting down.

Safety in the laboratory

- Always wear proper personal protection equipment (PPE) for the task you are carrying out (e.g. lab coat or coveralls, safety glasses or prescription glasses with side shields, gloves, face shield, respirator, aspirator, ear buds, etc.); see below for further details.
- Always know the hazardous properties of materials being use
- Always wash hands thoroughly before leaving the laboratory
- Never smoke in the building
- Never eat, drink, store food or apply cosmetics in laboratories
- Never perform unauthorized experiments
- Never engage in pranks, practical jokes or other acts of mischief
- Do not block access to emergency exits and emergency equipment
- Cell phones should not be used in the laboratory as they may become contaminated.
- Headphones are not allowed in the laboratory as they interfere with communication.

- Mouth pipetting is prohibited. Always attach and use a rubber suction bulb for transferring the solution if using a pipette, or use a mechanical pipetting device.
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- Any woman who works in a laboratory where hazardous substances are in use and who is, or believes that she may be, pregnant, must inform her supervisor so that they can help assess the risks.

Minors and non-employees in restricted areas or laboratories

The University of Manitoba **Minors In Laboratories and Other Hazardous Work Areas** policy must be followed. If any minors are required to be present in these areas, the Department Head must approve their presence and a parental consent form must be completed and signed.

Personal protective equipment (PPE)

See also 5.0 Personal Protective Equipment (PPE) in UM's Chemical Safety Guideline. In brief:

Always wear a lab coat, gloves, eye protection and/or hearing protection as required. Lab coats must be removed before you leave the lab area and cannot be worn in common areas e.g. Coffee room, office etc. See Lab Coat Selection, Use and Care for further information.

Legs and feet must be covered (no shorts, skirts, short dresses or capris). Never wear open-toed shoes, high-heeled shoes or sandals in laboratories or other hazardous work environments. Steel-toed footwear may be required when working with livestock - consult your supervisor.

EYE PROTECTION

Use appropriate eye protection e.g. safety glasses, goggles and face shield etc. in situations where eye injury is possible, including when others are working on an experiment nearby.

HAND PROTECTION

Appropriate gloves must be worn whenever handling hazardous substances that can cause harm to the skin or can be absorbed through the skin. Remove disposable gloves and wash your hands before leaving a laboratory or other work area.

HEARING PROTECTION

Always wear appropriate hearing protection e.g. ear plugs, ear muffs etc. to protect yourself from noise hazards, especially when working with equipment that generates loud noise (e.g. grinder, mixture and blender etc.) or with swine or poultry.

RESPIRATORY PROTECTION

Respirators provide personal protection by removing contaminants from the air before they are breathed in. A variety of respirators are available and are designed to deal with different substances in various situations. Select a proper respirator as per requirement and ensure filters are not overused.

Food or drink

Food and drink must not be contained or consumed in laboratories. Store foods and drinks in the food fridge located in lunch room. Always wash your hands before you start enjoying your lunch or snacks.

Laboratory safety equipment

EQUIPMENT USE

Use equipment only for its intended purpose. Whenever equipment is to be operated, seek assistance (training) and consult the manual before using it.

FUME HOODS

In most laboratories, the fume hood is the primary device for control of exposure to hazardous materials as it provides containment of operations which may release harmful gases, vapours or aerosols. All fume hoods in the Animal Science Building are operated by a centralized exhaust fan system and are operational 24 hours a day.

Do not use fume hoods to store chemicals and equipment, as they restrict air flow. The sash should be kept at a safe operating height as determined by EHS during an annual inspection.

See also 9.7 Laboratory Fume Hood in the UM's Chemical Safety Guideline.

BIOLOGICAL SAFETY CABINETS

Biosafety cabinets are designed to protect the user and the environment from biohazards. They also protect materials being handled from environmental contamination. Always keep biosafety cabinets clean and disinfect them after every use with a suitable disinfectant.

Biosafety cabinets do not provide protection from radioactive or other chemical substances.

If you are working with materials in a biosafety cabinet, you must self-register through UM Learn for the Biosafety Training and complete the module and quiz.

EYEWASH AND SAFETY SHOWER

Most of the laboratories in the Animal Science department are equipped with an emergency safety shower and eyewash station; know the location of these units in your lab area. Access to this equipment must not be obstructed in any way.

FIRE EXTINGUISHERS

Portable fire extinguishers are designed to extinguish or control a small fire. They are not intended to fight a large or spreading fire. Commit to memory the location of fire extinguisher in your lab area before fire emergency arises.

Consult EHSO's Fire and Life Safety website for more information on fire safety plans and fire extinguisher training.

Chemical inventories

The chemical inventories are maintained in all research laboratories of the Animal Science Department and a hardcopy is kept in each lab for that area. Combined copies of chemical inventories from all labs are also kept in department's main office **room 201** for easy access in case of emergency.

Incident reporting

Major spills require an incident investigation to be conducted by the supervisor. Major spills meet the Province's criteria for a "Serious Incident" and the local area safety and health committee (LASHC) co-chairs, or their designates, are required to investigate with the assistance of EHS staff.

Minor spills must be reported in writing to EHS within one working day of the occurrence. This report must contain the date, time, location, names of persons involved, material spilled and volume, as well as a detailed description of the incident and any corrective actions taken.

Consult the UM Post Exposure Protocol in the case of puncture wounds due to contaminated sharps, a splash of blood/body fluids, hazardous chemicals or biological agents into the eyes, mouth or broken skin, bites and/or scratches. A copy of this protocol is posted on the safety bulletin board in each lab space.

The Incident Investigation reporting form is available on the EHSO website.

All work related injuries, including exposure to a biological agent, must be reported promptly to your supervisor and documented by filling out a Notice of Injury form (green card). All work-related injuries forms are also available in the main office of the department, Room 201 and details on WCB reporting and accident investigation are available on EHSO's website.

Laboratory safe practices and handling of lab equipment

Safe Work Procedures (SWP) exist for many common laboratory procedures and should be read and understood prior to beginning work in any lab space. Hard copies are available in each lab space, and .pdf files may be requested. These include:

- Autoclave use
- Centrifuge use
- Chemical storage
- Fecal sample dry matter determination
- Fumehood use
- Handling compressed gas cylinders
- Handling liquid nitrogen
- Handling rumen fluid
- Oven use
- Wiley mill use

For further information, reference this manual or discuss with your supervisor or Department WHMIS Coordinator. UM's Chemical Safety Guideline is also available for additional information on chemical storage and handling.

Biohazardous materials

Biohazardous infectious materials must be clearly marked including clearly visible biohazard labels. Biohazardous materials must only be in designated biohazard areas.

Microbiology labs in Animal Science Dept. are monitored by EHSO to ensure required procedures are followed. **Microbiology labs room 124, 126 and 106** are marked with appropriate signage as they are licensed as Level 2 biocontainment facilities. Do not enter these labs without permission from the person in charge, as well as appropriate training.

Radioisotopes

Radioisotopes may be handled only by authorized users in the approved lab area. Radioisotope labs (**Rooms 121 and 124**) are marked with appropriate signage. Do not enter these labs without the permission of permit holder. Before working with radioactive material, you must take a radiation safety course and training organized by EHSO Radiation Safety.

New chemicals or reactions

Before using a new chemical or making a new solution for the first time, always check toxicity, flammability, incompatibilities and disposal information etc. by consulting the SDS.

Labelling chemicals, solutions, samples

All chemicals, solutions, reagents and contained microorganisms must be clearly labeled. If you prepare a solution in the lab always put a Workplace Label on the container. Do not try to write on the container surface, always use a proper label. Research samples must also be labeled properly (name of owner, trial name, month and year etc.)

Safety data sheets (SDS)

A safety data sheet is a document which contains various information (e.g. physical, chemical, fire hazard, incompatibilities, toxicity and preventive measures etc.) for a hazardous chemical. In the Department of Animal Science, SDS are available in binders in each lab as well as in the main office. WHMIS training provides an overview on how to read and interpret SDSs.

Housekeeping

Housekeeping refers to the general condition and appearance of a laboratory. Good housekeeping must be practiced in the lab for its obvious health and safety benefits.

- Keep lab areas free of clutter, trash, unnecessary chemical containers and equipment.
- Always keep lab benches, fume hoods, refrigerators, glass and chemical cabinets, and sinks clean.
- Do not store chemical containers on the floor.
- Keep containers and equipment away from the edge of benches.
- Exits and emergency equipment areas must be clear and free of clutter.
- Clean glassware the same day it is used.

See also 9.5 Housekeeping and Maintenance in UM's Chemical Safety Guideline.

Waste disposal

Chemicals

Solids

Unwanted dry chemicals should be correctly labelled and placed in a box in the designated fume hood **in room 118** by the balance room door. Include a list of chemicals with amounts for EHS, who provide regular scheduled hazwaste pick-up.

Empty Chemical Bottles

Rinse the empty reagent bottle three times with water and deface the labels. Place plastic containers in the garbage or store them under the hand washing sink to be reused as waste

containers. Glass bottles that can be recycled should be placed in the recycling bin in the nutrition lab. Never put glass of any kind in the regular garbage.

Liquids

- No sink disposal of chemicals with limited exceptions. Inorganic compounds such as acids, bases, etc. are collected in correctly labeled bottles or drums and placed in then waste fume hood in room 118. Non-hazardous buffer solutions, detergents or mild acid/base solutions (< 1%) may be disposed of by pouring down the drain with large amounts of tap water. Methanol and ethanol solutions no greater than 10% v/v and bleach solutions containing 1% sodium hypochlorite or 1:5 dilution may also be disposed of in the sink.
- Organics such as heptane, hexane and ether should be stored in correctly labelled bottles or drums and placed in the fume hood in room 118.
- Chemicals and organics cannot be diluted with water for the purpose of disposal.
- Some chemicals become explosive with extended storage and must be disposed before the expiry date (e.g. ether, picric acid and tetrahydrofuran). Place in the fume hood in Room 118.

Pharmaceuticals

Do not throw any drugs in the garbage unless given permission by the department veterinarian responsible for the purchase. Contact Richard Hodges.

Sharps

Any item that can potentially pierce the skin is considered as sharps. This includes Pasteur pipettes, pipette tips, needles, syringes, razor blades and scalpel blades.

Any sharps, unless contaminated with chemical or biological materials must be treated as glass and placed in a box labeled broken glass. *Never put pipette tips in the regular garbage.*

Chemically contaminated sharps

Chemically contaminated sharps are placed in appropriately labelled sharps containers and placed in the fume hood in Room 118 for disposal through EHSO's HazWaste program.

Biologically contaminated sharps

Sharps, and other materials, are considered to be biological hazards if they have come in contact with potentially infectious human/animal fluids or secretions such as blood, saliva, mucous, rumen fluid, feces, urine or semen.

Place sharps in biohazard sharps containers. The container must not be filled above the line indicated on the container. Autoclave (**room 126A)** for 1 hour as per SWP and store in the cupboard in **room 140A** in the annex. Brittany Bedard arranges pick-up of the containers by

EHSO. Each lab is responsible for purchasing and sterilizing the containers they need. First time autoclave users must make arrangements to be trained on proper autoclave operation by Brittany Bedard or their supervisor.

Biological waste

EHSO provides further information on hazardous waste management. See the UM's Biological Waste Disposal Standard, and more information regarding decontamination procedures in the UM's Biosafety Manual.

Sharps

Refer to Biologically contaminated sharps above.

Microbiological waste

1. Solids such as used gloves, petri dishes with media with harmful or potentially harmful microorganisms are placed in clear autoclave bags, provided by each researcher. Gloves used for microbiological work and all gloves used in the Level 2 labs are to be removed and disposed of in an autoclave waste bag before leaving the lab. Do not touch door knobs, phones or light switches while wearing contaminated gloves. Autoclave in **room 126A** as per SWP. Set the autoclave to the *waste* program setting, which will run for 1 hour. Following autoclaving, seal and place in a garbage bag and dispose via the regular garbage.

2. Liquids can be autoclaved as above or decontaminated with a proven chemical method e.g. bleach. Dispose down the drain with copious amounts of water.

Teaching specimens

If fresh/frozen specimens are used for dissection the professor must obtain a biosafety permit. Fixed specimens (i.e. in formaldehyde) do not require a biosafety permit. More information on the Biological Safety Program is provided through the EHSO. To dispose of specimens, place in double bags with the inner bag sprayed with Virkon, label, and place in the annex chest freezer (Room 140A). Notify Robert Stuski if the freezer is filling up.

Glass and broken glass

Place broken glass in designated boxes provided by the Nutrition Lab or researcher. When the box is full, seal completely and place outside the loading doors for disposal. Be sure to obtain a new box. Everyone is responsible for cleaning up their own broken glass. Glass bottles that can be recycled should be triple rinsed, defaced, and placed in the recycling bin in the nutrition lab. *Never put glass of any kind in the regular garbage.*

Freeze dried material

Place in double garbage bags and dispose via the regular garbage. Never discard samples without your supervisor's permission.

Radioactive materials

Only persons on the permit's designated workers list are allowed to work with radioisotopes. It is the responsibility of the radiation permit holder and the lab radiation supervisors (Deanne Fulawka for Dr. Ominski's permit), to arrange for pickup of waste and for training.

Mixed radioactive and biological

DO NOT AUTOCLAVE. See procedures and radiation permit holder. Never put anything radioactive down the drain or in the garbage.

ALWAYS ASK A TECHNICIAN OR YOUR SUPERVISOR IF YOU DON'T KNOW WHAT TO DO

Animal Science Training Flow Chart

- ✓ Complete the New Staff/Student Onboarding Checklist with your supervisor
- ✓ Provide training documents

Submit all online training module certificates and the original signed copy of your lab safety checklist to Anam Anwar to keep on record in your employee file. If appropriate, she will also grant you an access code for the Nutrition Lab (Room 122) and/or Dr. Yang's lab (Room 106).

- ✓ Ongoing training

If at any time a worker feels unsafe, they can and should request additional training and/or oversight. If a student feels uncomfortable with reporting exposures/incidents, Student Advocacy can be sought as a resource to assist in such reporting.

Additionally, if working conditions change so as to present new or unfamiliar hazards or an increased level of risk, additional training or support should be sought from your supervisor and/or the WHMIS Coordinator.