

Cape Breton University

Laboratory Safety Procedures

A. Laboratory Safety Procedures – School of Science & Technology

All students will participate in a general laboratory safety lecture at the commencement of their laboratory work. Students will be required to read and sign the *Student Declaration on Laboratory Safety* (see Appendix “A”) before commencing with laboratory work. The general laboratory safety lecture will include (but is not restricted to) the following safety rules:

1. Do not bring unauthorized persons in to the lab without the express permission of the instructor or faculty member.
2. The use of audio devices (such as Ipods, MP3 players, or radios) may interfere with hearing important safety information and their use is therefore prohibited while in the lab.
3. Work in the laboratory only as authorized by your instructor. Do not perform unauthorized experiments. No hazardous or other materials are to be removed from the laboratory without the express permission of the instructor or faculty member.
4. Carefully read all instructions and thoroughly plan your work.
5. Learn emergency procedures and know the locations of the nearest eye wash, safety shower, fire blanket, fire extinguisher and chemical cleanup materials.
6. If you are injured or if any type of accident or fire occurs, **IMMEDIATELY** call your instructor for assistance.
7. Follow all procedures with respect to laboratory safety, which includes handling or storage of chemicals, flammable and combustible liquids, handling of laboratory waste or transporting hazardous materials.
8. Wear appropriate clothing and closed-toed shoes (not sandals). Wear clothing that reduces the exposure of bare skin. Restrict loose clothing (e.g. long sleeves). Confine long hair.

Faculty/Lab Instructors reserve the right to exclude improperly dressed students from entering a lab.

In addition, when working with chemicals:

9. When directed by your professor or lab instructor, students are required to wear lab coats for protection and to lower the risk of contamination to the outside.
10. When using protective gloves, dispose of them properly. Do not wear gloves outside the lab as they can pose a contamination risk to others.

11. When indicated, students must wear approved safety goggles/glasses during laboratory sessions. Regular glasses are not safety glasses and therefore goggles must be worn over regular glasses or safety side shields must be attached.
12. Do not wear contact lenses in a laboratory. A chemical splashed into the eye will be trapped against the cornea by the contact lens increasing the likelihood of eye damage. Some chemicals are absorbed by some contact lenses and can cause severe eye irritation or injury.
13. Carefully read all labels on chemical bottles. Never return excess chemicals to the stock bottles.
14. Do not eat, drink or smoke in the lab. Never taste chemicals. Smell chemicals cautiously by wafting the vapors toward you.
15. When mixing or heating chemicals in a test tube, point the test tube away from people.
16. Do not use Bunsen burners or other sources of spark or flame in the vicinity of flammable liquids. Note that most organic solvents are flammable.
17. While mixing acid and water, always add the acid to the water, not vice-versa.
18. Fill a pipet by using a pipette bulb or mechanical pipettor only; **never** pipette by mouth.
19. If a spill occurs, refer it to your instructor or other trained person immediately.
20. Dispose of chemicals as directed by your instructor and in a manner consistent with local hazardous waste disposal regulations. Organic solvents are **never** to be disposed of down the sink; receptacles will be provided as needed for their collection.
21. Always wash hands when you leave the lab, and before you eat after leaving the lab.

Independent Research or Working Alone in the Lab

It is not permitted for students to work alone in the lab, except as described below.

Students enrolled in independent research or thesis courses must work during regular hours, unless otherwise approved. If work is to be done outside of regular hours, permission of the faculty or instructor is required. Where there is risk to chemical exposure, arrangements must be in place to ensure that a supervisor or fellow student is nearby and able to check on your safety on a frequent basis.

B. Obtaining a Risk Assessment for Students with Medical Conditions or Pregnancy

The University encourages students with any medical condition, contemplating pregnancy or who are pregnant to contact the Safety Officer for a risk assessment. Each of the Biology and Chemistry Departments will designate a staff member who will be identified to all laboratory students at the beginning of each term or academic year. Students may contact this departmental representative to disclose a medical condition or pregnancy, in which case the departmental representative shall communicate this information to the safety officer, who shall implement the risk assessment process with the student.

All staff and faculty members involved in this process will respect the confidentiality of the student's information ensuring that information will be provided to instructors or faculty members on a need-to-know basis.

Safety Officer and the Risk Assessment

The Safety Officer when made aware of a student medical condition or pregnancy will work with the student to ensure that they receive information about chemicals and/or materials in laboratories which may affect their health or the health of the embryo/fetus. This may include such information as:

- MSDS information sheets on chemicals
- Lab Safety procedures
- Information on teratogens, radiation and other chemical or physical agents used in laboratories
- Information on respiratory protection, gloves, or other safety devices
- How to obtain academic or counseling support, as may be needed or identified by the student
- Other sources of information including experts in particular fields, or sources such as MotherRisk.

It is not the role of the safety officer to give advice to the student but rather to provide information to the student which will enable the student to fully discuss the risks with their medical practitioner.

C. Students Proceeding with Labs Despite Known Risks

In the event that the student with a medical condition or who may become pregnant or who is pregnant is intent on proceeding with Labs, the student will be referred to the Dean who will insure that the student consults with a medical practitioner before proceeding with providing informed consent and a release to the University and School.

The Dean will ensure that students exercising their option to continue lab work will only be permitted to commence or continue with laboratory work after completing the following steps:

1. Consulted with the Safety Officer to review the potential risks to become informed of the risks associated with the chemicals in the particular lab or labs;
2. Obtained MSDS sheets on chemicals for the particular lab or labs;
3. Consulted with their medical practitioner who will confirm that the student has informed them of the caution on laboratories, and MSDS forms;
4. Completed and signed the ***“Acknowledgement of Risks and Release Agreement for Students with Medical Conditions or who Are Pregnant”*** (see **Appendix B**) which will include confirmation that the student has consulted with a medical practitioner.

The Dean retains final authority to authorize registration or continuation in any lab following completion of the above steps.

Appendix "A" – Student Declaration on Laboratory Safety

Name _____ Semester _____ 20 _____

Course: _____

Safety in Laboratory Courses

To the student: You are required to read, understand and implement the safety precautions indicated in your laboratory manual or laboratory handouts. Your signature on this form indicates your commitment to abide by these precautions.

I have read carefully and understand all of the safety rules contained on this sheet. I also agree to read all rules for specific exercises contained in the laboratory manual or laboratory handouts required for this course. I recognize that it is my responsibility to obey them faithfully.

I realize that all chemicals are potentially dangerous; therefore I will exercise care in handling them. If I am unsure of the potential hazards of any chemical, I will discuss this with my instructor prior to using the chemical in question.

I understand that I am required to wear safety goggles or safety glasses at all times when directed to do so in the laboratory. I also understand that there are dangers involved in wearing all types of contact lenses in laboratory situations where reactive chemical agents, biological fixatives, or volatile organics are in use. I am aware that even when safety goggles or safety glasses are worn, CBU does not permit wearing of contact lenses in these situations.

If I am pregnant or have a medical condition such as, but not limited to, hypo- or hyperglycemia, diabetes, epilepsy, heart ailments, or any other medical condition which may cause sudden loss of consciousness or impair my ability to safely handle chemicals or which may require accommodation, I am aware that the university encourages me to inform my instructor of my condition at the beginning of the semester, or as soon as I am aware of the existence of the medical condition and follow all safety procedures prescribed by CBU or my medical practitioner.

I further understand that I am permitted to work in the Laboratory only when it is under the supervision of a laboratory instructor, unless specifically informed otherwise.

Sign both copies of this form. Retain one copy in your laboratory notebook. Your laboratory supervisor will collect and retain the other signed copy.

Signature _____ Course Number _____

Date _____ Laboratory Room Number _____

Lab Instructor Name (print) _____

Appendix "A" – Student Declaration on Laboratory Safety (Student Copy)

Name _____ Semester _____ 20 _____

Course: _____

Safety in Laboratory Courses

To the student: You are required to read, understand and implement the safety precautions indicated in your laboratory manual or laboratory handouts. Your signature on this form indicates your commitment to abide by these precautions.

I have read carefully and understand all of the safety rules contained on this sheet. I also agree to read all rules for specific exercises contained in the laboratory manual or laboratory handouts required for this course. I recognize that it is my responsibility to obey them faithfully.

I realize that all chemicals are potentially dangerous; therefore I will exercise care in handling them. If I am unsure of the potential hazards of any chemical, I will discuss this with my instructor prior to using the chemical in question.

I understand that I am required to wear safety goggles or safety glasses at all times when directed to do so in the laboratory. I also understand that there are dangers involved in wearing all types of contact lenses in laboratory situations where reactive chemical agents, biological fixatives, or volatile organics are in use. I am aware that even when safety goggles or safety glasses are worn, CBU does not permit wearing of contact lenses in these situations.

If I am pregnant or have a medical condition such as, but not limited to, hypo- or hyperglycemia, diabetes, epilepsy, heart ailments, or any other medical condition which may cause sudden loss of consciousness or impair my ability to safely handle chemicals or which may require accommodation, I am aware that the university encourages me to inform my instructor of my condition at the beginning of the semester, or as soon as I am aware of the existence of the medical condition and follow all safety procedures prescribed by CBU or my medical practitioner.

I further understand that I am permitted to work in the Laboratory only when it is under the supervision of a laboratory instructor, unless specifically informed otherwise.

Sign both copies of this form. Retain one copy in your laboratory notebook. Your laboratory supervisor will collect and retain the other signed copy.

Signature _____ Course Number _____

Date _____ Laboratory Room Number _____

Lab Instructor Name (print) _____

Appendix "B"

Informed Consent: Acknowledgement of Risks and Release Agreement for Students with a Medical Condition or Who Are Pregnant

To the student: Please read this entire document carefully before signing.

I have consulted with the University Safety Officer who has informed me of the risks associated with the laboratory _____ and who has recommended I do not enroll (or continue) in this laboratory during my pregnancy.

I acknowledge and understand that exposure to chemicals, physical and biological agents may pose additional risk to me or the embryo/developing fetus. I further understand that these effects may include embryoletality (death of the fertilized egg, the embryo or the fetus), malformations (teratogenic effects), abnormal growth and/or postnatal function deficits.

I also confirm that I have received and reviewed MSDS sheets on chemicals associated with the above lab, and have consulted with a medical practitioner to review the hazards.

I confirm that I understand and am aware of the risks associated with this laboratory(ies) and assume and accept full responsibility for the inherent and other risks with this laboratory (both known and unknown), and for any injury, damage, death or other loss suffered by me, resulting from these risks. I confirm that I have consulted with a medical practitioner, who has advised me with respect to the risks of continuing with my lab activities and that my having my medical practitioner sign below, I am acknowledging that I will follow all safety procedures as prescribed by him/her.

Medical Practitioner, Address

Date

RELEASE

I agree to release and hold free and clear Cape Breton University and the School of Science and Technology, and its faculty, instructors and staff in regard to all claims, liabilities, suits or expenses (collectively referred to as "claims"), including any claims alleged to be caused by the actions or inactions of any faculty, instructors or staff related with Cape Breton University and the School of Science and Technology arising from my participation in lab. I agree to waive all claims I may have against Cape Breton University and the School of Science and Technology, and agree that neither I, nor anyone acting on my behalf, will make a claim or file a lawsuit against Cape Breton University and the School of Science and Technology.

I have carefully read, understand and voluntarily sign this document and acknowledge that it shall be effective and binding upon me, my minor children and other family members, and my heirs, executors, representatives and estate.

Witnessed by the Dean: _____