# DEPARTMENTAL SAFETY REPORT

Title of Project \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Laboratory Room Number(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- |
| **Title** | **Name** | **Email** | **Signature** | **Date** |
| Researcher |  |  |  |  |
| Faculty Supervisor 1 |  |  |  |  |
| Faculty Supervisor 2 |  |  |  |  |
| **Type of Hazard** | **Applicable (Yes, No?)** |
| Fire/Explosion |  |
| Toxic |  |
| Radioactivity |  |
| Electrical |  |
| High Pressure |  |
| Mechanical |  |
| Falling Objects |  |
| Carcinogens |  |
| Designated Substances Used |  |
| Biohazard |  |
| Others (List) |  |
| Check for allergy/Sensitization by chemicals used |  |
| Nearby Assistance required? |  |
| Is working alone approved by my supervisor for this process[[1]](#footnote-2) |  |
| MSDS and other safety documents |  |
| Safety Training Taken: \* |  |

**\*Attach proof of completion to Appendix of the full Safety Report
Check this box if there are no significant changes in your experimental work.** [ ]

### **Section 1: Research Objective**

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| *In one or two sentences, what is the goal of your project?* |

### **Section 2: Experimental Description**

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| *Describe, briefly, your lab project and the kinds of processes, reactions, and measurements that you will carry out. Include the names of chemicals, instruments, and machinery to be used during your work.*  |

### **Section 3: Potential Hazards Under Routine Operation**

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| *Provide a brief explanation of how your workspace will respond to and prevent the following situations. If that hazard does not exist in your lab, enter “not applicable”**Chemical Spills or Splashes:**Slips, Trips and Falls:**Ergonomic Hazards:**Minor cuts, scratches, or burns:**Chemical Hazards:**Mechanical Hazards:**Biohazards:**Other (please elaborate):* |

### **Section 4: Laboratory Protective Devices**

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| *Describe here, under each heading, which devices and facilities exist in your labs. Define the location and expected frequency of use.**Fume Hood and/or Exhaust Trunks:**Bio-Safety Cabinet:**Fire Alarms and Panic Buttons:**Fire Extinguishers:* *Chemical Spill Kits:**Broken Glass Container:**Sharps Container:**Chemical Waste Containers:**Safety Eyewash and Shower:**First Aid Kit:**Fridge or Freezer:**Chemical Storage Cabinets:**Chemical Labelling:**Solvent Carrier:* |

### **Section 5: Personal Protective Equipment (PPE)**

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| *Explain the location, type, and use of the following PPE devices in your work.* *Eye Protection:**Gloves:**Protective Clothing:**Other Protective Items:*  |

### **Section 6: Emergency Procedures**

In general, any emergency in the building – including fire, injury, chemical spill, near misses, criminal activity, or any other dangerous incident - should be responded to as follows:

1. Inform your supervisor (as soon as possible)
2. Evacuate the area
3. Contact Campus Security Services. From a Landline dial **88**. From a cellphone dial **(905) 522-4135**. Inform them of the situation and what kind(s) of help is needed. Have someone meet the Security staff outside the building so that they can find your lab quickly.
4. Ensure that the responders have the SDS for any chemical(s) involved in the emergency.
5. If the person requires medical attention, ensure that the relevant SDS pages go with them.
6. Within 24 hours, fill out an injury/incident form with your supervisor, and submit the form to EOHSS.

Here is a list of nearby certified first aiders:

* Justin Bernar, JHE-140, x24880
* Tim Stephens, JHE-A106, x24958
* Tammy Feher, ABB-156, x20874
* Kylie Luska, ABB-301, x23548
* Heather Zelisko, ABB-308, x26083
* Julie Gauthier, ABB-412, x26084
* Patricia Martin, ABB-222, x26082

The university Safety App is a useful resource for lists of information, procedures, and contacts, <https://css.mcmaster.ca/safety-app/>

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| *In the section below, please explain, specifically, how your laboratory will respond to any of these emergencies.*Chemical Spills:Chemical Exposure (accidental ingestion, inhalation, or skin contact):Fire or Explosion (include escape route from building and alarm pull location):Cuts from Sharps:Biohazard Spills or Leaks:Serious Injury:Violence or Harassment: |

### **Section 7: Chemical and Biohazards**

*Please complete the flowing tables for each of the chemical or biohazardous materials you will use in your project.* ***Please use your own words in the description****. An example is provided in the top line. Add more rows if needed.*

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| Substance Name | *Hazards & Safe Handling* | *Emergency Procedure* | *PPE* | *Storage Location* |
| *Example*, 1,4 Dioxane | Flammable solvent, toxic, toxic vapors.Handle with PPE inside of fume cabinet. Dispose of no less than one year after opening.  | Exposure requires medical attention. Small spills should be contained using the spill kit. Large spills require contacting EOHSS for help. | Nitrile or neoprene gloves, lab coat, safety goggles.  | Flammables Cabinet |
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*In the hazard ratings section, list the hazards from the substance SDS. Note that SDS use GHS rating system from 1-4, for which 1 is the most dangerous and 4 is the least dangerous. Include Physical, Health and Environmental ratings. Add more rows if needed.*

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| *Substance* | *Physical* | *Health* | *Environmental*  |
| *Example,* 1,4 Dioxane | Flammable Liquid (2) | Eye irritation (2A),Carcinogenicity (2), Specific target organ toxicity - Respiratory system (3)  | Dispose of Contents to Hazard Waste Plant (4) |
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| *If you are using* ***Biohazardous materials*** *(live cells, bacteria, fungi, or viruses) please summarize the Hazard classification from the Pathogen Safety Data Sheet. Provide one paragraph for each type of biohazard.*  |

### **Section 8: Hazardous Materials Disposal**

*The most important Hazardous waste materials from Laboratories include chemicals, sharps, solid wastes, and biohazards.*

None of these materials should be thrown in the garbage, down a drain, or outside.

* **Chemical Waste** – Do not mix chemical waste streams. Avoid mixing chlorinated and non-chlorinated organic compounds. Segregate wastes by type and seal in a bottle or container. Label the containers with a yellow inventory tag and indicate the contents. Document and dispose of chemical waste on Tuesday mornings as per instructions from EOHSS <https://hr.mcmaster.ca/resources/hazardous-waste-pick-up/>
* **Biohazardous Wastes** – BSL1 and BSL2 wastes are sealed in yellow waste bags, boxed, and disposed of according to instructions from EOHSS. <https://hr.mcmaster.ca/resources/biomedical-waste-procedures/> . In JHE, wastes are brought to JHE 137 for pickup.
* **Sharps** – place sharps in the appropriate container – metal or broken glass. Do not overfill these containers. If the contents are chemically contaminated, seal the containers and dispose of as a chemical waste. If they are bio-contaminated, seal and dispose of as a biowaste.
* **Solid Wastes** – these include pipette tips, syringes, paper towels and gloves which are contaminated. If *chemically contaminated*, seal in sturdy containers and label and dispose of as hazardous waste. If *bio contaminated*, seal in containers and dispose of following the biohazardous waste procedures.

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| *In the section below, describe any specific procedures your lab will use for waste disposal.* |

### **Section 9: Samples**

Test samples, including vials, bags, pails or containers of liquids, polymers, or soils, should not be retained beyond the need for testing. Accumulations of these samples may become a hazard. Samples should be disposed of periodically, or, at the end of your research. If not disposed of, then custody of samples must be transferred to another person working in your group or sent back to their points of origin. Samples should be disposed of in accordance with their hazard classification.

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| *In the section below, describe specific procedures your lab will use for waste disposal for each of the categories in section 8.**Include a brief plan on how you will prevent accumulation of sample materials in your lab.* |

# Appendix

*Include a printout of safety course completion. Include any other relevant information, such as copies of SDS sheets.*

1. Working alone means work after hours on weekends, or holidays. Approval to work alone requires review, documentation, and approval from your Supervisor and the Departmental JHSC. See RMM 304 for details (<https://hr.mcmaster.ca/resources/rmm-304-working-alone-program/>) [↑](#footnote-ref-2)