EXPERIMENTAL REGISTRATION FORM

Submit this completed form in electronic format for approval to Dan Grozea, MSE Safety Coordinator (mse.safety@utoronto.ca). A new form MUST be submitted whenever experimental procedures have changed or when your work poses new health or safety hazards.

If research involves computer work only, complete and submit the Registration Form (Computer Work Only) found on the MSE website. By signing the form, you also acknowledge that you have studied the MSE Safety Manual, from the MSE website.

Date:

Researcher's Name:

Staff ☐ Visiting Researcher ☐ 4th year ☐ Summer ☐ Graduate ☐

Researcher's Student #:

Researcher's Telephone #:

Researcher's e-mail:

Supervisor's Name:

Supervisor's Home Department:

Who Needs to Take Safety Courses	Course Code	Training Course Description	Date of Completion
• Grad students • PL Lab Techs • Res. Assocs/Assists • Visiting Researchers • Research Admin Staff	• MSE2222 • EHS002 • EHS101	• Departmental Orientation & Safety • EH&S Basic Health and Safety • Awareness • EH&S WHMIS	
MSE Summer Students	• EHS002 • EHS101	• EH&S Basic Health and Safety • Awareness • EH&S WHMIS	
4th Year Students	• EHS002 • EHS101	• EH&S Basic Health and Safety • EH&S WHMIS	

New Faculty	• MSE2222 • EHS002 • EHS101 • EHS009 • EHS536	• EH&S Basic Health and Safety • EH&S WHMIS • EH&S Lab Academic Supervisor Safety • Office Ergonomics	
New Staff	• EHS002 • EHS101 • EHS536	• EH&S Basic Health and Safety • EH&S WHMIS • EH&S Office Ergonomics	
All returning Faculty, Department Administrative Staff, Grad students, PDFs, Lab Techs, Res. Associates/Assistants, Visiting Researchers, Research Admin Staff		Those taking MSE2222 during current year are exempt from current year WHMIS Refresher.	
Job Specific Supplementary Training	• EHS701 • EHS601 • EHS602 • EHS741 • EHS731 • EHS710 • EHS603	• EH&S Radiation Safety Full • EH&S Laboratory Biosafety • EH&S Biosafety Refresher • EH&S X-ray Safety • EH&S Laser Safety • EH&S Sealed Sources Safety • EH&S Blood-borne Pathogens	

Is the Buddy system required?: Yes ☐ No ☐ (**Required when working anytime with hazards in laboratory**)

Successful completion of WHMIS training & Safety Course? Yes ☐ No ☐

Studied "Occupational Health and Safety Manual" of the Department? Yes ☐ No ☐

LOCATION

Room Number:

Entry points:

Alternate Fire Escape Routes:

Exhaust: ☐ Fume Hood
☐ Canopy Hood
☐ Glove Box

Location of Nearest Fire Alarm:

BRIEF DESCRIPTION OF EXPERIMENTAL METHODS (Describe all chemicals, equipment and their use)

TITLE:
DURATION:
DESCRIPTION:

SERVICES REQUIRED

Electricity Purpose:
Frequency: Voltage:
Wattage: Phase:

Natural Gas Purpose:

Connections:

Water Purpose:
Source (recirculating or mains):

Compressed Air Purpose:
Pressure (kPa): Connection Material:

SPECIAL HAZARDS

IMPORTANT: Permits specific to hazards must be attached or form will not be approved. Researcher's name must be officially added to permit if names required to be listed.

Radiation:

Ionizing ☐ Non-ionizing ☐ Permit is attached ☐

Source: Open ☐ Sealed ☐

Type of Emission:

Source Strength:

Control Measures:

Biohazard:

Animal Usage ☐ Biological Agent ☐ Permit is attached ☐

Type:

Common Name: Scientific Name:

Control Measures:

Laser:

Type: Class:

Permit is attached ☐

Control Measures:

General

List all potential Ignition Sources: (if flammable materials are used or stored in the lab)

Method of heating operating vessels:

Will apparatus be running overnight? Yes ☐ No ☐

****If yes, a permit must be acquired from Joint Health and Safety Committee.**

Permit is attached ☐

CHEMICAL SUBSTANCES USED IN PROJECT: **Please List <u>All</u> Chemicals Used. (Attach another page if necessary.)**

(**Note**: The following substances have been designated by the Department as presenting particular hazards. Their use requires a permit which should be appended to this form: acrylonitrile, arsenic asbestos, benzene, carbon disulfide, carbon tetrachloride, ethylene oxide, formaldehyde, isocyanates, lead, mercury, silica, styrene, vinyl chloride monomer, H_2S (hydrogen sulfide gas), cyanide, cadmium).

Name	Quantity mass or vol/yr	TLV[1] or LD_{50}	Route of Entry[2] (& Health Risk)	Corrosion Hazard	Flammability (Flash Point)	Autoignition Temperature	Reactivity Hazard or incompatibilities

STORAGE VESSELS (Includes gas cylinders)

DISPOSAL ARRANGEMENTS FOR CHEMICAL WASTES

Number of **Departmentally Designated Substances** Used:

Type of waste container(s):

Classes of Waste (e.g. flammable organic solvent, etc.):

Size(volume):
Label and Bottle Codes (refer to Dept. waste handling document):

Disposal Collection Room: Waste Disposal Location:
_____ (WB50 for MSE Department – contact Dan Grozea)

Describe: pressure and temperature, volume (litres), material of construction, material stored, potential hazard[3] (e.g. Corrosion, Fire, Explosion, Toxicity.)

EXPERIMENTAL APPARATUS

(Description: e.g. Material of construction, Capacity, Corrosion Hazard[3], if any, Operating Pressure, Operating Temperature.)

Provide a sketch of the apparatus below:

CONNECTIONS BETWEEN VESSELS, VALVES, ETC.

(State material of construction, dimensions, type of joint, P. and T, insulation if any.)

POTENTIAL HAZARDS INVOLVED USING THE APPARATUS OR CHEMICALS

(i.e. biohazard, corrosion, explosion, fire, incompatible chemical storage[8,9], over-pressurization, overheating, oxygen deficient conditions, radiation, runaway reaction, noise.

PERSONAL PROTECTION AND SAFETY EQUIPMENT

A) Personal Protective Equipment Required

Gloves Purpose:
Type:

Respirator Purpose:
Type:

Eye Protection Purpose:
Type:

Lab Coat: Purpose:
Type:

Ear Protection Purpose:
Type:

B) Safety Equipment Locations: List where in the lab these are found; if not in your lab, list nearest location.

Eye wash station:

Shower:

Spill Kits:

Fire Extinguishers:

EMERGENCY CONTINGENCY PLANS; SPECIAL HANDLING AND OPERATING PROCEDURES

UofT Emergency Numbers:

1. UofT Emergency Number: 416-978-2222
2. UofT Spill Cleanup Number: 416-978-7000
3. UofT Facilities/Services Emergency Number: 416-978-3000

Incident Reporting:

In this section, detail your group's process for reporting an incident/accident in a lab/workspace.

The completed form has been reviewed and approved:

_____	_____	_____
Supervisor Name	Signature	Date
_____	_____	_____
Researcher Name	Signature	Date

Additional Resources:

1. A.C.G.I.H., "Threshold Limit Values" (1991 or 1992).
2. N.J. Sax, "Dangerous Properties of Industrial Materials".
3. H.H. Uhlig, "Corrosion & Corrosion Control".
4. H.F. Coward and G.W. Jones, "Flammability Limits of Gases and Vapours "Bureau of Mines Bulletin 503.
5. N.V. Steere, "Handbook of Laboratory Safety".
6. National Fire Protection Association, "Fire Protection Guide on Hazardous Materials".
7. University of Toronto, "Handling Procedures for Chemical Wastes" (September, 1987).
8. L. Bretherick, "Handbook of Reactive Chemical Hazards".
9. National Fire Protection Association, "Manual of Hazardous Chemical Reactions", 1975, Fifth Edition.
10. University of Toronto – Environmental Health and Safety Resources for Students https://ehs.utoronto.ca/home/i-am-a-student/