

Purpose

The purpose of UFV's Chemical Safety Program is to provide a framework to establish a written program that can be used by all laboratory workers to carry out their work activities safely.

This program provides general information on the safe use, storage and disposal of chemicals in UFV laboratories. All supervisors are responsible for developing laboratory-specific chemical safety programs that reflect the activities that take place within their laboratories. All laboratory workers are required to follow the safe practices outlined in UFV's Chemical Safety Program.

Application

The Chemical Safety Program applies to all users of UFV laboratories, including both internal and external personnel, who handle chemicals in research and teaching laboratories.

Roles and Responsibilities

Laboratory Supervisor

- Identifying hazards and implementing appropriate control measures (e.g., ventilation, safe work practices and personal protective equipment) to minimize or eliminate the hazards.
- Establishing standard safe work procedures appropriate for the work.
- Training laboratory workers on the safe handling, use, storage and disposal of chemicals and hazardous laboratory procedures.
- Conducting periodic inspections of their areas for hazardous conditions, and promptly correcting unsafe work practices or hazardous conditions.
- Providing the required personal protective equipment.
- Ensuring that all safety equipment (e.g., fume hoods, emergency eye wash and showers) is in working order.

Laboratory Workers

- Observing established safety policies and procedures established by the University and any safe work procedures or guidelines established by the laboratory supervisor.
- Participating in laboratory-specific training prior to starting work in the laboratory.
- Reporting incidents, injuries, unsafe conditions, insecure conditions or threats to personal security and property to supervisor as soon as possible.
- Following proper use and care procedures for personal protective equipment.
- Seeking clarification from supervisor on laboratory procedures when uncertainty arises

Materials Management

Chemical Inventory

Each laboratory should maintain a current inventory of chemicals that is updated as new chemicals are added and when chemicals are used or disposed of. A laboratory should create a template including the following fields of information: Chemical Name, Quantity, Hazard Class(es); Date Received; Location; SDS available and Date removed from inventory.

Safety Data Sheets (SDSs)

Each laboratory must have current (less than 3 years old) SDSs corresponding to the chemicals listed in the inventory. SDSs must be in a readily accessible location in the laboratory and all workers should be familiar with how they are accessed. SDSs can be electronic provided a paper copy can be printed.

Access Safety Data Sheets (SDS) here: [Safety Data Sheets - CampusOptics](#)

Container Labeling

All chemical containers must be labelled according to the requirements of the Workplace Hazardous Materials Information System (WHMIS). Approved labels include supplier and worksite labels. If chemicals are transferred from the original supplier container to a secondary container, the secondary container must be labeled. The secondary container may be labelled with only the name of the chemical if it will be used within one shift. If it takes more than one shift to use the contents of the secondary container, or if someone else in the laboratory may handle the container, then it must be labelled with a work site label that includes health & safety information. Sample labels are presented in Appendix E. For more information refer to the [Laboratory Safety Manual](#).

Chemical Storage

It is preferable to store chemicals in appropriate acid and flammable storage cabinets. If storage cabinets are not available, then store chemicals on shelves that are sturdy, and made of material that is resistant to the chemicals being stored.

General Chemical Storage Guidelines

- Store chemicals at or below eye level.
- Store chemicals according to chemical compatibility groups. The SDS provides information on special storage requirements, on compatibility and material stability.
- Do not store chemicals on the floor or under the sink.
- Separate chemicals into compatible groups, and then segregate these groups from each other by physical barriers or distance. Inorganic and organic chemicals must be stored separately, and liquids must be separated from solids.

Compatibility Groups for Chemical Segregation

- Perchloric Acid, Hydrofluoric Acid, and Concentrated Nitric Acid are separated from all other materials (including each other)
- Inorganic acids (except as noted above)
- Bases
- Water reactive chemicals
- Pyrophoric chemicals
- Strong oxidizing agents
- Strong reducing agents
- Flammable and combustible liquids

Refer to the [Laboratory Safety Manual](#) for more information on storage of chemicals.

Hazardous Waste

Waste containers should be kept closed at all times, except when contents are being added. Do not leave filter funnels in the open necks of containers, even if the waste is in a fume hood. Fume hoods are not to be treated as a method of waste containment or disposal.

Waste should be separated as follows:

- Separate liquid and solid waste.
- Separate liquid organic waste from liquid aqueous waste.
- Separate strong acids and bases from other aqueous waste.

Sharps

Sharps should be disposed of in specially designed sharps disposal unit, or another appropriate puncture proof container with a lid. Sharps include needle/syringe assemblies, broken glassware, hard plastic, and any object with a jagged or sharp edge that can puncture a plastic bag or potentially cause injury to someone handling the material.

Glassware

Clean glassware can be disposed in specially provided glass collection containers. Contaminated glassware that cannot be effectively decontaminated and cleaned must be disposed as hazardous waste.

Fume Hoods

Fume hoods are the most common engineering control in laboratories. Their sole purpose is to protect laboratory workers from exposure to airborne hazardous materials. Before beginning any work in the fume hood, confirm that the hood is operational and turned ON. Adequate airflow and the absence of excessive air turbulence are necessary for the safe operation of a fume hood. To ensure continued safe operation:

- Sash openings should be kept as far down as possible while working in the fume hood. When the fume hood is not in use, the sash should be completely closed.
- Do not block the air baffles at the back of the fume hood. Do not place anything closer than 3 cm (1 inch) to the back of the inside of the fume hood.
- Keep apparatuses at least 15 cm (6 inches) away from the front of the fume hood. Use stands to elevate bulky apparatuses to avoid disrupting the air flow through the fume hood.
- Keep the fume hood clean and uncluttered. Apparatuses and chemicals should normally be kept in the fume hood only if they are a component of the operation for which the hood is being used.
- Do not use fume hoods for long-term storage of chemicals or apparatuses.
- Do not modify the interior of the hood (e.g., installing shelves).
- To minimize air turbulence, minimize foot traffic around the fume hood, keep windows and doors closed, and do not use fans.
- Read and understand the fume hood operations manual prior to use.

Hazard Management

Identifying, assessing and managing hazards in the workplace are key components in maintaining a safe work environment. A hazard is defined as *a condition or behaviour that has the potential to cause injury or loss*. The WorkSafe BC regulations require employers to conduct hazard assessments. For further assistance with conducting hazard assessments contact the Institutional Biosafety Officer IBO@ufv.ca.

Hazards can be classified into three main categories: chemical, biological or physical. Hazards commonly encountered in research laboratories are listed in Tables 1 & 2 (Appendix A). It is expected that laboratories will use this **as a guide** to identify hazards in their laboratories but will not consider these tables to be an all-inclusive list.

Laboratory Inspections

Regular workplace inspections play a key role in preventing accidents and injuries by identifying hazards, implementing corrective measures, and monitoring the effectiveness of the controls. It is recommended that laboratory supervisors conduct inspections of their work areas on a monthly basis. A generic inspection checklist is included in Appendix C. Customize this form so as to meet the specific circumstances of your own laboratory.

Hazard Control Methods

Hazard control methods are classified in three categories:

- **Engineering Controls:** This is the preferred method of control because the hazard is eliminated or minimized at the source by substitution, isolation, automation or exhaust ventilation e.g., fume hoods or other local exhaust ventilation.

- **Administrative Procedures:** When engineering controls are not possible then administrative procedures such as additional training, safe operating procedures, job rotation and effective repair and maintenance and housekeeping programs can also be implemented.
- **Personal Protective Equipment (PPE):** Personal protective equipment is used as a method of controlling hazards only when neither engineering controls nor administrative procedures can effectively minimize the impact of the hazard. PPE is considered a last line of defense because the potential for exposure has not been removed and any breach (e.g., improper fit or use) will result in worker exposure.

Personal Protective Equipment

At a minimum, the following personal protective equipment must be worn by laboratory workers using chemicals or other hazardous materials that may come in contact with skin, or eyes. Please note that laboratory coats and gloves should be removed prior to leaving the laboratory or conducting activities that may contaminate other surfaces or equipment (e.g., using the computer, telephone etc.).

- Safety glasses with side shields
- Buttoned---up laboratory coat (long sleeves)
- Long pants (to the shoe)
- Closed---toe shoes
- Appropriate gloves – No single glove type will protect against all chemicals. Gloves must be selected based on the type of chemical being used, duration of use and the method of use. Disposable nitrile gloves are commonly used in laboratories. The use of latex gloves is discouraged because they do not provide protection against many chemicals and also there is concern regarding development of allergies or aggravating existing allergies. Disposable gloves provide protection against incidental contact; hazard specific gloves are required when extended contact with chemicals is expected. Glove manufacturers provide glove selection charts to assist with selection of an appropriate glove.

Respiratory Protective Equipment

Respiratory protective equipment is used to protect against exposure to airborne dusts, gases, vapours, mists and aerosols. Respirators are used as a means of protection only after it has been determined that the airborne hazard cannot be controlled using engineering or administrative methods. The following steps assist in determining the need for a respirator:

- Identify the airborne hazards.
- Can the process be substituted with less hazardous materials?
- Can the experiment/process be conducted inside a fume hood or other ventilated enclosure?
- Can safe work procedures and training be used to minimize the hazard?
- Once it is determined that a respirator is required then, the following procedure must be followed prior to using a respirator:

- Contact EHS@ufv.ca for support.
- EHS personnel will then contact the respirator wearer to arrange a fit test. A fit test is done to ensure an appropriate respirator that fits properly and is comfortable to wear. The results of the fit test are shared with the user and their supervisor.
- Instructions on the proper use, care, maintenance and limitations of the respirator are also provided at that time.

Laboratory Specific Safety Training

WHMIS legislation requires all workers working with or in proximity to controlled products be trained in the safe use, handling, storage, and disposal of controlled products. Workers are also required to know how to read and prepare labels and be able to understand information presented in SDSs. Generic training is provided through the online [WHMIS course](#). To supplement this training, Laboratory supervisors shall ensure that all workers in their laboratories receive health & safety training specific to the hazards present in the laboratory.

The checklist in Appendix B identifies information/training that should be provided to all workers in the laboratory. The training may be completed by the laboratory Supervisor or their delegate. Once complete, a record must be kept by the supervisor. It is recommended this checklist be reviewed with workers on a regular basis to ensure that the worker is trained to perform all identified tasks and/or job duties.

Experiment Planning

Assess each experiment or process prior to execution to ensure that appropriate control measures are used to protect the health and safety of the workers. Identify hazards at each step and implement appropriate controls. Discuss all new experiments and any changes with your supervisor prior to conducting the experiment.

Working Alone

Every effort must be made to ensure workers do not perform hazardous laboratory work alone. When working alone is unavoidable, UFV's Working Alone Procedure must be followed. For more information on working alone at UFV, please contact EHS@ufv.ca.

Laboratory Hazard Signs

Laboratory Hazard Signs are required on every public/common access door that leads into a space where hazardous materials are stored and/or used. To request a new sign for a laboratory or support space (i.e., autoclave room, chemical storage room or cold room), please contact EHS@ufv.ca.

Emergency Response Procedures

More information available at <https://www.ufv.ca/safety-and-security/emergency-management/emergency-guides/>

Emergency and First Aid information

Fire
Police
Ambulance
Hazardous Material Response



911

(9-911 from a UFV landline phone)

First Aid

1-855-282-7770
(Local 7770)

Security

1-855-239-7654
(Local 7654)

Environmental Health & Safety

604-557-5272
(Local 5272)

Facilities

604-852-4542
(Local 4542)

Chemical Contact/Splash

EYES: Flush with water 15 minutes. Seek immediate medical attention.

SKIN: Flush with water for 15 minutes while removing contaminated clothing. Seek medical attention.

INGESTION: Drink water and seek medical attention. Do not induce vomiting.

INHALATION: Remove the victim from exposure and move to fresh air. If person is not breathing or experiencing breathing difficulty, seek medical attention.

Chemical Spill

Prior to a spill:

- Understand proper spill clean---up protocols for the chemicals in the laboratory.
- Ensure a spill kit with appropriate spill cleaning supplies and equipment is readily accessible in a conspicuously marked location.
- Ensure all workers in the laboratory are trained in the proper spill clean---up protocols

Following a spill:

- Stay clear and warn others in the immediate area of the spill.
- Isolate the area around the spill.
- Assist injured or contaminated persons if you are trained to do so.
- Assess the situation and determine if it constitutes an emergency and call **911**.
- Proceed to clean---up the spill if it is minor, spill clean---up supplies and equipment are available if trained local personnel are able to clean it up.
- Regardless of severity, all spills must be reported to Security.

Refer to UFV's [Chemical Spill Response Guideline](#)

Fire

In the event of a fire:

- Warn others in the immediate area of the fire or explosion.
- Activate the building fire alarm system.
- Contain the fire by closing doors and fume hoods in the area of the fire.
- Evacuate the area of the fire or explosion and the building. Use stairs, not the elevator.
- Call 911 and UFV Security

Incident Reporting & Investigation Procedures

All incidents must be reported to the Laboratory Supervisor and IBO@ufv.ca immediately. Complete the [incident report](#) and EHS will be in touch to conduct an investigation.

Appendix A: Common Hazards and Processes

Table 1: Common Hazards In Chemical Research Laboratory

Category/Hazard Type	Potential Hazard	Personal Protective Equipment	Other Control Measures
Chemical Hazards			
Corrosives (acids & bases)	Eye and skin damage - Irreversible tissue damage	Safety goggles Face shield for large amounts Chemical resistant gloves Lab coat Chemical resistant apron for large amounts	Review SDS Use in fume hood Emergency shower & eye wash within 10 second distance Always add acid to water
Hydrofluoric Acid	Eye and Skin Damage - Penetrates deep into tissue without pain	Safety goggles Face shield for large amounts Nitrile or neoprene rubber gloves Lab coat Chemical resistant apron for large amounts	Review SDS Use in fume hood Emergency shower & eye wash within 10 second distance Apply Calcium Gluconate cream to skin after flushing and seek immediate medical attention Never store HF in glass containers Must have a safe work procedure
Perchloric Acid	Eye and skin damage	Safety goggles Face shield for large amounts Chemical resistant gloves Lab coat Chemical resistant apron for large amounts	Heat perchloric acid in a specially designed perchloric acid fume hood that has a water wash-down system
Flammable and Combustible Liquids	Fire or explosion Health effects depending on the compound	Gloves Lab coat from natural fibers	Fume hood or other local exhaust ventilation Do not use open flames and keep away from other ignition sources

Laboratory Chemical Safety Manual



Organic Solvents	Skin damage – absorbed through intact skin Long term or repeated use may cause chronic effects such as nervous system damage, kidney and liver damage	Chemical resistant gloves Safety glasses with side shields	Use in fume hood Review MSDS
Water & Air Sensitive Compounds	Ignite spontaneously when in contact with air or moisture Skin and eye damage	Face shield Lab coat from natural fibers or fire-resistant lab coats for high-risk activities Avoid wearing clothing made from synthetic materials	Require supervisor’s permission to use Read MSDS & experiment-specific safe work procedure Never work alone with these compounds. Always use under inert atmosphere inside a fume hood or a glove box
Highly reactive or unstable or potentially explosive compounds	May vigorously polymerize; Shock, temperature & pressure sensitive	Barrier shields Safety goggles Protective gloves	Review MSDS Use smallest quantities possible Handle with caution Protect glass equipment from shattering e.g., by shielding, wrapping in tape
Carcinogens	May cause cancer typically after repeated or chronic exposure	Wear safety glasses or goggles Chemical resistant gloves	Use the smallest amount Use inside a properly functioning fume hood or other local exhaust ventilation
Nanomaterials	Inhalation, dermal or ingestion	Lab coat Gloves Safety glasses N95 or P100 respirator (Consult EHS; must be fit tested prior to use)	Whenever possible use nanomaterials in solutions or attached to a substrate. Use glove box or fume hoods

Laboratory Chemical Safety Manual



Compressed Gases	High pressure Health hazard dependent upon type of gas Asphyxiation	Gloves Safety goggles or face shield	Gas cylinders secured upright with Strap or chain to a stable structure (e.g., wall). Use one strap per cylinder. Gas cylinder valve protection cap in place when not in use Use cart equipped with a restraining strap to transport cylinders
Physical Hazards			
Cryogenic Liquids	Frost bite Skin, tissue and eye damage Asphyxiants	Heavy insulated gloves Safety goggles; face shield Lab coat, long pants, closed toe shoes	Dispense in a well-ventilated area
Hot liquids and equipment	Burns	Insulated gloves Safety goggles; face shield Lab coat, long pants, closed toe shoes	Safe operating procedure
Glassware	Cuts and lacerations	Heavy rubber gloves Lab coat	Inspect glassware for cracks Handle broken glass with extreme care
Electrical equipment	Electric shock Ignition source	Lab coat, work gloves to operate equipment. Special PPE is required for conducting electrical work.	Inspect cords and replace fraying cords Do not plug several power cords into one outlet one extension cord into another. Unplug electrical equipment before making any direct repairs or modifications

Table 2: Common Processes/Equipment In Chemical Research Laboratory

Process	Potential Hazards	Control Measures
Solvent Distillation	Fire Explosion Reactive metal hydrides Skin and/or eye damage	Set up solvent stills inside fume hood or a ventilated enclosure Use smallest volumes of solvents possible Use inert gas to keep solvents dry and free of oxygen Interlock water supply with electrical connection to turn electricity OFF in the event of water supply failure. Use safety goggles, gloves, lab coat, closed-toe shoes
Centrifuge	Cuts from broken tubes Aerosol inhalation	Properly balance tubes when loading the centrifuge Close the lid before operating the centrifuge Wait a few minutes after centrifuge has stopped to allow aerosols to settle before opening the centrifuge Perform regular maintenance and cleaning as per manufacturers recommendations
Vacuum Pumps and lines	Risk of implosion Flying glass Chemical splash	Place cold traps between the apparatus and the vacuum source Vent rotary pumps to an air exhaust system Protective guards on belt-driven pumps Wear safety glasses with side shields
Oil Baths	Hot temperature Fire	Use oil that has a flash point higher than the desired temperature; Use insulated gloves

Appendix B: Laboratory Safety Training Checklist

Name:

Supervisor:

Department:

Lab Number:

Date:

This Checklist is to be completed prior to the worker working in the laboratory.

Please check all items on which training, information or safe work procedures have been read and understood. For items that are not applicable, please indicate as N/A.

A. Safety Resources	Yes	N/A
Department Safety Procedures	<input type="checkbox"/>	<input type="checkbox"/>
Department Safety Committee	<input type="checkbox"/>	<input type="checkbox"/>
Laboratory Safety Manual	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Procedures e.g., spill, exposure, fire	<input type="checkbox"/>	<input type="checkbox"/>
Working Alone Protocol	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Materials Inventory	<input type="checkbox"/>	<input type="checkbox"/>
Material Safety Data Sheets	<input type="checkbox"/>	<input type="checkbox"/>
Laboratory Safe Operating procedures	<input type="checkbox"/>	<input type="checkbox"/>
B. Emergency & Safety Equipment	Yes	N/A
Fire extinguisher location	<input type="checkbox"/>	<input type="checkbox"/>
First Aid Kit location	<input type="checkbox"/>	<input type="checkbox"/>
Emergency eyewash location & operation instructions	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Shower location & operation instructions	<input type="checkbox"/>	<input type="checkbox"/>
Spill Kit location	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate lab attire – lab coat, long pants, closed toe shoes	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate Gloves – specify type	<input type="checkbox"/>	<input type="checkbox"/>
Safety Glasses/ Safety goggles/ Face shield	<input type="checkbox"/>	<input type="checkbox"/>

Laboratory Chemical Safety Manual



Respirator – specify type and purpose	<input type="checkbox"/>	<input type="checkbox"/>
Instructions on the cleaning & maintenance of personal protective equipment listed above.	<input type="checkbox"/>	<input type="checkbox"/>
C. Chemical Safety	Yes	N/A
WHMIS training	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on safe storage of chemicals in this lab e.g., Storage by compatibility groups	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on handling and storage of specialized chemicals e.g., air reactive chemicals	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on specific processes/experiments e.g., use of hydrofluoric acid, solvent distillation	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on clean-up of chemical spills	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on proper use of fume hood e.g., sash as far down as possible when not in use	<input type="checkbox"/>	<input type="checkbox"/>
Safe handling, use and transport of compressed gas cylinders	<input type="checkbox"/>	<input type="checkbox"/>
D. Radiation Safety	Yes	N/A
Completed the mandatory Radiation Safety Training	<input type="checkbox"/>	<input type="checkbox"/>
Listed as a user on the Lab Supervisor’s radioisotope permit	<input type="checkbox"/>	<input type="checkbox"/>
Instructions on the use, storage and disposal of radioisotopes in this lab.	<input type="checkbox"/>	<input type="checkbox"/>
Instructions on radioisotope record keeping requirements.	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on clean-up of radioisotope spills and decontaminating self	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on reporting of radioactive spills and exposure	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on Laser Safety	<input type="checkbox"/>	<input type="checkbox"/>
Completed the Radiation Safety Guideline for Non- users	<input type="checkbox"/>	<input type="checkbox"/>
E. Biological Safety	Yes	N/A
Have read the Biosafety Manual	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on the use, storage and disposal of biohazardous materials in this lab.	<input type="checkbox"/>	<input type="checkbox"/>

Laboratory Chemical Safety Manual



Instruction on the appropriate decontamination procedures in this lab.	<input type="checkbox"/>	<input type="checkbox"/>
Instructions on clean-up of biohazardous spills and decontaminating self.	<input type="checkbox"/>	<input type="checkbox"/>
Instructions on reporting of biohazardous spills and exposure	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on the use of appropriate Biosafety Cabinet	<input type="checkbox"/>	<input type="checkbox"/>
F. Hazardous Waste Disposal	Yes	N/A
Instruction on segregation and storage of hazardous chemical, biohazardous and radioactive waste	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on disposal of sharps (e.g., syringes)	<input type="checkbox"/>	<input type="checkbox"/>
Instruction on disposal of waste glassware	<input type="checkbox"/>	<input type="checkbox"/>
G. Laboratory Equipment (e.g., centrifuge, oven, solvent stills, RotoVaps, etc. --- Add extra sheets as required)	Yes	N/A
Centrifuge	<input type="checkbox"/>	<input type="checkbox"/>
Autoclave	<input type="checkbox"/>	<input type="checkbox"/>
H. Other (List specific training – Add extra sheets as required)	Yes	N/A
Working with hydrofluoric acid	<input type="checkbox"/>	<input type="checkbox"/>
Working with air & water sensitive chemicals	<input type="checkbox"/>	<input type="checkbox"/>
Working with hydrogen sulfide	<input type="checkbox"/>	<input type="checkbox"/>

I _____ was instructed on all applicable points in this laboratory safety training checklist and fully understand them. My signature below indicates that I fully understand all areas listed on the training checklist and will follow all safe work practices and procedures.

I _____ instructed the above-named individual on all applicable points in this laboratory safety training checklist. My signature below indicates that the individual is suitably trained and has sufficient experience to safely perform the assigned work in the laboratory.

Laboratory Personnel Signature: _____ Date: _____

Laboratory Supervisor Signature: _____ Date: _____

Appendix C: Safe Operating Procedure Template

LABORATORY SAFE OPERATING PROCEDURE

(to be used for hazardous chemicals or processes or specialized equipment)

Process:	
Prepared By:	
Location (Room # and Building):	
Supervisor:	Phone#:
	Emergency/ After-hours Phone#:
Hazard Identification: <i>(Identify hazards associated at each step of the process or equipment as identified in hazard assessment; include special instructions on storage and handling of hazardous materials)</i>	
Engineering Controls: <i>(List engineering controls e.g., fume hood, glove box, special enclosure, automatic shut-off)</i>	
Administrative Controls : <i>(List Specific Work Procedures e.g., handling water sensitive chemicals, necessary training/certification to conduct this process or operate equipment, alarms etc.)</i>	
Personal Protective Equipment: <i>(List appropriate gloves, safety glasses, face shields, blast shields, lab coats, aprons etc. required)</i>	

Laboratory Chemical Safety Manual



Emergency Response Procedures: <i>(Clearly indicate procedure to be followed in the event of accidental exposure, spill, or injury)</i>
Hazardous Waste Disposal Procedures: <i>(All hazardous waste shall be disposed through the University hazardous waste management system. Hazardous waste pick-up requests can be made through Chematix)</i>

Prepared By:

Date:

Approved by:
(Department Chair)

Date:

Appendix D: Chemical Laboratory Inspection Checklist

Principal Investigator:

Date:

Room & Building:

Inspected By:

A. Documentation	Yes	No	NA	Comments
Are emergency procedures posted?				
Is a Chemical Spill Response Guideline available?				
Is the Laboratory Chemical Safety Manual available?				
Is the chemical inventory available and up to date?				
Are SDSs available for all controlled products?				
Are WHMIS and Chemical Safety training records available?				
B. Housekeeping	Yes	No	NA	Comments
Are benches and sinks clean and tidy?				
Exit doors unobstructed?				
Are aisles unobstructed?				
No tripping hazards (e.g., cords, hoses, equipment)				
No food or drink in lab				
C. Emergency & Safety Equipment	Yes	No	NA	Comments
Are appropriate fire extinguishers available?				
Is the First Aid Kit available and fully stocked?				
Are safety glasses available and in use?				
Are lab coats and gloves worn?				
Is emergency eyewash available and accessible?				
Is emergency eyewash activated weekly and recorded?				
Is an emergency shower available and accessible?				
Is the spill kit available and fully stocked?				
Is fume hood sash at proper operating height?				
Fume hoods are clean and uncluttered.				
Are fume hoods being used for storing chemicals?				

Laboratory Chemical Safety Manual



	Yes	No	NA	Comments
All chemicals have WHMIS compliant labels?				
Chemicals segregated by compatibility class?				
Chemicals dated upon receipt?				
Are peroxide forming chemicals labelled with opening date?				
Is the volume of flammable liquids in open lab < 25L?				
Are flammables stored in intrinsically safe refrigerator?				
Are all gas cylinders upright and secured?				
Is hazardous waste properly stored and labelled?				

Appendix E: Laboratory Container Labels – Examples

Workplace Label – used for products decanted from original supplier container.

HYDROCHLORIC ACID
Corrosive – Causes severe burns
Avoid skin and eye contact
Wear safety glasses with side shields or safety goggles
Wear neoprene (Solvex) gloves
SDS located on Shelf #1

Product Identifier Label – this is an acceptable mode of identification if to be used by one worker during that work shift.

Hydrochloric Acid
John Smith