General Laboratory Safety Guide

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PREFACE

A variety of hazards exist in the laboratories at the Western University of Health Sciences (WesternU). The risks associated with these hazards are greatly reduced or eliminated if proper precautions and practices are observed in the laboratory. To manage these risks, and in response to a heightened concern for safety in the workplace, WesternU has developed this guide which is intended to be the cornerstone of a safety program designed to aid faculty, staff, and students in maintaining a safe environment in which to teach, conduct research, and learn.

The General Laboratory Safety Guide (guide) offers generic safety guidelines and standard operating procedures for laboratories on campus. Be aware that this document contains a minimum set of guidelines, regulations, and recommendations required to maintain a safe working environment, and does not provide laboratory workers, research students, or teaching assistants with specific standard operating procedures necessary to work in their respective laboratories. It is the responsibility of the Principal Investigator to develop specific standard operating procedures for his/her laboratory.

The development of, and adherence to, procedures in a guide is an essential requirement of an effective Comprehensive Laboratory Safety Program. This Guide applies to all laboratories at WesternU. The Environmental Health & Safety (EH&S) Department is available to provide assistance and a number of resources. These include maintenance of a comprehensive Safety Data Sheet (SDS) library and the services of the *Safety Department Office.*

The safety of campus laboratories legally resides with the responsible person in charge of a given laboratory, typically the Principal Investigator. However, the Office of Research & Biotechnology stands ready to assist Principal Investigators with these duties. Through resources such as this General Laboratory Safety Guide, lab representatives hope to become known to laboratory personnel not only as inspectors, but more importantly as a valuable safety resource. To that end, please help us help you, and let us know if we can assist you in any way.

Dr. Steven Henriksen
Vice President of Research & Biotechnology
Western University of Health Sciences

HELPFUL TELEPHONE NUMBERS AND USEFUL INFORMATION

Environmental Health & Safety	909-469-5528 (or extension 5528)
Pomona Fire Department	909-620-2155
Plant Operations (after hours Plant Operations Assistance)	909-469-5258 (or extension 5258)
WesternU Security Department	909-706-3000 (or extension 3000)

Medical Emergency, all Other Emergencies Call 911

- Office Hours: Monday through Friday 8:00 a.m. - 5:00 p.m.
- Please contact the Security Department 909-706-3000 (or extension 3000), in the event of an afterhours chemical, biological, or radiation laboratory accident or incident.
- The Security Department maintains an on-call mechanism to provide expertise in response to emergencies that occur after hours and require assistance.

Non-Emergent Situation

- Call Security at 909-706-3000 for non-emergent situations, e.g., small quantity chemical spill

1.0 SCOPE AND APPLICATION

The primary objective of this document is to provide a general guide for working in laboratories. The Environmental Health & Safety (EH&S) Department establishes the basic safety principles for laboratory procedures, equipment and work practices. Additionally, there are subject specific safety guides, such as biological, chemical, and radiation, which describe safeguards for protecting employees from these specific hazards in a laboratory environment. Please see website at www.westernu.edu for further information.

The General Laboratory Safety Guide is intended only to address those universal safety measures necessary for achieving a safe and healthy work environment. Where the scope of hazards is not adequately addressed by this general document, specific Standard Operating Procedures (SOP) must be developed by the Principal Investigator or Laboratory Manager. Staff in the laboratory where the hazard is present must be trained/informed on the SOP.

1.1 Environmental Health and Risk Management Department

EH&S and University Risk Management's main purpose are to support WesternU in its mission of higher education and research. These Department's efforts are directed at assisting the university in identifying safety hazards and controlling such hazards through the utilization of personal protective equipment (PPE), hazard mitigation methods, development and presentation of safety training programs, purchase of insurance and other risk control and/or risk transfer techniques.

The appointed laboratory representative will keep abreast of relevant safety, environmental, and risk management regulatory requirements. Regulatory compliance will be achieved through clear communication of recommendations and interpretations regarding such regulations to the appropriate staff and administrators within the university.

1.2 General Laboratory Safety Guide Objective

It is the intent of WesternU to provide a safe and healthy laboratory environment to all laboratory occupants through the establishment and maintenance of a Comprehensive Laboratory Safety Program.

This guide provides control measures essential for protecting all laboratory occupants from common hazards found in the laboratory. These controls consist of, but are not limited to, policies, guidelines, training requirements, SOP, PPE, and laboratory audits.

This guide describes the minimum level of safe practices that are expected from all individuals (faculty, staff, and students) involved in laboratory operations. More stringent safety precautions may be required, depending on the safety risks and/or hazards present in a laboratory.

1.3 Comprehensive Laboratory Safety Program

a. Program Responsibilities

WesternU recognizes the need to use potentially hazardous materials for the purpose of research and teaching. At the same time, the university is committed to ensuring the safety of its students, employees, and visitors, and complying with all regulatory requirements that have an impact on its facilities and operations.

Considering this charge, the university has designated specific responsibilities for developing and implementing the Comprehensive Laboratory Safety Program to the EH&S department. To ensure a successful program, the cooperation of various entities on campus is required. The individuals responsible for maintaining the integrity of the program are listed below, as well as their respective responsibilities.

Laboratory Safety Office and Environmental Health & Safety Department

The primary purpose of the Laboratory Safety Offices of the Laboratory Safety and Environmental Health & Safety department are to support WesternU in its mission of teaching and research. It is the role of appointed laboratory representatives to oversee potential safety hazards, to ensure the safety of the campus community and to provide an environment free of unnecessary risks and includes, but not limited to the following duties:

1. Consult with laboratory users regarding the effectiveness of their department's safety efforts.
2. Provide training and support for the Laboratory Managers, departmental teaching assistants, and/or laboratory safety coordinators.
3. Support the appointed laboratory representative with respect to inspections, hazard evaluations, and recommendations for compliance.
4. Where necessary, conduct environmental and/or personnel monitoring in order to assess the degree of exposure associated with a particular laboratory operation.

Laboratory Safety Officer (LSO)

The Laboratory Safety Officer/Laboratory Manager (LSO/LM) is the key to the success of the Comprehensive Laboratory Safety Program. As such he or she must effectively carry out the requirements of this Guide. At a minimum, LSO/LM the will complete the following duties:

1. Provide technical guidance and assistance regarding the General Laboratory Safety Guide to the Department Chair, Professors, Principal Investigators, Laboratory Safety Coordinators/Lab Managers, Teaching Assistants, Supervisors, students and employees.
2. Audit laboratories, evaluate hazards and document laboratory concerns to the Principal Investigator. If repetitive deficiencies occur and corrective measures are not implemented in the designated time, the LSO/LM will initiate escalation procedures defined by the EH&S Department.
3. Recommend necessary training to laboratory faculty and staff.
4. Respond to emergencies as needed.

Department Chairs

1. Appoint appropriate individuals to serve as LM as needed.
2. Ensure that responsible parties comply with the appropriate provisions of the General Laboratory Safety Guide.

Principal Investigators

1. Assume direct responsibility for their laboratory's compliance with the contents of this General Laboratory Safety Guide.
2. Develop and implement standard operating procedures (SOPs) specific to their laboratory.
3. Cooperate with the LSO to ensure program compliance.
4. If necessary, appoint a Laboratory Coordinator to work with the LSO to address persistent issues.

Laboratory Safety Officers and Laboratory Managers

1. Perform safety activities as directed by the Department Chair and/or Principal Investigator.
2. Work with the LSO/LM to identify and address common or general safety concerns.
3. Ensure compliance related to contents of this guide

Laboratory Employee, Students, and Visitors

1. Follow and obey general safety rules and guidelines described in the guide.
2. Read, understand, and follow SOPs for unique laboratory and high hazard operations.
3. Report any potentially hazardous operations to the Principle Investigator or LM promptly.
4. Any visitor to a research lab must always be accompanied by a WesternU employee.

Facilities and Plant Operations

1. Maintenance or repair problems (mechanical, electrical, plumbing) reported in a reasonable time period.
2. If repairs cannot be made in a timely manner, the Principal Investigator should be notified with an anticipated completion date as soon as possible.

Upon completion of repairs to safety equipment, (*Example:* fume hoods, eyewashes, safety showers, etc.). Facilities should notify the LM or Director of Laboratory Services.

b. Implementation and Maintenance

General Laboratory Safety Orientation and Training

Laboratory Safety Office and EH&S Department will schedule training sessions for all new Principal Investigators, LM, Teaching Assistants and employees as indicated. The required training courses found in this guide" is mandatory and should be completed before conducting laboratory activities at WesternU. Training is recommended upon hire

then every three years thereafter, however, it can be attended as often as desired or indicated.

Trainee will be instructed to go to Laboratory Safety Training and complete the applicable training modules pertinent to the type of research they will be participating in.

Lab Safety Training Instructions:
The new employee must complete the required training within three business days of start date. If they do not complete the training within this timeframe, they will be pulled from the lab until it is completed.

Students, volunteers and non-WesternU employees conducting research must also visit this site for training and complete this course successfully.

The new employee must complete the required training within three business days of start date. If they do not complete the training within this timeframe, they will be pulled from the lab until it is completed.

Lab Safety Training Site: https://www.safetytraining.nih.gov/
On this page find **Online Courses** /Introduction to Lab Safety – On-Line Training.
View and take the test.
Follow the instructions; **registration is required**. Upon successful completion, a certificate will be generated.
This certificate will be needed for submission, download and save it onto your computer.
CERTIFICATE SUBMISSION

Navigate to: https:// webtest.westernu.edu/res_certificate/home/
Copy and paste this link into your web browser address line
Fill in the required information Name, Date completed, Status, College PI, Start Date, End date (place the date one year from certificate completion).
Check Risk & Release of Liability Box
Use mouse cursor over signature box and electronically sign
Print Name in box
Address (Building name, Floor, Room number)
Work Phone or extension
Today's date
Click MARK AS COMPLETE
Drag and drop the copy of your certificate file in box shown
Click Submit
If successful you will see a confirmation message
A confirmation of completion notice will be sent to the employee as well as their supervisor and pertinent lab safety office personnel.

Laboratory Safety Training

This training will include an explanation of general chemical safety information, best laboratory practices and general information about the University's laboratory related review committees and fire safety training. These training session(s) will be held in a

lecture hall that will be determined prior to the actual date of training.

In addition to the General Laboratory Safety Orientation and Training Class, the Laboratory Safety Offices also conducts regularly scheduled training classes for specific hazards such as radioactive materials, lasers, biosafety, etc. Please consult the Research & Biotechnology web site at www.westernu.edu/safety for the training catalog and schedule.

Laboratory Specific Training

Chemical or hazard-specific training provided by staff from the LSO, Principal Investigators, or Laboratory Manager and should include, at minimum:

1. Laboratory-specific standard operating procedures.
2. Specific physical and health hazards of materials used in the work area, all other laboratory specific safeguards, rules, practices or procedures necessary for the employee/student to work safely in that location.

Laboratory Audits and Walk-throughs

The LSO will arrange a meeting with each laboratory Manager on a scheduled basis in order to audit the lab and to review all elements of this Guide with laboratory personnel. EH&S will also conduct random walk-throughs in laboratories to ensure that the guidelines are being observed and to offer consultation to the Principal Investigator, Lab Manager, or Departmental Chair if concerns are discovered. All reports will be forwarded to the Vice President of Research & Biotechnology for review.

After the audit is completed, any program concerns will be reviewed and an electronic inspection report will be completed and issued to the Principal Investigator and Vice President of Research & Biotechnology. Laboratories are expected to correct all items of concerns raised in this report within 14 calendar days and file (sign and scanned copy) response to the electronic inspection notification and sent via email to the Laboratory Safety Office.

The Laboratory Safety Office representatives will perform follow-up laboratory inspections as it deems necessary in order to preserve the environmental health and safety in the university's laboratory space, and to ensure adherence to the current policies, procedures and regulations as they pertain to laboratories.

1.4 Record Keeping

General Laboratory Safety Orientation and Training requirement will be documented in a centralized electronic database and maintained by the Laboratory Safety Office. Research staff who attend the mandated regularly scheduled lab safety training seminars will receive credit indicating they have met the minimum safety requirements for lab personnel. In addition, researchers that are also required to take the online safety courses must forward proof of completion of the course(s), e.g., electronic confirmation or a certificate the training site generates and forward a copy to the Laboratory Safety Office.

Chemical or hazard-specific training must be documented and maintained by the Department, Principal Investigator, or Laboratory Coordinator and be available upon request. Appendix A provides an example of a chemical or hazard-specific documentation training form. This form can be modified to fit the needs of the specific department or laboratory.

The Laboratory Safety Office will maintain records of laboratory audits for federal or state regulatory inspections.

2.0 STANDARD OPERATING PROCEDURES

2.1 General Safety Guidelines

Standard operating procedures (SOP) must be readily available to all laboratory employees. The following guidelines have been established to minimize or eliminate hazards as well as to maintain a safe laboratory environment. It is the responsibility of each person that enters a laboratory to understand the safety requirements and health hazards associated with the materials and equipment in the laboratory. Guidance from the Laboratory Manager or designated laboratory representative can also be sought prior to entering the laboratory. It is the individual's responsibility to practice the following general safety guidelines at all times:

1. Always wear proper eye protection in chemical work, handling and storage areas.
2. Know the hazards associated with the materials you are working with in the lab, including the safety precautions you should use.
3. Always wear appropriate protective clothing. Clothing that covers the arms and legs, shoes that are closed toed and a suitable lab coat or apron Confine long hair and loose clothing. Do not wear high-heeled shoes, open-toed shoes, sandals, “flip-flops” or shoes made of woven material.
4. Always wash hands, wrists and arms with soap and water before leaving the work area. This applies even if you have been wearing gloves and a lab coat
5. Never perform any hazardous work when alone in the laboratory. At least two people should be present. (note should be made to facilitate visiting scientists, researchers as level of competency may not be known)
6. Work, preparations or experiments that have not been authorized by the PI are not to be performed
7. Never engage in horseplay, pranks or other acts of mischief in chemical or laboratory biological work areas.
8. Never remove chemicals, biological agents, or radioactive materials from the facility without proper authorization.
9. Be familiar with the location of emergency equipment - fire alarm, fire extinguisher, emergency eye wash and safety shower. Know the appropriate emergency response procedures.
10. Use equipment and hazardous materials only for their intended purposes.
11. Never mouth pipette chemicals when transferring solutions. Instead, you should always use a pipette bulb to transfer solutions.
12. Always lubricate glass thermometers or thistle tubes before inserting them into a stopper. Always wrap toweling around them while inserting into the stopper in the event they should break.
13. Use a vented fume hood whenever there is a possibility of poisonous or irritating fumes being emitted.

14. Never leave an experiment unattended while it is being heated or is rapidly reacting.
15. Keep equipment back from the edge of the lab bench to prevent spillage.
16. Support all beakers and flasks with clamps. Do not use cracked or chipped glassware.
17. Report any accident, however minor immediately to the PI or LM.

2.2 Eating, Drinking, and Smoking

Eating, drinking, smoking, gum chewing, applying cosmetics, and taking medicine in laboratories is strictly prohibited.

1. Food, beverages, cups, and other drinking and eating utensils should not be stored in areas where hazardous materials are handled or stored.
2. Glassware used for laboratory operations should never be used to prepare or consume food or beverages.
3. Laboratory refrigerators, ice chests, cold rooms, microwave ovens, and so forth should not be used for food storage or preparation.
4. Laboratory water sources and deionized water should not be used for drinking water.
5. Laboratory materials should never be consumed or tasted.
6. Ice from laboratory ice machines are not to be used for human consumption.

2.3 Housekeeping and Maintenance

In the laboratory, keeping things clean and organized can help provide a safer environment. Keep drawers and cabinet doors closed and electrical cords off the floor to avoid tripping hazards. Keep aisles clear of obstacles such as boxes, chemical containers, and other storage items that might be put there. Avoid slipping hazards by cleaning up spilled liquids promptly and by keeping the floor free of loose equipment such as stirring rods, glass beads, stoppers, and other such hazards. Never block or even partially block the path to an exit or to safety equipment, such as a safety shower or fire extinguishers. Use the required procedure as indicated on the SDS and/or SOP for the proper disposal of chemical wastes and solvents.

Supplies and laboratory equipment on shelves should have at 18” of clearance from the ceiling so that in case of a fire, the fire sprinkler heads are able to carry out their function. The work area should be kept clean and uncluttered, with hazardous materials and equipment properly stored. Clean the work area upon completion of a task and at the end of the day. The custodial staff is only expected to perform routine duties such as cleaning the floor and emptying the general trash.

In preparation for any maintenance service such as fume hood repair, plumbing, electrical etc., the laboratory staff must prepare the laboratory before the maintenance personnel arrive. Whenever possible remove hazards that maintenance personnel may encounter during their work activities. For example, infectious agents, radioactive materials or chemicals must be moved to a secure area prior to initiation of maintenance work. Additionally, the Principal Investigator or Laboratory Manager *must escort Plant Operations personnel into the laboratory and inform them of the presence of any hazardous materials prior to the work being done.* Laboratory Safety Offices maintenance personnel must be supervised at all times while in the laboratory.

2.4 Hazardous Waste Storage and Disposal

Individual users of hazardous materials have specific duties and responsibilities under state and federal law and university policy regarding hazardous waste handling and disposal. These responsibilities include hazardous waste identification and waste minimization as well as proper waste storage and disposal. The Laboratory Safety Office and EH&S (defined in this guide) are charged with the responsibility for ensuring that hazardous waste generated on campus is disposed of in accordance with all applicable regulations.

Hazardous waste must be handled through the Laboratory Safety Offices and EH&S hazardous waste program once the generating laboratory has determined that it cannot be recycled or treated on-site. Each generator must contact EH&S to arrange for the hazardous waste is picked up and removed in accordance with state/federal regulations.

Spills and Accident Reporting

Spills

It is the responsibility of each individual using hazardous materials to become familiar with the emergency response procedures dictated by the manufacturer of such materials. Information about this can be found on the Safety Data Sheet (SDS) for the chemical(s) involved in the spill. To access the SDS, go to https://login.sitehawk.com/Default.aspx to access the university's chemical inventory.

The following general rules should be followed in the event of a *major* hazardous materials spill or other incident:

1. QUICKLY EVALUATE THE SITUATION
   Ask the following questions:
   Is someone injured or requires immediate medical attention?
   Is the spill manageable with the personnel and resources in the laboratory?
   Is there a danger to others outside the laboratory?

2. ACTIVATE EVACUATION (FIRE) ALARM, IF NECESSARY, FOR THE BUILDING
   Be familiar with the sound of the alarm system in your building. If the spill/incident could threaten the health of individuals in the building, activate the fire alarm.

3. CALL WesternU SECURITY AT Ext 3000 to report the incident
   Tell dispatcher as much detail as possible about the spill/incident. If possible, locate a Safety Data Sheet on line at https://login.sitehawk.com/Default.aspx or in the SDS book near the laboratory.

4. ATTEND TO LIFE-THREATENING INJURIES
   The primary concern in the event of an emergency is to protect life and health of others. Only give first aid treatment to the level at which you have been trained. If safe to do so, remove/evacuate all personnel in the immediate area away from the laboratory. Ensure door to laboratory is closed prior to leaving the area. If you are not sure if everyone has been evacuated, inform security.

5. ASSIST EMERGENCY RESPONDERS AS NEEDED

Should emergency assistance be summoned, emergency responders will arrive on the scene and take control of the incident. Cooperate with them to the fullest extent possible.

Accident Reporting

All accidents should be reported to the Principal Investigator, Laboratory Manager and the Laboratory Safety Office. Laboratory incidents resulting in even minor medical treatment or observation must be reported to the EH&S and Risk Management. If an employee was injured, then you must also report the incident to the Workers' Compensation Coordinator in Human Resources. If a student was injured, report the incident to University Student Affairs. The report can be submitted electronically by going to https://webapp.westernu.edu/incident_report/

Facilities should also be notified as they will have to arrange for cleaning of the affected area before the laboratory can be reopened. Prior to reopening, Facilities should consult with EH&S, the PI and Lab Manager to ensure that any work that was required to safely reopen the lab has been completed.

2.5 Audits

Regular laboratory audits will assist the university in its mission to maintain a laboratory environment that is inherently safe for its employees and students. Audits will be conducted to ensure the effective communication and compliance with of the Laboratory Safety Program. The ability of any laboratory to operate in a manner that minimizes risk to personnel and the environment is dependent on laboratory users who understand and carry out prudent practices for the safe handling, storing, and disposing of chemical, biological, and radioactive agents. The goals of each laboratory audits are to ensure that:

1. Laboratory facilities and equipment maintained and are safe to operate.
2. A safe working environment is provided for all employees and students.
3. All laboratory procedures and experiments are conducted in a safe and prudent manner.
4.

The electronic checklist for General Laboratory Inspection will be utilized for each formal inspection. This checklist will assist the Laboratory Safety Office in the overall assessment of safety conditions in the university laboratory areas. A copy of the general laboratory inspection checklist can be viewed on Appendix B.

3.0 STANDARD LABORATORY CONTROL MEASURES

Laboratories on campus are designed to limit specific hazards in a controlled environment. Once new hazards are introduced into a laboratory environment, the laboratory may need to be modified in some respect to mitigate or avoid an undesirable or adverse condition arising from the new hazard. There are a variety of facility designs and engineering controls that can be utilized in a laboratory to control chemical or biological hazards. Engineering controls consist of various measures for reducing a hazard at its source or for separating personnel from the hazard. Engineering controls might consist of isolating a particular chemical operation, enclosing a potentially explosive reaction, or utilizing local exhaust such as a fume hood for an operation which produces airborne chemicals. Since engineering controls function to reduce or eliminate a hazard at its source or before it is created.

It is the responsibility of the laboratory staff to become familiar with the specific functions and proper use of the control measures provided in the laboratory. However, the Principal Investigator, or their designee, is responsible for ensuring that the facility engineering controls are functioning properly at all times. Any concerns related to the engineering controls should be reported to Facilities at 909-469-5258 (or extension 5258).

3.1 Hygiene Practices

There are generalized precautions and personal hygiene practices that have been established to protect laboratory staff from hazards associated with working with hazardous materials. Following these basic precautions will minimize the possibility of such exposure:

1. Do not prepare, store, or consume food or beverages in the laboratory.
2. Do not smoke, including Vape (e-cigarettes) in the laboratory. Tobacco products in opened packages can absorb chemical vapors and could become hazardous if heated or inhaled
3. Do not apply cosmetics in the laboratory. [This includes lip balm or Chap Stick or inserting contact lenses].
4. Wash hands, wrists, and arms thoroughly before leaving the laboratory, even if gloves and a lab coat were worn during the work day.
5. Wash lab coats, aprons, or jackets separately from personal laundry to prevent cross contamination.
6. Never wear or bring lab coats, jackets or aprons into areas that are designated for the consumption of food.
7. Never mouth pipette.
8. Always use the appropriate personal protective equipment e.g. lab coats, gloves, safety glasses to avoid direct contact with any hazardous chemical.
9. Staff should know the symptoms of potential exposure related to the hazardous material(s) they are working with.
10. Replace PPE as needed to maintain its integrity.
11. Avoid working alone in a laboratory or building in general whenever possible. If unavoidable make sure to contact Security and inform them of this situation.

3.2 Ventilation

The importance of clean uncontaminated air in the laboratory work environment is well known. Ventilation controls should be readily available and easily accessible to ensure that the laboratory air is continuously replaced and that concentrations of toxic substances do not permeate the laboratory and the air is safe to breathe. Additionally, the ventilation system should ensure that the toxic substances are not recirculated from laboratory to laboratory or within the building. There are two main types of ventilation systems, HVAC and local ventilation.

1. Heating, ventilation and air conditioning (HVAC) systems are designed primarily for temperature, humidity, and air quality.
2. Fume hoods are designed to remove the contaminants generated by an experiment or device to the exterior of the building.

It is the responsibility of the Principal Investigator or Laboratory Manager to immediately report any problems with the ventilation systems in the laboratories to Facilities (909-469-5258 (or extension 5258)

3.3 Safety Equipment

All laboratories should be provided with safety showers, eyewashes, and appropriate fire extinguishers. Adequate ventilation, wash sinks, and approved waste disposal receptacles are also necessary. All of these should be conveniently located, properly maintained, and frequently tested and/or cleaned. In accordance with university policy and procedures special consideration should be given to ensure accessibility to safety equipment as well as ease of evacuation of physically disabled individuals.

Fume Hoods

Laboratory air flows should be balanced at the time of fume hood installation and, at minimum, yearly thereafter to achieve designed fume hood face velocities and uniformity of airflow patterns. To assure the safety of the fume hood user, the following guidelines for fume hood use should be observed:

1. Ensure working condition of exhaust fan prior to fume hood use.
2. Always wear safety glasses and a lab coat when working at or near the fume hood.
3. Remove all items from the fume hood which are not necessary for the immediate operation or experiment.
4. Place all equipment necessary for the performance of experiments at least six inches inside the front face of the fume hood.
5. Perform all work that will release noxious vapors, fumes or aerosols at least six inches inside the front face of the fume hood.
6. Limit the quantity of chemicals and/or number of activities conducted within the fume hood that has potential for creating an explosion or fire situation.
7. Place the fume hood sash at the proper working height for procedures involving the handling of hazardous materials within the fume hood area. Typically, this is 14 to 18 inches (opening of the sash).
8. Do not use the fume hood for handling and/or storage of hazardous

materials during scheduled periods of fume hood maintenance and/or repair.

9. Submit fume hood modification plans to the Laboratory Safety Office for pre-approval. Unauthorized modifications to fume hoods, fume hood exhaust ducts or fume hood exhaust fans are prohibited.
10. Laboratory fume hoods should be inspected for proper operation and adequate face velocity annually and after maintenance/repair or adjustment. A fume hood sticker with information indicating date of inspection, expiration date, the inspector, intake velocity (>100 FPM) of the fume hood, approved use, and approved sash working height (marked) will be attached in a prominent location on the front of the fume hood.
11. Observe notices posted by the Fume Hood Certification vendor specifying schedules for shutdown of fume hood exhaust fans for routine maintenance and/or repairs.

Hand wash Stations

Principal Investigators or Laboratory Managers should designate an area in the laboratory for a hand wash station. These areas are usually located in one or two of the sinks in the laboratory. The hand wash stations should be properly labeled and equipped with soap and towels and be easily accessed.

These stations should be utilized by individuals who come in contact with chemical, biological, or radioactive agents in the laboratory. Everyone who works with hazardous agents on a routine basis should wash their hands before and after using the agents. The stations should never be used to dispose of hazardous waste (*Example*: do not pour chemical, biological, or radioactive material down the drains). It is the responsibility of the Principal Investigator or Laboratory Manager to ensure that the hand wash stations are available, accessible and properly equipped at all times.

Safety Showers

In compliance with OSHA standard 29CFR 1910.151(c), each laboratory area should be equipped with a safety shower. The ANSI standard, *Z358.1-12014, Emergency Eyewash and Shower Equipment,* requires that emergency showers be:

- located no more than 10 seconds in time nor greater than 55 feet from the hazard. The shower must be readily accessible, be kept clear of obstructions, and clearly labeled.
- The valve must open readily and remain open until intentionally closed. Although an associated floor drain is desirable, its absence should not prohibit installation of a safety shower.

The Laboratory Safety Office will be responsible for ensuring that the safety showers are inspected on a regular schedule.

Eyewash Stations

Eyewash Stations are designed to provide a gentle and continuous, low-pressure flow of tempered aerated potable water at 0.4 gallons per minute for a period of at least 15 minutes. The stations must be easily accessible from any location in the laboratory. When possible, all laboratory users should practice activating the eyewash stations.

Eyewashes, like safety showers, must be located no more than 10 seconds in time nor greater than this distance 55 feet from the hazard. Their location should be clearly labeled. It is recommended that safety showers and eyewashes be located at least five feet apart in the same room. The ANSI standard Z358.1-2014 requires that eyewashes be activated weekly. It is the responsibility of the Principal Investigator or Laboratory Coordinator to ensure that all eyewash units are checked on a weekly basis. For more information, visit ANSI web site at: https://ansi.org

Fire Extinguishers

Fire extinguishers are very important components of safe laboratory operation. Each laboratory should be equipped with the appropriate type for the expected fire emergency and be capable of immediate utilization. Currently the WesternU is utilizing multi-purpose (Class ABC) extinguishers for the majority of laboratories on campus. There are Class D extinguishers in laboratories which work with metals.

Safety Containers for Flammable Liquids

An approved container with a spring-closing lid and spout cover should be used to store flammable liquids. The safety container is designed so that it will safely relieve internal pressure when subjected to fire exposure. The safety container utilized in the laboratories must not exceed 19 L (5 gal) capacity.

These general safety practices should be followed by every individual working with flammables in the laboratory environment.

1. Chemicals in safety cans must be stored in designated storage areas in the laboratory. Storing safety cans in the laboratory work areas, on the floor, or in the hallway is unacceptable.
2. All flammable liquids must be stored in a laboratory storage area that protects the material from sources of ignition.
3. The safety container lid must be kept tightly closed except when adding or removing liquid flammables.

Flammable Storage Cabinets

The purpose of flammable storage cabinets is to protect the chemicals it holds from the heat and flames of external fire rather than to confine burning liquids within. The safe storage of flammable liquids or highly combustible chemicals should always be provided in a laboratory environment and in compliance with 29CFR1926.152. There must also be adequate security provided at all times to prevent unauthorized access to flammable chemicals. Storage facilities and equipment must be stable and secure against sliding and collapse, and not subject to flooding. The cabinets must meet NFPA 30 Guidelines on Flammable Liquids.

In all laboratory work with flammable liquids the requirements of 29 CFR 1910.106(d)(2), 29 CFR 1910. 1450, CCR Title 8, §5538, NFPA 30, and NFPA 45 should be followed. Laboratory Safety Offices has the current versions of these codes for persons wishing to review the documents. More information could be found at: http://www.nfpa.org

Corrosive Storage Cabinets

Corrosives should be kept in corrosive storage cabinets specially designed to hold them. Do not store corrosives in flammable storage cabinets because they are not coated with an epoxy enamel to guard against chemical attack. It is recommended that Polyethylene trays be used to (trays are used to hold these types of items, can't confirm if this is the standard across campus to collect small spills and to provide additional protection from corrosion for the shelves

Biological Safety Cabinets

A biological safety cabinet is the device used to provide containment of infectious splashes or aerosols generated by many microbiological procedures. Three types of biological safety cabinets (Class I, II, and III) are used in microbiological laboratories. Class I and II biological safety cabinets are primary barriers which offer varying levels of protection to laboratory personnel and to the environment (when used with good microbiological techniques).

The Class II biological safety cabinet also provides product protection from external contamination of the materials being manipulated inside the cabinet. The gas-tight Class III biological safety cabinet, or glove box, provides the highest attainable level of protection to personnel and the environment. The proper use and maintenance of biological storage cabinets are described in *Biosafety in Microbiological and Biomedical Laboratorie*s, 5th Edition written by the National Institute of Health (NIH) and the Center For Disease Control and Prevention (CDC)
(http://www.cdc.gov/biosafety/publications/bmbl5/BMBL5_appendixa.pdf
,https://www.osha.gov/Publications/laboratory/OSHA3404laboratory-safety-guidance.pdf
,https://www.osha.gov/SLTC/laboratories/)

Autoclaves

Autoclaving usually is considered to be the method of choice for decontaminating cultures, laboratory glassware, pipettes, syringes, or other small items known to be contaminated with infectious agents. The location of the autoclave within the laboratory minimizes storage and transport problems. It provides a technically proven treatment method for rendering infectious material safe. Autoclaves must be loaded carefully to allow the steam to penetrate the wrapping, since the steam has to contact the pathogens in order to destroy the hazard. The length of time required for sterilization of biological material is determined by the quantity of the load, the volume of liquid in the load, and the density of the material. Safe work practices when utilizing an autoclave include the following:

1. Read the operating guide carefully and post the operation procedures near the autoclave.
2. Release pressure slowly and open the door only slightly to allow the steam to escape before unloading.
3. Wear insulated gloves when unloading the material.
4. If required quality control indicators (strips, ampules) should be used regularly as indicated by regulation or SOP.

5. Autoclaved waste must be placed into a red biohazard trash bag before disposal into a dumpster. Contact the Laboratory Safety Office if you have questions about proper autoclaving procedures.

Refrigerators

The storage of flammable or combustible liquid in a domestic refrigerator is prohibited. Flammable liquids that require refrigeration must be stored in a flammable/explosion proof rated refrigerator which properly labeled by the manufacturer. Refrigerators procured for the purpose of flammable liquid storage must be in compliance with the specifications for a Flammable Materials Storage Refrigerator as described in the NFPA Code 45, "Fire Protection for Laboratories Using Chemicals." Existing domestic refrigerators used for storage of flammable liquids can be modified to eliminate sources of ignition within the storage compartment. However, the modification process can be applied only to guide defrost refrigerators. Self-defrosting models cannot be successfully modified to provide even minimum safeguards against vapor ignition.

3.4 Personal Protective Equipment

Clothing

Loose or torn clothing can fall into chemicals or become ensnared in equipment and moving machinery. Aprons, lab coats, and other protective clothing, preferably made of chemically inert material, should be readily available and utilized in a laboratory environment. Hair should also be restrained because loose hair can catch fire or dip into chemical solutions. A laboratory coat or an apron should be worn when working with hazardous materials. This is particularly important if personal clothing leaves skin exposed. Since many synthetic fabrics can adhere to the skin when burning, and thereby increase the severity of a burn, cotton is the preferred laboratory clothing fabric. Shorts and open toe shoes should never be worn in the laboratory.

Eye and Face Protection

Laboratory work may require eye and face protection to reduce the possibility of chemical exposures due to splashes. Eye protection is required of everyone who enters a chemical work area. The type of eye protection needed depends on the circumstances. Typically, safety goggles that protect the top, bottom, front and sides of the eyes is mandatory. Safety goggles should not be worn in conjunction with contact lenses, except for therapeutic reasons. If contact lenses are worn, co-workers should all be aware of this, in case an accidental splash renders the wearer of such lenses incapable of washing or rinsing his or her eyes.

Face shields are necessary when working with severely corrosive liquids, with glassware under reduced or elevated pressure, with glass apparatus used in combustion or other high-temperature operations, and when there is a possibility of an explosion or implosion.

Hand Protection

The purpose of gloves is to protect against abrasions, cuts, punctures, snags, chemical burns, thermal burns, and temperature extremes in the work environment. There is a

variety of gloves on the market to choose from depending on the chemical, the instrumentation, and the environment in which the hazardous material will be handled.

The following link that can be used as a guideline on proper glove selection.
http://www.aps.anl.gov/Safety_and_Training/User_Safety/gloveselection.html

Respirators

In a laboratory environment, respirators may sometimes be relied on if the engineering controls and laboratory design do not adequately limit the potential exposure to hazardous air contaminants. Individuals planning to use respiratory protection should contact EH&S for consultation. The proper selection and type of respirator used should be based on a thorough analysis of the specific activity planned. The EH&S will assist the respirator user in evaluating their individual circumstances. In addition, all individuals who wear respirators, other than dust mask as a personal preference, must first be medically approved by an occupational health physician and then should be fit-tested by the EH&S.

3.5 Activities Subject to Approval

Principal Investigators and Laboratory Managers must identify those activities which warrant prior approval before initiation by an employee or student. These include work with potentially hazardous materials (includes biologic and chemical), radioactive materials, lasers, x-ray machines, animal research, dangerous drugs and controlled substances and human subject research. In addition, certain chemicals are considered particularly hazardous and should be reviewed and approved by EH&S, the Departmental Chair in conjunction with the Laboratory Safety Office, where indicated, the appropriate oversight committee.

Biosafety Committee

Researchers working with potentially hazardous biological agents, recombinant DNA and agents specified by the Centers for Disease Control and Prevention (CDC) must receive prior approval from the Biosafety Committee. Information and forms are available from the Research and Intellectual Property Management Division at https://www.westernu.edu/research/regulatory-affairs/research-biosafety/
The following guidelines have been adopted as the minimum safety standards for research involving biological agents and materials at any WesternU laboratory:

1. *Biosafety in Microbiological and Biomedical Laboratories, U.S. Department of Health and Human Services, Public Health Service Centers for Disease Control and National Institutes of Health, HHS Publication No. 93-8395*
2. *NIH Guidelines for Research Involving Recombinant DNA Molecules, Office of Recombinant DNA Activities.*

Radiation Safety Committee

Users of radioactive materials and radiation producing devices must be authorized by the Radiation Safety Officer and the Radiation Safety Committee. Principal Investigators must have sublicenses and/or sub registrations issued citing specific approval and

conditions by the state's Radiation Health Branch in the California Department of Public Health. Any questions related to usage of radiological materials are to be directed to the university's Radiation Safety Officer, Dr. Don E. Walters at dewalters@westernu.edu .

All Authorized Users must follow good health physics work practices in the labs and maintain regulatory compliance.

In collaboration with the Radiation Safety Officer (RSO) EH&S is charged with the responsibility for providing certain health physics services and Principal Investigator consultations as well as radioactive waste disposal for the campus. The specific duties and responsibilities under state and federal law and university policy regarding radiation hazards are detailed in the Radiation Safety Guide available online at https://www.westernu.edu/research/regulatory-affairs/research-radiation-safety/

Animal Research Committee

It is the responsibility of each Principal Investigator who wishes to use live animals to secure prior approval from Institutional Animal Care and Use Committee (IACUC). For more information on IACUC, please go to http://www.westernu.edu/research/regulatory-affairs/research-iacuc/

Dangerous Drugs and Controlled Substances

Certain drugs and controlled substances (i.e. narcotics) are regulated by the Drug Enforcement Administration (DEA). Researchers who desire to work with these substances must secure registrations from the DEA. Contact the Laboratory Safety Office for further information.

Human Subjects

It is the responsibility of each Principal Investigator to identify all research involving the use of human beings as subjects of research and register the research protocol with the Committee for the Protection of Human Subjects. More information can be found at http://www.westernu.edu/research/regulatory-affairs/institutional-review-board/

Particularly Hazardous Chemicals

The Laboratory Safety Office urges all chemical users to read and understand the SDS before using the specific chemical in question. Certain chemicals have been recognized by the International Agency for Research on Cancer (IARC) and other research bodies to cause or promote cancer in human beings. Pre-approval may be required from the Laboratory Safety Office to use particularly hazardous chemical. Please consult the Chemical Hygiene Plan available on the Laboratory Safety Offices website.

Research & Intellectual Property Management
Information and forms are available from the Research & Intellectual Property Management Division at http://www.westernu.edu/research/research-welcome/westernu-ventures/

4.0 SAFE HANDLING REQUIREMENTS IN THE LABORATORY

The majority of laboratory accidents are due to human error. Operational requirements for safe handling of hazardous materials in the laboratory when followed, reduce the chance of an accident due to human error. It is the responsibility of each laboratory employee and student to become familiar with the safe handling requirements in the laboratory described in this section. However, the Principal Investigator is responsible for ensuring their employees have sufficient knowledge to avoid recognized hazards in their laboratory.

4.1 Hazard Identification

The LABORATORY SAFETY OFFICES requires that flammable liquids, toxic agents, highly reactive chemicals, and radioactive materials be handled in a manner which poses no substantial hazard to human health and safety and they must also not be deliberately discarded with the general waste or by any route into the sanitary sewer system.

OSHA's Hazard Communication standard (29CFR1910.1200) requires that employees using a hazardous chemical receive Hazard Communication (HAZCOM) Training upon hire and whenever a new chemical is introduced into the work environment. This federal and state mandated training supports the employees right to be informed about hazardous chemicals in the work place, to have access to information regarding the hazards associated with those chemicals, and to be trained in safe work practices with the chemical. This training is provided on e-learn for employees.

While chemicals are the most widely recognized hazard in the laboratory environment, there are other potential hazards which need to be identified. These include biological, radioactive, electrical, mechanical and physical. Prior to working these hazards, approval is require as noted in Section 3.5 of this guide. It is important that all potential hazards in the laboratory environment be evaluated and controlled as much as possible for the health and safety of all working in the area.

4.2 Labeling

There are generalized labeling practices that have been established to protect laboratory staff from physical and health hazards associated with working with hazardous chemicals.

These labeling practices require that:

1. Labels on incoming containers of hazardous materials must not be removed or defaced.
2. All chemical containers used in the work place must, at a minimum, be labeled with the identity of the hazardous material
3. When material is transferred from a manufacturers labeled container to a new container, a label must be placed on the new container and must include the name of the chemical, concentration, PI's name, initials of person making the transfer and the date of transfer into the new container.

4.3 Compressed Gas Hazards

There are generalized practices that have been established to protect laboratory employees against physical hazards. These include compressed gas cylinder safety tips. *A training module is available at the following link:*

Compressed Gas Cylinder Safety

The following must be followed for the transporting, storing, and use of compressed gas cylinders.

Compressed Gas Cylinders Identification

1. The contents of any compressed gas cylinder should be identified clearly so as to be easily, quickly, and completely determined by any laboratory personnel.
2. A durable label should be provided by the supplier that cannot be removed from the compressed gas cylinder.
3. No compressed gas cylinder should be accepted for use that does not identify its contents legibly by name.
4. Color-coding is not a reliable means of identification; cylinder colors vary from supplier to supplier, and labels on caps have no value because many caps are interchangeable.
5. If the labeling on the gas cylinder becomes unclear or defaced so that the contents cannot be identified, the cylinder should be marked "contents unknown" and the manufacturer/supplier contacted regarding appropriate procedures.

Gas Cylinders Transportation

1. Cylinders transported by truck must be fastened securely in an upright position so that they will not fall or strike each other.
2. Cylinders should not be transported without safety caps. A cylinder's cap should be screwed all the way down on the cylinder's neck ring and should fit securely. Do not lift cylinders by the cap. The cap is for valve protection only.
3. Cylinders should not be transported with the regulator attached to the cylinder.

Compressed Gas Cylinders Storage

1. Cylinders should not be allowed to drop nor be struck violently.
2. Cylinders should be properly secured at all times whether attached to a wall, cylinder truck, cylinder rack, or post. Two straps are required and must be placed at 1/3 and 2/3 of the cylinder height above the floor.
3. Liquefied flammable gas cylinders should be stored in an upright position or such that the pressure relief valve is in direct line (connected directly) with the vapor space of the cylinder (top of cylinder).
4. Caps used for valve protection should be kept on the cylinders at all times except when the cylinder is actually being used or charged.
5. Cylinders should not be used for rolling, supports, or any purpose other than the transportation and supply of gas.
6. Cylinders should be stored in a well-ventilated area away from flames, sparks or any source of heat or ignition. Keep cylinders away from electrical circuits.

7. Cylinders should not be blocking access to any electrical source nor used as a grounding source for other equipment.
8. Cylinders should not be exposed to an open flame or to any temperature above 125 degrees F, 52 degrees C.
9. Oxygen cylinders (empty or full) in storage should be separated from fuel-gas cylinders and combustible materials by a minimum distance of 20 feet or by a barrier at least 5 feet high having a fire-resistance rating of at least one-half hour.
10. Flammable gas cylinders should not be stored with oxygen or nitrous oxide cylinders or adjacent to oxygen charging facilities.
11. Full and empty cylinders of all gases should be stored separately and identified by signs to prevent confusion.
12. Gas cylinders cannot be stored in public hallways or other unprotected areas.
13. Cylinders may be stored outdoors but should be protected from the ground to prevent bottom corrosion. Where extreme temperatures prevail, cylinders should be stored so they are protected from the direct rays of the sun.
14. Cylinders should not be exposed to continuous dampness, stored near salt or other corrosive chemicals or fumes. Corrosion may damage cylinders and cause their valve protection caps to stick.

<u>Compressed Gas Cylinders Usage</u>

1. Always use the proper regulator for the gas in the cylinder. Always check the regulator before attaching it to a cylinder. If the connections do not fit together readily, the wrong regulator is being used. Regulators have an identification cold stamped on them which identifies the type of tank (gas) that be used with that specific regulator. If not sure which regulator should be used, contact the vendor (vendor information is typically listed on the tank).
2. Before attaching cylinders to a connection, be sure that the threads on the cylinder and the connection mate are of a type intended for the gas service.
3. Do not permit oil or grease to come in contact with cylinders or their valves.
4. Wipe the outlet with a clean, dry, lint-free cloth before attaching connections or regulators. The threads and mating surfaces of the regulator and hose connections should be cleaned before the regulator is attached.
5. Attach the regulator securely before opening the valve wide. Always use a cylinder wrench or another tightly fitting wrench to tighten the regulator nut and hose connections.
6. Open cylinder valves SLOWLY. Do not use a wrench to open or close a hand wheel type cylinder valve. If it cannot be operated by hand, the valve should be repaired.
7. Stand to the side of the regulator when opening the cylinder valve.
8. Do not attempt to repair cylinder valves or their relief devices while a cylinder contains gas pressure. Tag leaking cylinders or cylinders with stuck valves and move them to a safe, secure outdoor location.

<u>Compressed Gas Cylinder Policy</u>

Principal Investigators and Department Chairs must not allow the purchase of non-returnable gas cylinders (*Example*: lecture bottles, small compressed gas cylinders). In addition, corrosive and reactive gas cylinders must be returned to the manufacturer one year after their date of delivery. All other cylinders must be returned to the manufacturer three years after their date of delivery.

5.0 EMERGENCY AND MEDICAL PROCEDURES

An emergency situation is declared if a release or spill of a hazardous substance occurs that poses a significant threat to the health and safety of the faculty, staff, or students in the vicinity of the release.

The most important fact to remember in an emergency situation is to remain calm. Step away from the incident momentarily, to assess the magnitude of the situation and to determine the following information:

- *Is the situation life threatening?*
- *Are there people injured?*
- *Is there a persisting danger (Example: fire or toxic fumes)?*
- *What agent caused the emergency situation (biological, chemical, or radiological)?*

Once this information is ascertained, notify the WesternU Security by dialing Extension 3000 (or 909-706-3000) or call 911. Instruct the Security to send medical assistance if injuries have occurred. If minor injuries occurred due to the incident, students should seek medical attention from their healthcare provider. If an employee sustains only minor injuries, they should consider seeking medical attention from their personal physician. In addition to EH&S, the PI, lab manager, and Risk Management, the Laboratory Safety Office should be notified of any hazardous substance release or spill.

5.1 Basic Emergency Response

Major Release

1. Assess the situation
2. If there is an immediate danger to life and health, evacuate the area then call WesternU Security at Ext 3000 or 909-706-3000 or 911
3. Pull the fire alarm and evacuate the area immediately
4. Evacuate and secure the area as much as possible without risking injury
5. Assist emergency responders by giving as much info as possible upon their arrival
6. Record/document events as much as possible for post emergency response work and investigation purposes

Controllable

1. Notify all personnel in the vicinity of the spill or release
2. Confine spill or release as soon as possible.
3. If personnel are contaminated, personnel decontamination should proceed immediately using proper techniques.
4. Notify EH&S and the Laboratory Safety Office for assistance
5. Collect contaminated materials and PPE for appropriate disposal

5.2 Injury and Illness

For medical treatment due to a major injury received in a laboratory environment, Campus Security is to be notified by calling 909-706-3000 or extension 3000 and 911 should be called.

For minor injuries, first aid kits should be accessible and fully equipped for use. First aid kits are only recommended for incidents that do not require emergency care. The kits should be periodically checked by the Laboratory Manager or Principal Investigator to ensure the availability of proper first aid treatment supplies in case of an accident. It is the Principal Investigator's responsibility to:

1. Always have the first aid equipment readily available.
2. Keep essential supplies in the first aid kit at all times.

It is the faculty, staff, or student's responsibility to notify the Principal Investigator and/or the Laboratory Manager if they become ill or injured from exposure to any chemical, biological, or radiological agent utilized in the laboratory. The following procedures should be followed:

1. Document the work related injury or illness by completing an online Incident Report. The form is available on the intranet at https://webapp.westernu.edu/incident_report/
2. Ensure that the injured person(s) receive prompt medical treatment.
3. Employees must contact the Office of Human Resources in order to be directed to the appropriate facility for medical evaluation or treatment.
4. Students can seek medical attention at the PCC Medical Center (if available), an Urgent Care, local hospital, or primary care physician.

For more detailed information on workplace illness and injuries refer to the WesternU Workers' Compensation Policy at http://jprod.westernu.edu/policy/pp_policies_view.jsp?PID=702 The Laboratory Safety Office must report all incidents, even those which do not result in injury, if there is a potential for personal injury in the future by completing the electronic Incident Report form. The link to the electronic form is https://webapp.westernu.edu/incident_report/

5.3 Medical Consultation and Examinations

All employees are covered by workers' compensation insurance in case of work-related incidents, injuries, and illnesses. Employees are to report incidents to their immediate supervisor, and must complete the online Incident Report available at https://webapp.westernu.edu/incident_report/ Please refer to the WesternU Workers' Compensation packet for information on employee responsibilities related to injuries/illnesses. The Workers' Compensation packet is available from the Office of Human Resources.

Following a workplace injury or illness that occurs after regular office/work hours, the employee is entitled to emergency medical attention (if required) at an urgent care facility or any area hospital emergency room. The on-line Incident Report must be completed within 24 hours of the incident. If the employee is unable to complete the on-line incident report within the 24-hour timeframe, the supervisor should complete it to notify the Office of Human Resources. Follow up care under workers' compensation insurance will be arranged by HR.

Accident Reporting

All accidents should be reported to the Principal Investigator, Laboratory Manager and the Laboratory Safety Office. Laboratory incidents resulting in even minor medical treatment or observation must be reported to the EH&S and Risk Management. If an employee was injured, then you must also complete the on-line Incident Report form to report the incident to the Workers' Compensation administrator in Human Resources. If a student was injured, report the incident to University Student Affairs. The report can be submitted electronically by going to https://webapp.westernu.edu/incident_report/

Facilities should also be notified by calling 909-469-5258 (or ext. 5258) as they will have to arrange for cleaning of the affected area before the laboratory can be reopened. Prior to reopening, Facilities should consult with EH&S, the PI and Lab Manager to ensure that any work that was required to safely reopen the lab has been completed.

Appendix A – CHEMICAL OR HAZARD SPECIFIC TRAINING FORM

A copy of the Laboratory Specific Training Form, commonly known as SOP's can be obtained online from the "collective regulatory entities." This and other forms can be found at: www.Westernu.edu/research/safety/documents under Forms.

Appendix B – LABORATORY SAFETY AUDIT CHECKLIST

A copy of the Laboratory Safety Audit Checklist can be obtained online from the "Research and Biotechnology" website at www.Westernu.edu/research/safety/documents or by calling the Laboratory Safety Office.