

CHEMICAL HYGIENE PLAN

MANAGEMENT OF EXPOSURES TO
HAZARDOUS CHEMICALS
IN LABORATORIES

AT

CALIFORNIA STATE UNIVERSITY
CHANNEL ISLANDS

CSUCI Chemical Hygiene Plan



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1.0 Policy

It is the intent of California State University Channel Islands to comply with Title 8, California Code of Regulations, §5191, "Occupational Exposure to Hazardous Chemicals in Laboratories".

2.0 Purpose/Scope

2.1 PURPOSE

This standard is intended to protect laboratory workers from health effects of hazardous chemicals and to ensure that exposures do not reach or exceed acceptable exposure limits. It is designed to provide a comprehensive approach for the protection of laboratory workers.

2.2 SCOPE

The Laboratory Safety Standard, officially called Occupational Exposure to Hazardous Chemicals in Laboratories, applies to all University employees engaged in the laboratory use of hazardous chemicals, as defined by the standard (Appendix A).

3.0 Administering Agency

State of California, Division of Occupational Safety & Health (Cal-OSHA)

4.0 References

Title 8, California Code of Regulations, §5191; Occupational Exposure to Hazardous Chemicals in Laboratories.

Title 8, California Code of Regulations, §5209; Carcinogens.

Title 8, California Code of Regulations, §5154.1; Ventilation Requirements for Laboratory-Type Hood Operations.

5.0 Responsibilities

Each person working with or around chemicals, having been trained, is responsible for remaining aware of chemical hazards and handling these materials in a safe manner. If one is unsure of a hazard or proper procedure, they should ask for assistance before use.

5.1 ENVIRONMENT, SAFETY AND RISK MANAGEMENT

- This office has responsibility for oversight, development, implementation, and maintenance of the Chemical Hygiene Plan (CHP).
- Advise and assist in the implementation of chemical hygiene policies and practices.
- Provide technical assistance to academic departments in complying with the CHP.
- Provide consultation, monitoring, and training support services on matters related to laboratory safety.
- Arrange for employee exposure monitoring (as required).
- Assist laboratories in identifying hazardous operations, establishing safe work practices, and selecting protective equipment and other exposure controls.
- Monitor legal requirements concerning regulated substances.

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- Provide regular, formal audits for compliance with the CHP.
- With assistance of the Laboratory Supervisor, define the location of "Designated Areas" where toxic substances and potential carcinogens will be used, and ensure that the inventory of these substances is properly maintained.
- Monitor chemical procurement, use and disposal.
- Seek methods to improve the CHP.

5.2 DEAN OF DIVISION OR CHAIR OF DEPARTMENT

- Responsible for the CHP within division or department.
- Designate a division or departmental Chemical Hygiene Officer.
- Ensure that requirements related to chemical hygiene, as prescribed in the University's Chemical Hygiene Plan, are adequately supported at the division or departmental level.

5.3 DIVISION/DEPARTMENT CHEMICAL HYGIENE OFFICER (CHO)

- The CHO is responsible for the overall daily operations as required by the CHP within their division/department.
- Coordinate chemical hygiene/laboratory safety training for laboratory employees within the division/department.
- Serve as a liaison to the Environment, Safety and Risk Management Office to implement the Chemical Hygiene Plan.
- Conduct laboratory inspections to ensure compliance with existing laboratory Standard Operating Procedures/CHP.
- Monitor proper functioning of protective equipment such as fume hoods.
- Monitor the procurement, use, and disposal of chemicals in the laboratories over which they have oversight responsibility.
- Review chemical inventories to determine which chemicals are carcinogens.
- Gather and maintain chemical manufacturers' Material Safety Data Sheets (MSDS).
- Maintain appropriate records.

5.4 LABORATORY SUPERVISOR

Overall responsibility for the CHP in the lab including:

- Ensure compliance with the CHP within their respective laboratories.
- Ensure that work is conducted in accordance with the CHP.
- Conduct student orientation/training.
- With assistance from Environment, Safety and Risk Office, determine the required protective apparel and equipment.
- Ensure that protective equipment is available and working.
- Ensure that MSDS's are accessible.
- Ensure that action is taken to correct work practices and conditions that may result in the release of toxic chemicals.
- Ensure that laboratory employees receive instruction and training in safe work practices, use of personal protective equipment, and emergency procedures.
- Investigate laboratory accidents, spill/releases, determine causes of accidents, recommend corrective action, and forward investigation reports to the Environment, Safety and Risk Office.

5.5 LABORATORY EMPLOYEES

Laboratory employees are required to:

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- Understand and act in accordance with the safety requirements established by the laboratory.
- Participate in all required training programs.
- Understand the function and proper use of all personal protective equipment.
- Wear and properly maintain the personal protective equipment necessary to perform each task.
- Use engineering controls and safety equipment properly and according to laboratory requirements.
- Follow good chemical hygiene practices.
- Read, understand, and sign off on health and safety SOP's and other program documents.
- Report to supervisor all facts pertaining to accidents that result in injury or exposure to hazardous substances and any action or condition that may result in an accident.

6.0 Standard Operating Procedures

6.1 GENERAL RULES

- Avoid working alone in a laboratory while conducting hazardous procedures.
- Wear appropriate eye protection at all times. Normal prescription glasses are not protective eyewear.
- When working with flammable chemicals, be certain that there are no sources of ignition near enough to cause a fire or explosion in the event of a vapor release or liquid spill.
- Be aware of chemical hazards as determined from the MSDS and other appropriate references.
- Appropriate protective equipment should be worn every time you work around/use chemicals.
- Understand appropriate procedures for emergencies, including evacuation routes, spill cleanup procedures and proper waste disposal.
- Know the location and proper use of emergency equipment (i.e. fire extinguishers, eyewashes, showers, etc.).
- Know how and where to properly store chemicals when not in use.
- Use proper personal hygiene practices.
- Know the proper methods of transporting chemicals within the facility.
- Be alert to unsafe conditions and correct or report them as soon as they are detected.
- Do not use damaged glassware, and only use equipment for its designed purpose.

6.2 UNATTENDED OPERATIONS

- When possible do not leave procedures unattended.
- If it is necessary to do so, post a notification on the door.
- Provide for containment of hazardous substances in the event of a utility failure (such as cooling water) to an unattended operation.
- Provide for proper ventilation. If possible, conduct the operation in a fume hood with the sash lowered.

6.3 PERSONAL HYGIENE

- Wash promptly whenever a chemical has contacted the skin.
- Avoid inhalation of chemicals; do not "sniff" to test chemicals.
- Do not use mouth suction to pipette.
- Wash well with soap and water before leaving the facility; do not wash with solvents.
- Do not eat, drink, smoke, chew gum, or apply cosmetics in the laboratory.
- Do not bring food, beverages, tobacco, or cosmetic products into chemical storage or use areas.

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6.4 PROTECTIVE CLOTHING AND EQUIPMENT

- Eye protection must be worn by all persons in laboratories when hazardous chemicals are being used.
- Protective gloves must be available and resistant to the type of chemical in use (refer to MSDS).
- Inspect gloves before each use to ensure they are in good condition.
- Wash non-disposable gloves before removal and replace them periodically, or when damaged.
- Wear close-toed shoes in the laboratory, not sandals or other open toed footwear.
- Long hair and loose clothing must be confined.
- Carefully inspect all protective equipment before using. Do not use defective protective equipment.
- Disposable protective clothing should not be worn outside of the laboratory work area.

6.5 HOUSEKEEPING

- Access to emergency equipment, showers, eyewashes, aisles and exits should never be blocked by anything, not even temporarily.
- Keep all work areas, especially laboratory benches, clean and clear of clutter.
- Chemical containers must be labeled with at least the identity and health hazards of the contents.
- All hazardous chemicals should be placed in their assigned storage areas at the end of each workday. Hazardous chemicals must not be left out on benches, desks and shelves.
- Wastes should be properly labeled and kept in their proper containers (see Appendix C).

7.0 Chemical Procurement

All chemical procurement shall be done in accordance with CSUCI "Chemical Procurement Guidelines" (Appendix B).

8.0 Hazardous Waste Disposal

Hazardous material - any material which poses a health and safety threat to employees and/or students or a threat to the environment as a result of improper handling or disposal methods, or accidental discharge.

Chemical Waste - hazardous materials which may have been used in a process or experiment and are contaminated or no longer necessary, or chemical byproducts of a process or experiment that have no further research, equipment or facilities value, which may be disposed.

8.1 HAZARDOUS WASTE DISPOSAL PROCEDURES

- All generators of hazardous waste must have hazardous waste training
- Do not mix incompatible materials.
- Package waste in a sealed container made of a chemically compatible material and store in a cool dry location.
- Secure waste materials against tampering by unauthorized individuals.
- All waste containers must be properly labeled with the California State University Channel Islands Hazardous Waste label (Appendix C).

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- It is the responsibility of the waste generator to schedule a waste pickup with their department Chemical Hygiene Officer.
- The waste generator must submit a completed "Hazardous Waste Transfer Form" (Appendix D) prior to the waste pickup. The inventory must include chemical/waste name, amount of waste to be disposed, preparation date and hazard class of the hazardous waste.

For additional hazardous waste disposal information, refer to the California State University Channel Islands "Hazardous Waste Management Procedures" (Appendix E).

8.2 MEDICAL/INFECTIOUS WASTE DISPOSAL PROCEDURES

Not applicable at this time; contact Environment, Safety and Risk.

9.0 Spills and Accidents

9.1 MINOR CHEMICAL SPILL

A minor chemical spill is one that laboratory personnel can safely handle with the resources locally available; this type of spill has little potential for serious health hazards (i.e. fire, explosion, or chemical exposure). The following minor chemical spill procedures should be used by knowledgeable and experienced laboratory employees only.

- If the spilled material is flammable, turn off all ignition and heat sources.
- Alert people in the immediate area of the spill.
- Notify supervisor immediately.
- Confine the spill to a small area.
- Neutralize or absorb the spilled chemical with the proper clean up equipment/materials.
- Ensure that the proper personal protective equipment is worn during the clean up (consult MSDS).

9.2 MAJOR CHEMICAL SPILL

CSUCI does not have the internal resources to safely contain and clean up a major hazardous chemical spill. The University will contact the Ventura County Fire Department Haz Mat team for responding to hazardous materials incidents. The following steps can be taken, if safe, to help minimize the impact of the spill.

- Evacuate spill area and close doors to the affected area.
- If the spilled material is flammable, turn off all ignition and heat sources (only if safe).
- Send someone to call 911 (from a safe location) and report the conditions to the police.
- Notify department office.

10.0 Hazard Specific Safety Procedures:

10.1 CHEMICAL STORAGE

- Properly segregate incompatible chemicals.
- Keep volatile liquids away from heat, sun, and sources of ignition.
- Corrosives and flammables should be stored below eye level.
- Unnecessary, unused, or outdated chemicals should be disposed.

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10.2 PROCEDURES FOR TOXIC CHEMICALS

A chemical is considered toxic if it exerts harmful effects on biological mechanisms.

The MSDS's for many of the chemicals used in the laboratory will state recommended limits, OSHA-mandated limits, or both, as guidelines for exposure. Typical limits are threshold limit values (TLV), permissible exposure limits (PEL), and action levels. When such limits are stated, they will be used to assist the Environment, Safety and Risk Office in determining the safety precautions, control measures, and safety apparel that apply. For a listing of chemical exposure limits, refer to Title 8, California Code of Regulations, §5155 (Appendix F), "Permissible Exposure Limits for Chemical Contaminants".

When using a chemical with a TLV or PEL value less than 50ppm or 100mg/m³, or if handling a toxic substance with a high vapor pressure that will be likely to exceed air concentration limits (vapor pressure greater than 1 mm Hg at ambient temperature), the chemical must be handled in an operating fume hood, glove box, or similar device. If none are available, no work should be performed (refer to Appendix E).

10.3 PROCEDURES/STORAGE FOR FLAMMABLE CHEMICALS

A liquid is considered flammable if it has a flash point of 100 degrees Fahrenheit or lower.

Cabinets designed for the storage of flammable liquids should be properly used and maintained. Read and follow the manufacturer's information and also follow these safety practices:

- Flammable liquid cabinets must be used if greater than 10 gallons of flammable liquids are stored in a laboratory.
- Ensure flammable liquid storage cabinets are properly labeled.
- Chemicals with a flash point below 200°F (93.3°C) should be stored in a flammable solvent storage area or in a designated flammable liquid storage cabinet.
- Place flammable liquid storage cabinets away from sources of ignition.
- Store only compatible materials inside the cabinet.
- Do not store paper or cardboard or other combustible packaging material in a flammable liquid storage cabinet.
- Do not overload a flammable liquid cabinet, follow manufacturers established quantity limits.

10.4 PROCEDURES FOR REACTIVE CHEMICALS

A reactive chemical is one that meets any of the following:

- Identified by the U.S. Department of Transportation (DOT) as an oxidizer, organic peroxide, an explosive class A, B or C;
- It is ranked by the NFPA as a 3 or 4 for reactivity, or
- Is known or found to be reactive with other substances.

Refer to the MSDS for known incompatibilities and storage/handling requirements. Some reactive chemicals are temperature sensitive and must be refrigerated.

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10.6 CORROSIVE CHEMICALS

A chemical is corrosive if it is aqueous and has a pH of 3 or less or 12.5 or more. The manufacturers' MSDS should include the information on whether the chemical is corrosive.

- Refer to MSDS before handling a corrosive chemical.
- The following personal protective equipment should be worn when working with corrosive chemicals: safety goggles, a laboratory apron or laboratory coat.
- Gloves are recommended, when appropriate, and must be tested for absence of pinholes, and known to be resistant to the chemical in use.
- Use proper pouring techniques when pouring acids into water. (i.e. add acid to water).
- All procedures utilizing corrosives must be performed in a laboratory hood.
- Locate the nearest eye wash, and safety shower before handling corrosive chemicals and ensure access is not blocked.

10.7 COMPRESSED GAS CYLINDERS:

- Compressed gas cylinders must be properly secured using chains or cages. Any other method must be approved by the office of Environment, Safety and Risk.
- No more than two cylinders may be secured per chain.
- Use two chains if the cylinder is greater than 36 inches high.
- Cylinder caps must remain in place when cylinders are being moved or are not in use.
- Store gas cylinders away from excessive heat.
- Gas cylinders must be properly marked regarding their contents.
- Full and empty cylinders should be stored separately.
- Empty gas cylinders are to be labeled as such.
- Hoses and tubing should be in good condition, free of cracks, and patches.
- Cylinders should be moved with carts equipped with restraining straps and chains.

11.0 Control Measures and Equipment

Chemical safety is achieved by continual awareness of chemical hazards and diligent controls. Laboratory personnel should be familiar with precautionary measures, including the use of engineering controls and other safeguards. Laboratory supervisors should regularly inspect engineering controls and other safeguards, and report all malfunctions to Operations, Planning and Construction at extension 8460.

To ensure the performance of control measures and equipment periodic workplace inspections and a laboratory ventilation testing program are required.

11.1 VENTILATION

Laboratory employees should understand and comply with:

- Fume hoods should always be used for operations which might result in release of chemical vapors, dusts, mists or fumes.
- A hood or other local ventilation devices should be used when working with any volatile substance. A fume hood must be used when working with a substance that has a PEL or TLV less than 50ppm or 100mg/m³.

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- Fume hoods must be checked annually for proper flow rate. Ensure the fume hood has an inspection tag indicating flow rate, arrow indicating the maximum sash height opening, and the date inspected.
- A flow indicator check should be performed when the system is operating. This consists of taping a small piece of ribbon or tissue at the hood opening and observing whether it indicates airflow.
- Do not extend your head inside the hood when operations are underway.
- The hood fan should be kept on whenever hazardous chemicals are inside the hood.
- In the event of power failure or other hood failure, close any open containers and lower the sash.
- Chemical (or other) storage inside a hood should be minimized.
- The apparatus inside the hood should be placed on the floor of the hood at least six inches away from the front edge.
- Fume hoods should provide an average of 100 linear feet per minute of air flow with a minimum of 70 fpm in any one location sampled. For procedures using carcinogens, 150 fpm is required with a minimum of 125 fpm in any one location.

11.2 EYEWASH FOUNTAINS AND SAFETY SHOWERS

- Access to eyewash fountains and safety showers should not be restricted or blocked in any way.
- Eyewash fountains should be activated monthly to flush the line and verify proper operation. This activity shall be documented.
- Safety showers should be activated annually to flush the line and verify proper operation. This activity shall be documented.

11.3 RESPIRATORS:

The use of respirators is not a primary means by which laboratory exposures to hazardous substances are controlled. Rather, control should rely on proper ventilation and confinement of substances. In some cases, however, respirators may be required to maintain exposures below the PEL. In such cases, the University shall provide the proper respiratory protective equipment to employees in accordance with Title 8, California Code of Regulations, § 5144. Respirators can not be worn unless one has met the necessary medical criteria and has been fit tested. The University's "Respiratory Protection Program" (Appendix G) describes the proper issuance, use, and care of respirators.

11.4 VAPOR DETECTION:

Do not use odor as a means of determining if inhalation exposure limits are being exceeded. Whenever there is reason to suspect that a toxic chemical inhalation limit might be exceeded, whether or not a suspicious odor is detected, notify the supervisor and the Environment, Safety and Risk Office (extension 8847). Environment, Safety and Risk will determine if engineering controls are available to reduce the exposure and perform exposure monitoring if necessary.

12.0 **Procedures/Provisions for additional employee protection for work with particularly hazardous substances: carcinogens, reproductive toxins, and substances that have a high degree of acute toxicity.**

The procedures described in this section shall be followed when performing laboratory work with any select carcinogen, reproductive toxin, or substance that has a high degree of acute toxicity.

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The following definitions will apply:

1. Select carcinogen: Any substance defined as such in 8CCR 5191 (Appendix A) and any other substance described as such in the applicable MSDS. Refer to Appendix H for a complete listing of select carcinogens.
2. Reproductive toxin: Any substance described as such in the applicable MSDS.
3. Substance with a high degree of acute toxicity: Any substance for which the LD50 data described in the applicable MSDS cause the substance to be classified as a highly or acutely toxic chemical.

12.1 LABORATORY EVALUATION

For laboratories working with chemicals described in section 12.0:

1. The Office of Environment, Safety and Risk and the CHO for the specific division/department will evaluate those laboratories that utilize chemicals described in section 12.0.
2. The evaluation will determine:
 - What type of controls are needed.
 - Establish the "Designated Area(s)".
 - If employee monitoring is needed.
 - Need for medical surveillance.
 - Special Training.
 - Personal protective equipment recommendations.

12.2 ESTABLISHMENT OF DESIGNATED AREAS

A "Designated Area" is defined as a hood, glove box, containment cabinet, portion of a laboratory, or an entire laboratory room, designated as the only area where any activity, including storage, of carcinogens, reproductive toxins, and substances that have a high degree of acute toxicity, shall be conducted.

- Conduct all procedures utilizing chemicals in this category in a Designated Area.
- Designated Areas shall be posted as such, and their boundaries clearly marked.
- Access to the Designated Area shall be restricted to trained personnel aware of the potential hazards associated with the materials and all necessary safety precautions.

12.3 USE OF CONTAINMENT DEVICES/PROTECTIVE MEASURES

- Wear appropriate personal protective equipment such as gloves, safety goggles, and lab coat.
- Wear a long sleeved lab coat and gloves known to resist permeation by the chemicals to be used when working in the designated areas.
- Read the MSDS for the chemical to be used; know special precautions to be taken.
- Ventilation apparatus such as laboratory type hood shall be tested at least annually, or immediately after ventilation modification or maintenance operations.
- All personal protective equipment, including lab coats, shall be removed prior to exiting the Designated area.

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12.4 PROCEDURES FOR REMOVAL OF CONTAMINATED WASTE

- Removal of contaminated waste shall be done in accordance with the CSUCI "Hazardous Waste Management Procedures" available in the Environment, Safety and Risk Office, or from your division/department CHO.

12.5 DECONTAMINATION PROCEDURES

- Decontaminate the area when work is completed.
- All materials and products shall be decontaminated (or contained) before being removed from the Designated area.
- Hands and forearms shall be thoroughly washed prior to leaving the area, and after completion of any procedure in which chemicals in this classification are used.
- Laboratory work surfaces on which a carcinogen is handled shall be protected from contamination.
- Any equipment, material or other item taken into or removed from a Designated Area shall be done so in a manner that does not cause contamination in non-regulated areas or the external environment.
- Decontamination of jewelry may be difficult or impossible, therefore, it is not recommended that jewelry be worn when working with chemicals in this classification.

12.6 GENERAL PROCEDURES

The following controls and handling techniques should be employed when handling carcinogens, reproductive toxins, and substances that have a high degree of acute toxicity.

- Use the smallest amount of the chemical that is consistent with the requirements of the work to be done.
- Store all chemicals in this category in locked and enclosed spaces.
- Perform all work that may result in the generation of aerosols in a fume hood or glove box designated as a Designated area.
- Mechanical pipetting aids shall be used for all pipetting procedures.
- Dry sweeping and dry mopping are prohibited in a Designated Area.
- Use care when weighing solids to avoid creation of aerosols.
- A current chemical inventory shall be maintained.
- Carcinogen containers must be identified as such.

13.0 Biological Safety

BIOSAFETY LEVEL 1 - work with microorganisms not known to cause disease in healthy human adults.

BIOSAFETY LEVEL 2 - work with microorganisms of moderate potential hazard to employees and the environment.

13.1 STANDARD MICROBIAL PRACTICES

Following are standard microbiological practices that apply to all biosafety levels. These practices are common sense principles that protect personnel, the experiment, and the environment. They include the following:

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Biosafety Levels 1 and 2:

- Decontaminate work surfaces after use or after any spill of viable materials.
- Eating, drinking, smoking, applying cosmetics, and storing food are prohibited in work areas.
- Use mechanical pipetting devices; mouth pipetting is prohibited.
- Wash hands after handling cultures or animals and before leaving the room.
- Carefully perform all procedures to minimize the creation of aerosols.
- Restrict access to the laboratory when work is being conducted.

In addition to the standard microbial practices listed above, the following practices should be followed when working with or around biological safety level 2 agents/materials:

- Safety cabinets or other appropriate combinations of personal protective equipment and physical containment devices (centrifuge safety cups, sealed centrifuge rotors, containment caging for animals) should be used for the following:
 1. Procedures with a high potential for creating infectious aerosols.
 2. Procedures using high concentrations or large volumes of infectious agents.
- Handle all liquid and solid waste as though infectious
- Dispose of all biohazardous waste in accordance with applicable regulations.
- Wash hands after handling any biohazardous material and before leaving the laboratory.
- Take special care to avoid skin contamination with infectious material; gloves should be worn when skin contact with infectious materials is unavoidable.

14.0 Records

Proper records shall be prepared and maintained to document all activities required by this Standard. These include training, information, inspections/audits, maintenance records for control systems, medical records, exposure records, etc. The responsibility for record retention may reside with either the originating department, Environment, Safety and Risk, or in the case of employee exposure or medical records, Human Resources.

15.0 Training

The goal of the training program is to ensure that all individuals potentially at risk are adequately informed about the work in the laboratory/chemical handling area, its risks, and what to do if an accident occurs. Every worker should know the location and proper use of personal protective equipment and basic emergency response procedures.

Instructional method(s) to be used are not mandated. A formal session in a classroom setting, informal group, individual discussion with supervisor, posted notices, or handout booklets can all be effective in providing employee training. However, training must be documented.

15.1 Training Responsibilities

The Environment, Safety and Risk office is responsible for providing employee training on the Chemical Hygiene Plan and also support services and assistance to divisions/departments.

CHO: The division/department's designated Chemical Hygiene Officer is responsible for coordinating chemical hygiene and laboratory safety training for laboratory employees within their division/department.

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Laboratory Supervisor: Responsible for ensuring that chemical hygiene training has been provided to each employee under their direction and further, that all persons (including students) who use the laboratory are provided with information and training regarding the specific hazards and procedures in the laboratory.

Laboratory employees include:

- All Faculty
- Laboratory Technicians
- Graduate Assistants
- Teacher Assistants
- Any other paid university employee.

Employees shall be provided such information and training when initially assigned to a laboratory where hazardous chemicals are present and also prior to assignments involving new hazardous chemicals and/or new laboratory work procedures. Safety training shall be documented. Refer to Appendix I for a sample Laboratory Safety Training Documentation form.

15.2 Minimum Training Requirements:

Employees need to be informed of:

- Content and requirements of the Laboratory Standard.
- Content, location and availability of the CHP.
- The exposure limits for hazardous chemicals used in the employee's laboratory(s).
- Signs and symptoms associated with exposures to the hazardous chemicals used in the laboratories.
- Location and availability of MSDSs and other reference materials.
- Hazards unique to the laboratory.
- Measures employees can take to protect themselves from these hazards, including specific procedures such as appropriate work practices, personal protective equipment to be used, and emergency procedures.
- Applicable details of the University's Chemical Hygiene Plan.

16.0 Medical Surveillance

Under the OSHA Laboratory Standard, employees should be provided with the opportunity to receive medical attention, including follow-up examinations under the following conditions:

- Where exposure monitoring reveals an exposure level routinely above the action level, or PEL in the absence of an action level, for an OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements.
- Whenever an employee develops signs or symptoms associated with possible exposure to a hazardous chemical handled in the laboratory.
- After a major chemical release, accident, or incident which may have resulted in an employee being exposed to a chemical.