

Appendix C: Chemical Hygiene Plan

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The Occupational Safety and Health Administration (OSHA) requires UWL to develop and implement a written Chemical Hygiene Plan (CHP). UWL has developed a campus wide CHP that is available from Environmental Health and Safety. This Appendix is a template for a laboratory specific CHP.

At UWL, Principal Investigators, Laboratory Directors, Laboratory Managers, and Laboratory Supervisors are responsible for the preparation of a CHP for a laboratory or group of laboratories under their direction. You can fulfill the requirements of the OSHA Laboratory Standard (see Appendix B) by:

- Filling in information specific to the chemical hazards in your laboratory (**use additional sheets if necessary**).
- Reviewing the lab specific CHP with everyone working in your laboratory and making it available to them.
- Carrying out the provisions of your lab specific CHP.
- Annually updating the lab specific CHP.

As described by Appendix B, the OSHA Laboratory Standard also requires that you:

- Keep airborne chemical exposures below permissible limits.
- Keep manufacturer provided, secondary containers and sample containers labeled. Each container should be identified with chemical name, manufacturer name, and generic (i.e. flammable, corrosive) hazard warning. Contact Environmental Health and Safety for guidance on labeling samples or other small chemical containers.
- Know how to access Safety Data Sheets for all your supplied chemicals.
- Properly select and use personal protective equipment.

LABORATORIES COVERED BY THIS CHEMICAL HYGIENE PLAN

All laboratories must have a CHP. A single plan may cover several rooms and laboratories if the plan covers the safety and health considerations when work involves the use of hazardous chemicals of each laboratory. Departments may want to define how they will develop lab specific CHP's for labs within their Department.

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|---|--|
| Name of Principal Investigator, Laboratory Manager, Director, or Supervisor responsible for implementing this lab specific CHP: _____ Telephone Number: _____ | Date: |
| Department: | Review/Update Date (Review annually): |
| Building and Room Numbers Covered by this CHP: | Institutional Chemical Hygiene Officer: Environmental Health and Safety Program Manager (Telephone Number: 785-6800) |

I. STANDARD OPERATING PROCEDURES

The CHP must include your laboratory's standard operating procedures relevant to safety and health when work involves the use of hazardous chemicals.

To Meet This Requirement

This laboratory follows the procedures in the Chemical Safety Procedures, Laboratory Hygiene, Personal Protective Equipment and Reducing Your Exposure to Chemicals section of Part D of the Laboratory Safety and Chemical Disposal Guide as standard operating procedures when work involves the use of hazardous chemicals.

Instructions to Complete Your Chemical Hygiene Plan

Attach any additional chemical safety procedures that you follow in your laboratory. If you use them, you may reference other written safety guidance or protocols for handling hazardous chemicals.

Examples of Standard Operating Procedures

For example, you may reference other sources of safety procedures that your laboratory follows, such as the American Chemical Society's *Safety in Academic Chemistry Laboratories*.

Notes: Additional standard operating procedures are optional. The procedures given in Part D of the Guide may be sufficient standard operating procedures for your laboratory. The procedures need only pertain to chemical health hazards in laboratories. If you wish to add safety procedures for other laboratories hazards, refer to them as supplemental materials.

II: METHODS TO APPLY EXPOSURE CONTROL MEASURES

Your lab specific CHP must include methods used to determine and implement control measures to reduce laboratory personnel exposure to hazardous chemicals. These control measures may include engineering controls, the use of personal protective equipment, and hygiene practices. Particular attention should be given to the selection of control measures for chemicals that are known to be extremely hazardous.

To Meet This Requirement

This laboratory applies exposure control measures of sections Personal Protective Equipment and Reducing Your Exposure to Chemicals in Part D of this Guide. Control measures for chemicals that are known to be extremely hazardous can be found in the section Chemicals Requiring Special Precautions of Part D. Part B and Appendix D help identify those chemicals that are health hazards. If extremely hazardous substances are used in this laboratory, additional control measures are listed below.

Instructions to Complete Your Chemical Hygiene Plan

For your laboratory, identify those extremely hazardous chemicals and tasks that pose an exposure risk. For each hazard, describe the exposure controls followed by your laboratory. If you use substances that may be considered extremely hazardous, you will likely need to list the additional control measures that are used in your laboratory. Contact Environmental Health and Safety (785-6800) if you need advice on this section.

| Criteria to Implement Exposure Control Measures | Exposure Control Measures for This Lab |
|--|---|
| Use of any hazardous chemical. | Measures described in the section Personal Protective Equipment and Reducing Your Exposure to Chemicals in Part D of the <u>Guide</u> . Describe additional control measures, if any: |
| Use of an extremely hazardous chemical. | Measures described in the section Chemicals Requiring Special Precautions in Part D of the <u>Guide</u> . Describe additional control measures, if any: |
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| Criteria to Implement Exposure Control Measures (Continued) | Exposure Control Measures for This Lab (Continued) |
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(As necessary, use additional pages.)

Are additional criteria to implement exposure control measures attached?

YES _____ **NO** _____

III. FUME HOODS AND PROTECTIVE EQUIPMENT

The CHP must include a requirement that fume hoods and other protective equipment (e.g., gloves, safety goggles, aprons) are functioning properly and that specific measures are taken to ensure the proper and adequate performance of such equipment.

To Meet This Requirement

As described in the Fume Hoods and Other Engineering Controls section in Part D of the Guide, the proper function of this laboratory's fume hood(s) is inspected annually by Facilities Planning and Management. Mechanical components of the exhaust and supply air systems that support fume hoods are inspected on a more frequent basis. If any problems are noted with fume hoods notify Facilities Planning and Management at 785-8585. Part D also describes other measures to ensure fume hood performance.

The proper and adequate performance of personal protective equipment, including guidance on glove selection, is ensured by following the procedures in the Personal Protective Equipment section of Part D of the Guide.

Instructions to Complete Your Chemical Hygiene Plan (optional)

If you use protective equipment not described in **Part D** or take additional steps to ensure the proper performance of exhaust (fume) hoods, list them here.

| Protective Equipment | Measures to Enhance Exhaust (Fume) Hood Performance |
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(As necessary, use additional pages.)

Are additional protective equipment or exhaust (fume) hood performance measures attached?

YES _____ NO _____

Notes: Additional measures to ensure the proper function of protective equipment are optional. Part D may be adequate to describe the measures your laboratory uses to ensure proper function of fume hoods and protective equipment.

IV. INFORMATION AND TRAINING

The lab specific CHP must include a method for providing laboratory personnel information and training related to the hazards of chemicals present in their work area.

To Meet This Requirement

This laboratory provides laboratory personnel with information and training to ensure that they are informed of the hazards of chemicals present in their work area. This training is given at the time of the person's initial assignment to a work area where hazardous chemicals are present, and prior to assignments involving new exposure situations.

Safety training is part of the orientation for all new laboratory personnel. This training is described in Appendix G of this Guide. Training includes:

- Reviewing Appendix B of this Guide, which describes the contents of the OSHA Laboratory Standard.
- Reviewing the completed lab specific CHP for this laboratory and its details.
- Reviewing Safety Data Sheets (SDS's) for each substance that personnel use in the laboratory. From the SDS learn the Permissible Exposure Limits (PEL's) of OSHA regulated substances or the recommended exposure limits for other hazardous chemicals where there is no OSHA standard. From the SDS learn the signs and symptoms associated with exposures. From the SDS learn the methods and observations that may be used to detect the presence of release of a hazardous chemical. From the SDS learn the physical and health hazards of chemicals in the work area. From the SDS learn the measures laboratory personnel can use to protect themselves from these hazards.
- Reviewing all applicable sections of Parts B, D, E, and G of this Guide.
- Know how to access the UWL Laboratory Safety and Chemical Disposal Guide.

Instructions to Complete your Chemical Hygiene Plan

The last page of this Appendix has a form to help you document your training. Describe below any additions to your laboratory chemical safety training program.

List and briefly describe each training topic:

(As necessary, use additional pages.)

Are additional training topics included on an attachment?

YES _____ **NO** _____

Note: OSHA requires all suppliers to provide access to an SDS with all purchased chemicals. If you receive a paper SDS, please forward a copy to Environmental Health and Safety, Maintenance and Stores Building.

Examples of Additional Training Options

Additional training options for laboratory workers at UWL are included in the following list.

- Reviewing another source of safety information, such as a safety manual, or video. Refer to Appendix G for additional laboratory safety training information.
- Personal instruction in laboratory chemical safety by a principal investigator or supervisor.
- Attending Chemistry Department's Laboratory Safety training workshop at the beginning of fall and spring semesters.
- Attending a safety training seminar or take online safety training. Environmental Health and Safety can present a custom training program for your laboratory or arrange for training through our campus web based safety Learning Management System.
- Conduct a web search for the topic of interest. Many university web sites have a large amount of safety related information readily available.

V: CIRCUMSTANCES THAT REQUIRE PRIOR APPROVAL

The CHP must identify circumstances under which a particular laboratory operation, procedure or activity requires prior approval.

This section is optional. There may be no circumstances under which prior approval is required for your laboratory.

To Meet This Requirement

This laboratory considers its operations, procedures and activities to determine whether prior approval would be prudent. If there are circumstances that require approval, they are listed below.

Examples of Activities That Require Prior Approval

In some laboratories, it is prudent to obtain approval of the Principal Investigator or Chemical Hygiene Officer prior to an initial use of a particularly hazardous substance or a new or changed procedure involving use of a particularly hazardous substance. Environmental Health and Safety is available for review of laboratory safety protocols.

Instructions to Complete Your Chemical Hygiene Plan (Optional)

Consider your laboratory operations, procedures and activities to determine if laboratory workers should obtain prior approval. If so, list them below and the procedure you use to obtain approval.

| Circumstances that Require Prior Approval | Approval Procedure |
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| Circumstances that Require Prior Approval (Continued) | Approval Procedure (Continued) |
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(As necessary, use additional pages.)

Are additional circumstances that require prior approval included on an attachment?

YES _____ **NO** _____

VI. MEDICAL CONSULTATION AND EXAMINATION

The lab specific CHP must describe provisions for medical consultation and examination for laboratory personnel employed by UWL who work with hazardous chemicals. According to the Standard (see Appendix B), laboratory personnel should be given an opportunity to receive medical attention under the following conditions.

- Laboratory personnel develop signs or symptoms associated with a hazardous chemical to which they may have been exposed in the laboratory.
- Exposure monitoring reveals an action level (or Permissible Exposure Limit (PEL) if there is no action level) is routinely exceeded for any OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements.
- There has been a spill, leak, explosion or other occurrence in the work area resulting in the likelihood of a hazardous exposure.

To Meet This Requirement

This laboratory provides laboratory personnel employed by UWL and working with hazardous chemicals an opportunity to receive medical attention in the above circumstances. UWL laboratory personnel may receive medical care through their chosen health care plan under the State Group Health Insurance Program or through filing a Worker's Compensation claim with the Human Resources Office. Although not covered by the OSHA standard, students may receive medical care from the UWL Health Center. For more information or guidance, contact Environmental Health and Safety. In all cases where chemical over-exposure could occur the exposed person(s) should seek medical care prior to completing reports.

Workers compensation forms are available for employees and student employees through the UWL Human Resources website. All other individuals should complete an incident report form available through the UWL Risk Management Office.

Instructions to Complete Your Chemical Hygiene Plan

Other provisions for medical consultations and examinations are listed below.

List and briefly describe any additional provisions for medical consultations and examinations:

(As necessary, use additional pages.)

Are additional provisions for medical consultations and examinations included on an attachment?

YES _____ **NO** _____

VII. CHEMICAL HYGIENE PLAN IMPLEMENTATION

The lab specific CHP must designate a responsible person for each laboratory or group of laboratories; this person must implement the lab specific CHP in the assigned laboratories. Individuals who are implementing the lab specific CHP can contact Environmental Health and Safety for assistance. Environmental Health and Safety provides Chemical Hygiene Officer services to UWL.

Instructions to Complete Your Plan

Fill in the name of your Principal Investigator, Laboratory Director, or Supervisor on the first page of this Appendix.

Example

Anyone qualified by training or experience may be designated as the person responsible for implementing a lab specific CHP. One person may serve as the responsible person for several laboratories or a department.

VIII: WORK WITH PARTICULARLY HAZARDOUS SUBSTANCES

If laboratory personnel use Particularly Hazardous Substances (see Appendix D), the lab specific CHP must include provisions for additional protection. Provisions may include establishment of a designated area, use of containment devices, and decontamination procedures.

To Meet This Requirement

If Particularly Hazardous Substances are used in this laboratory, the protective measures described in Chemicals Requiring Special Precautions of Part D of the Guide are implemented. This describes provisions for establishing a designated area, use of containment devices, and decontamination procedures. Waste removal procedures are given in Part G. Specific substances, areas, devices and procedures are listed below.

Instructions to Complete Your Chemical Hygiene Plan

If you use a particularly hazardous substance, consider if one or more of the following additional precautions would be appropriate for your laboratory. Most laboratories should restrict use of a particularly hazardous substance to a designated area.

Depending on your procedures and types of particularly hazardous substances used in your laboratory, you may have multiple provisions for work with these substances.

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|---|
| Particularly Hazardous Substance(s): |
| Designated Area(s): |
| Containment Device(s) Used (describe if supplemental to those given in Part D): |
| Decontamination Procedures (describe if supplemental to those given in Part D): |

(As necessary, use additional pages.)

Are additional provisions for using particularly hazardous chemicals included on an attachment?

YES _____ NO _____

IX: DOCUMENTATION OF TRAINING

Be sure to inform and train all new laboratory personnel and to document safety training, so that you are credited with meeting this requirement.

| Name of Trained Laboratory Personnel | Date Trained | Name of Trainer |
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| Name of Trained Laboratory Personnel (Continued) | Date Trained (Continued) | Name of Trainer (Continued) |
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