

Chemical Hygiene Plan for Laboratories

OVERVIEW

Washington State University has developed the chemical hygiene plan to aid units in promoting a high standard of health and safety. The plan applies to all University laboratories. (See *Laboratory* under [Definitions](#).)

Environmental Health and Safety (EH&S) publishes the general WSU chemical hygiene plan in the form of the *Laboratory Safety Manual (LSM)* to provide valuable and accessible information to all personnel working in University laboratories.

To view the University's chemical hygiene plan, go to the EH&S Laboratory Safety Manual website at:

ehs.wsu.edu/laboratory-safety-manual/section-i/lsmchpguide/

However, since each laboratory is unique in purpose and function, the *LSM* lacks laboratory-specific details that only the principal investigator or supervisor can provide. The principal investigator or supervisor responsible for the laboratory-specific processes must supply additional details on the required yellow informational pages. Alternatively, a Microsoft Word version Chemical Hygiene Plan Guide is available that contains the required pages in an easy-to-complete format. To obtain copies of the Guide, see the EH&S website at:

ehs.wsu.edu/laboratory-safety-manual/section-i/lsmchpguide/

RESPONSIBILITIES

Department Chair/Director

The department chair or director:

- Is responsible for ensuring that this policy is implemented.
- Is responsible for the safety of all employees, students, and visitors in their areas of control.
- Reviews the control methods used by the principal investigator or supervisor.
- Ensures that the department maintains a file of required authorizations to use restricted or regulated hazardous chemicals.
- Reviews all Incident Reports.

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Principal Investigator/ Faculty/Supervisor

- Ensures that appropriate corrections are made. The principal investigator, faculty member, or laboratory supervisor:
- Is the chemical hygiene officer for the laboratory(ies).
- Prepares and implements a chemical hygiene plan keyed to the specific needs of each research and teaching activity under their direction.
- Enforces University laboratory safety rules and establishes specific procedures for the laboratory.
- Trains employees and students in safety procedures.
- Corrects improper work practices.
- Identifies defective environmental conditions which could result in personal injury.
- Develops a positive attitude among employees toward accident prevention.
- Reviews and evaluates the effectiveness of the chemical hygiene plan at least annually, and updates as necessary.
- Consults with the EH&S Lab Safety Officer with questions, as needed, to ensure correct and adequate development of the plan.
- Reports and investigates all accidental injuries and work-related illnesses within 24 hours using the Incident Report (see *SPPM 2.24*).

Completes Supervisor's Accident Investigation Reports, if applicable (see *SPPM 2.26*).

- Initiates corrective action to ensure maximum safety for their employees.

Employee/Student

The employee or student:

- Knows and complies with safety guidelines and policies required for the task assigned.

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Employee/Student (cont.)

- Reports unsafe conditions to the principal investigator, faculty member, immediate supervisor, or EH&S.
- Reports accidents, injuries, and occupational illnesses to immediate supervisor for evaluation and possible investigation.
- Utilizes fume hoods, laboratory safety devices, and personal protective equipment properly as trained (see also *SPPM* 2.60).

EH&S

Environmental Health & Safety:

- Promotes programs needed for compliance with health and safety regulations and for the protection of the health and safety of students, faculty, staff, and the surrounding community.
- Provides a University Laboratory Safety Officer, who assists department chairs, directors, principal investigators, faculty, and laboratory supervisors in the implementation and maintenance of the individual laboratory chemical hygiene plans.
- Cooperates with academic and service units by identifying health and safety hazards.
- Recommends and implements necessary modifications to the "generic" University chemical hygiene plan/*Laboratory Safety Manual*.
- Records, evaluates, and reports laboratory accidents and laboratory incidents.
- Develops and maintains training resources.
- Conducts training courses in laboratory safety.

CHEMICAL HYGIENE PLAN

Components

The Chemical Hygiene Plan must contain the following:

- Standard operating procedures for use of hazardous chemicals
- Provisions for exposure control areas and measures
- Descriptions of or provisions for fume hoods and other protective equipment

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Components (cont.)

- Provisions for employee information, training, and medical monitoring and examination
- Evaluation criteria the employer uses to reduce exposure
- Prior approval provisions for special laboratory projects
- Designation of person(s) responsible for implementation of the chemical hygiene plan
- Any extra protection provisions for work with particularly hazardous substances

Implementation

Environmental Health & Safety provides the basic elements of a general or "core" chemical hygiene plan in the form of a *Laboratory Safety Manual*. The manual includes the established policies of Washington State University and various regulatory agencies.

Each laboratory must provide additional information specific to that laboratory to complete the Chemical Hygiene Plan. The principal investigator or laboratory supervisor must complete the required information indicated in the Chemical Hygiene Plan Guide as outlined below or provide the material in a similar format.

Laboratory-Specific Information

The information that must be completed is as follows:

1. Site specific responsibility for chemical hygiene and safety
2. Specific information on your department's chemical receiving, storing, or dispensing procedures
3. Standardized secondary labeling system for your laboratory
4. Description of safety data sheets (SDSs) and other references available in the laboratory
5. Laboratory floor plan
6. Location of the laboratory spill kit and special instructions for cleanup and emergency response
7. Site specific ventilation information
8. Required elements of standard operating procedures

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Laboratory-Specific Information (cont.)

The laboratory *must* complete and record these pages in the plan or manual in order to be in compliance with the regulations mandated by the state of Washington's *Occupational Exposures to Hazardous Chemicals in Laboratories* standard. (WAC 296-802)

Assistance

Contact EH&S at 509-335-3041, for assistance with the implementation of the chemical hygiene plan.

Accessibility

The department must make the chemical hygiene plan readily available to all employees and students in the laboratory. The department must also provide the plan on request to EH&S staff and Washington State Department of Labor and Industries (WDLI) representatives.

The area for which the chemical hygiene plan is written may be adjoining rooms, a single room, or an area within a room (see *Readily Available* under [Definitions](#)).

The spatial definition of a laboratory is left to the discretion of the individual who ultimately takes responsibility for the safety of all employees who work within that area. This individual is to be a principal investigator (PI) or a laboratory supervisor.

DEFINITIONS

Laboratory

Laboratory means a facility where the laboratory use of hazardous chemicals occurs. It is a workplace where relatively small quantities of hazardous chemicals are used on a nonproduction basis.

For the purposes of this policy, laboratory activities are research and quality control activities. *Dry* laboratories such as computer labs are not covered by this policy.

Laboratory Use of Hazardous Chemicals

Laboratory use of hazardous chemicals means the handling or use of hazardous chemicals in which *all* of the following conditions are met:

- Chemical manipulations are carried out on a laboratory scale (see definition below).
- Multiple chemical procedures or chemicals are used.
- Procedures involved are not part of a production process, nor in any way simulate a production process.

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Use of Hazardous Chemicals (cont.)

- Protective laboratory practices and equipment are available and in common use to minimize the potential for employee exposure of hazardous chemicals.

Laboratory Scale

Laboratory scale means work with substances in which the containers used for reactions, transfers, and other handling of the substances are designed to be easily and safely manipulated by one person.

Laboratory scale excludes those workplaces whose function is to produce commercial quantities of materials.

Readily Available

Readily available means accessible to all laboratory staff at any time during the work period, day or night.

Hazardous Chemical

Hazardous chemical means a chemical for which there is statistically significant evidence, based on at least one study conducted in accordance with established scientific principles, that acute or chronic health effects may occur in exposed employees.

The term *health hazard* includes chemicals that are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic systems, and agents that damage the lungs, skin, eyes, or mucous membranes.

Particularly Hazardous Substance

Particularly hazardous substances include select carcinogens, reproductive toxins, and substances that have a high degree of acute toxicity.