Chemical Hygiene Plan

Purpose

The Chemical Hygiene Plan (CHP) defines the work practices and procedures to ensure that laboratory employees at Western Michigan University are protected from health hazards associated with hazardous chemicals in the laboratory. The CHP is part of the University’s compliance with the standard by the Michigan Occupational Safety and Health Administration (MIOSHA) titled “Part 431, Hazardous Work in Laboratories”. For simplicity, this standard will be referred as the Lab Standard in this document. The CHP represents a minimum set of guidelines for the laboratory handling of hazardous chemicals at WMU. Individual administrative units, laboratories, or research groups are required to develop more detailed standard operating procedures (SOP’s) as their situations warrant.

Scope

This policy and program applies to all Western Michigan University employees, including full time, part time, temporary and student employees who are involved in or supervise the laboratory use of hazardous chemicals. This Chemical Hygiene Plan does not cover the laboratory use of radioactive materials, recombinant DNA, or bloodborne pathogens. Those programs are addressed in the WMU Radiation Safety Program, the Policy for Recombinant DNA/Biosafety, and the WMU Bloodborne Pathogen Exposure Control Plan.

Definitions

Action Level: means a concentration which is designated in established MIOSHA health standards for a specific substance, calculated as an 8-hour, time-weighted average, and which initiates certain required activities, such as exposure monitoring and medical surveillance.

Chemical Hygiene Officer (CHO): An employee who is qualified by training or experience to provide technical guidance in the development and implementation of the provisions of the CHP.

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

Laboratory: A facility where the laboratory use of hazardous chemicals occurs.
Laboratory use of hazardous chemicals: means the handling or use of such chemicals in which all of the following conditions are met:

a. Chemical manipulations are carried out on a laboratory scale.
b. Multiple chemical procedures or chemicals are used.
c. The procedures that are involved are not part of a production process, nor in any way simulate a production process.
d. Protective laboratory practices and equipment are available and in common use to minimize the potential for employee exposure to hazardous chemicals.

Permissible Exposure Limit (PEL): The MIOSHA airborne exposure limit for chemicals—either an 8-hour time weighted average (TWA) or a short-term exposure limits (STEL) to which no employee shall be exposed.

Responsibilities

A. Office of Environmental Health and Safety (EHS):
   1. Review and approve laboratory or unit specific standard operating procedures (SOP’s).
   2. Assist laboratory supervisors on conducting laboratory inspections.
   3. Conduct exposure assessments when there is reason to believe that exposure levels for a substance routinely exceed the action level or, in the absence of an action level, the PEL.
   4. Maintain records of exposure monitoring and any written opinions from examining physicians as outlined in the Medical Surveillance Program for the duration of employment plus thirty years.
   5. The Director of EHS serves as the CHO to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan.
   6. Maintain and update the Chemical Hygiene Plan and subprograms.
   7. Approve the acquisition of any donated chemicals to the University.
   8. Provide guidance in determining which laboratories the Laboratory Standard covers.
   9. Provide guidance on shipping hazardous materials.

B. Deans and Directors:
   1. Ensure that laboratory supervisors generate lab specific guidelines and prepare standard operating procedures (SOP’s) for their laboratories.
   2. Consult with EHS on whether a particular workplace meets the definition of a laboratory under the Lab Standard.
   3. Make budget arrangements for health and safety improvements.
   4. Implement and enforce rules and standards concerning health and safety for laboratories under their jurisdiction including the CHP and subprograms.

C. Laboratory Supervisors:
   1. Prepare standard operating procedures for each laboratory.
   2. Review standard operating procedures with each new employee.
   3. Ensure compliance of laboratory workers with the CHP and its subprograms.
4. Notify EHS immediately if laboratory conditions pose a serious threat or if a serious accident or injury occurs that requires medical attention.
5. Complete an accident/injury report Form 311 for every accident or injury within 24 hours of the occurrence.
6. Contact EHS prior to shipping hazardous chemicals to ensure that all labeling requirements and SDS are being shipped meet the requirements of the Federal Hazard Communication Standard.

D. Laboratory Workers:
1. Follow all health and safety standards and rules and comply with the CHP and its subprograms.
2. Report all hazardous conditions to the supervisor.
3. Report any job-related injuries or illness to the supervisor and seek treatment immediately.
4. Consult their personal physician regarding their chemical exposures if planning a pregnancy or becoming pregnant.

Subprograms that Comprise the Chemical Hygiene Plan:

A. Chemical Hazard Control Program: This program outlines the minimum set of guidelines for the safe laboratory use of hazardous chemicals at WMU to prevent exposures. The guidelines contain sections on common practices, personal protective equipment, handling and storage, engineering controls including fume hoods, and administrative controls.

B. Employee Information and Training Program: This program outlines the training that will be provided at initial assignment and the standard operating procedures that shall be developed for each laboratory or research unit.

C. Medical Surveillance Program: This program outlines the MIOSHA requirement that employees be provided the opportunity to receive a medical consultation and examination whenever they develop signs and symptoms of chemical overexposure, MIOSHA regulated substances are measured above the PEL, or whenever an event takes place such as a spill or leak resulting in the likelihood of a hazardous exposure.

D. Highly Hazardous Chemical Program: This program outlines the additional provisions for employee protection for work with particularly hazardous substances, such as select carcinogens, reproductive toxins, and substances that have a high degree of acute or chronic toxicity. These may include the following: establishment of a designated area, use of containment devices such as fume hoods or glove boxes, procedures for safe removal of contaminated waste and decontamination procedures.

E. Laboratory Emergency Plan: This program outlines the procedures for response to medical emergencies, spills, fires, and power outages.