LABORATORY SPECIFIC CHEMICAL HYGIENE PLAN (CHP)

Please keep a copy of the laboratory specific CHP plan in your laboratory

Lab Director: _____ **Chemical Hygiene Officer:** **Timothy Niederkorn**

Laboratory Location(s): _____ **Lab Hygiene Officer:** _____

The purpose of this plan is to set forth procedures, equipment, personal protective equipment and work practices that are necessary to protect employees from health and safety hazards in this laboratory.

1. Basic Rules and Tenets
   a. Refer to the Laboratory Health and Safety Manual and Institutional Chemical Hygiene Plan for standard safety and health procedures to be followed in the laboratory.
   b. Always review the potentially hazardous properties of materials before beginning work with them.
2. Provisions for additional employee protection for work with more toxic chemicals are required. These chemicals include **pyrophoric materials**, **reproductive toxins,** "**select carcinogens", and substances which have a high degree of acute toxicity**. Reference Section V of the Laboratory Health and Safety Manual and Institutional Chemical Hygiene Plan.

   Tasks involving the use of these chemicals require that standard operating procedures (SOP's) be developed and followed. SOP's have been developed by the Environmental Health and Radiation Safety Department for commonly used toxic chemicals. Please keep copies of SOP's with this plan. Tasks involving chemicals that do not already have a standard operating procedure must be developed. A sample SOP form can be found in Appendix C: "SOP – sample".
3. The following safety equipment, listed by its location is provided for laboratory worker safety:

   a. Laboratory exhaust hood(s)*: Note: fpm info. Can be found on the hood certification sticker

[location]	[special use]	[feet per minute(fpm)]

   b. Biological Safety Cabinet(s)

[location]	[special use]	[certification date]

   *Laboratory exhaust hoods are tested annually by Environmental Health and Radiation Safety for effectiveness. Hoods must be tested annually and should operate at 100 fpm at 18 inches. Critical working range is between 80 fpm – 120 fpm.

   c. The nearest safety shower is located: _____

   d. The nearest eye wash(es) is/are located: _____

   e. Fire extinguishers are located: _____

   f. Spill kits are located (If Available): _____

   g. Personal Protective Equipment (PPE) is located: _____

4. All employees must complete general EHRS laboratory safety training before beginning work in a laboratory. Laboratory specific safety training will be provided by the laboratory principal investigator or her designee. The general laboratory safety training will cover:
   a) Recognition and Evaluation of Hazards
   b) Laboratory Chemical Hygiene Plan and Hazard Control
   c) Laboratory Emergency Preparedness and Spill Response
   d) Chemical Storage
   e) Laboratory Waste Disposal

   Documentation of general Lab Safety training of all laboratory employees is maintained by the Environmental Health and Radiation Safety Department. The laboratory principal investigator should maintain documentation of training for laboratory specific processes.

5. Medical surveillance is available and provided to all employees in accordance with UT Policy. For more information on the program contact the Environmental Health and Radiation Safety Department at 419-530-3600.

6. An inventory of hazardous chemicals used in this laboratory is provided:

A hazardous chemical is any element or chemical compound or mixture of elements and/or compounds which is a physical hazard or a health hazard.

A chemical is a health hazard if 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. Included are:

carcinogens
reproductive toxins
sensitizers
nephrotoxins (kidney)
radioactive materials
agents that act on the hematopoietic system (blood)
agents which damage the lungs, skin, eyes, or mucous membranes
irritants
corrosives
hepatotoxins (liver)
neurotoxins (nerve)
biohazards

A chemical is a physical hazard if there is scientifically valid evidence that it is a combustible liquid, a compressed gas, an explosive, a flammable, an organic peroxide, an oxidizer, pyrophoric, an unstable material (reactive), or water-reactive.

In most cases, the container label will indicate if the chemical is hazardous. Look for key words like caution, hazardous, toxic, dangerous, corrosive, irritant, carcinogen, etc. Old containers of hazardous chemicals (before 1955) may not contain hazard warnings.

A chemical is considered hazardous if it is listed in any of the following:

- OSHA, 29 CFR Part 1910, Subpart Z, Toxic and Hazard Substances
- "Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment", ACGIH (latest edition)

7. Reference material on the hazards, safe handling, storage and disposal of chemicals is located:

LABORATORY SPECIFIC CHEMICAL HYGIENE PLAN
SUMMARY OF RESPONSIBILITIES

The Environmental Health and Radiation Safety Department is responsible for providing overall administrative guidance and supervision for the Chemical Hygiene Plan (CHP), to include:

1. Provision of training for employees concerning requirements of the program and their responsibilities.
2. Provision of guidance for the preparation of procedures, chemical inventories, and training programs required by the CHP.
3. Document employee training.
4. Provision of guidance and information regarding industrial hygiene monitoring.
5. Maintaining necessary documentation and record keeping systems for training, industrial hygiene monitoring, and medical surveillance.

A designee from the Environmental Health and Radiation Safety Department, who is qualified by training and experience to provide technical guidance for the continuing implementation of the CHP, will serve as the Chemical Hygiene Officer (CHO). Specific responsibilities include:

1. Work with laboratory directors or their designees to develop and implement appropriate chemical hygiene plans in accordance with the policies of the University of Toledo and as indicated for the hazards applicable to the laboratory environment. The Chemical Hygiene Officer shall serve in an advisory capacity in plan review involving disputed practices or plans.
2. Monitor the use of chemicals in the lab, including determining that facilities and training levels are provided as necessary for the chemicals in use.
3. Monitor and complete environmental surveillance (surveys) in laboratories.
4. Perform air monitoring as deemed necessary.
5. Maintain current knowledge of the regulations pertaining to regulated substances in the laboratory environment.
6. Monitor compliance with the chemical hygiene plans.
7. Aid in determining the proper level of control technologies to be applied.
8. Monitor the provision of necessary training to employees.

Laboratory directors or their designated Laboratory Hygiene Officers are responsible for maintaining safe operations in their labs on a daily basis, to include:

1. Ensuring that a CHP, meeting the requirements of University of Toledo, is developed for their lab and incorporated into routine training sessions for their respective work areas.
2. Completing training provided by the Environmental Health and Radiation Safety Department concerning the requirements of this program and their responsibilities.
3. Ensuring the training indicated by the University of Toledo and the CHP is provided to employees.
4. Complete a PPE hazard assessment, provide appropriate personal protective equipment and require its proper use and maintenance.
5. Ensuring a hazardous chemical inventory is completed for all such materials used in the laboratory following the instructions provided by the Chemical Hygiene Officer.
6. Reporting chemicals of interest required by the Department of Homeland Security to Environmental Health and Radiation Safety through the annual survey (see HM-08-039).
7. Obtaining, retaining, reviewing and understanding Safety Data Sheets (SDS's) or other available references on materials used by employees under their supervision and informing employees as new SDS's or information becomes available.
8. Ensuring that all containers of hazardous materials and hazardous waste are labeled appropriately.
9. Ensuring that standard operating procedures are established and documented for all "select carcinogens, pyrophoric materials, reproductive toxins and substances with a high degree of acute toxicity".

The responsibilities of laboratory employees include the following:

1. Follow all Environmental Health and Radiation Safety standards and rules.
2. Report all hazardous conditions to their supervisor.
3. Wear or use prescribed protective equipment, and utilize all hazard control devices (i.e. fume hoods).
4. Refrain from operating equipment without proper training or that has safety defects.
5. Attend training sessions on the Chemical Hygiene Program.
6. Keep informed about chemicals in the lab.

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