

Minneapolis Community & Technical College

Chemical Hygiene Plan
29 CFR 1910.1450

Chemical Hygiene Plan

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I. Purpose

This Chemical Hygiene Plan (CHP) sets forth policies, procedures, equipment, personal protective equipment and work practices that are capable of protecting employees from the health risks presented by hazardous chemicals used in laboratories and classrooms. Based on the realization that all chemicals inherently present hazards in certain conditions, exposure to all chemicals shall be minimized. The objective of this program is to provide guidance to all laboratory personnel who use chemicals to perform their job safely. Expectations of the CHP should be continually adhered to. This plan is intended to meet the requirements of 29 CFR 1910.1450, Occupational Exposure to Hazardous Chemicals in Laboratories.

II. Scope

This CHP applies to all MCTC employees working in Science laboratories where chemicals are used and stored.

Employees (see Appendix E) – Each individual assigned to work in a laboratory (e.g., Faculty, Staff, CLA, SWPP, work study) must be informed about hazards associated with that laboratory and the specific work going on there.

Support personnel (e.g., Public Safety, Shipping & Receiving, IT, Facilities, delivery workers) may also be exposed to potential chemical hazards related to work carried out in the laboratory and must be informed about the risks involved and trained how to avoid potential hazards. Each laboratory employee (with training, education, and resources provided by supervision), shall develop work habits consistent with requirements of MCTC's CHP to minimize potential personal and coworker exposure to chemicals.

III. Responsibilities

A. Chemical Hygiene Officer (CHO):

- IV.** The Health and Safety Specialist, in conjunction with the Science CLA's, has been selected as the CHO for the Chemical Hygiene Plan throughout MCTC and will provide continued direction for the Chemical Hygiene Plan. They will also maintain overall responsibilities for the safe operation of the science labs,

The Health and Safety Specialist shall:

- work with administrators, staff, and faculty to develop and implement acceptable, appropriate chemical hygiene policies and practices,
- determine that chemicals used are appropriate,
- approve/deny new chemical requests,
- maintain a current inventory of chemicals present within MCTC's Science Areas,
- assure review and maintenance of the CHP, at the minimum, annually,
- ensure that employees know and follow chemical hygiene rules,
- determine the proper level of personal protective equipment,
- monitor the waste disposal program,
- oversee eyewash and shower functions.

The CLA's shall (in the labs and/or prep area):

- monitor procurement and use of chemicals,
- perform regular, formal chemical hygiene and housekeeping inspections,
- maintain a current inventory of chemicals and MSDSs,
- ensure that protective equipment is available and in working order,
- maintain weekly inspection logs of the hazardous waste satellite storage area (See Appendix B).
- check in and out potentially and extremely hazardous chemicals (See Appendix E).

A. Responsible Party – directly responsible for chemical hygiene in the laboratory. The Responsible Party, typically an instructor or CLA during open labs, is required to ensure that provisions of the CHP are being followed in the laboratory.

B. Employees authorized to be in the lab and prep area shall:

- follow all health and safety procedures and rules as outlined in the CHP,
- report all hazardous conditions to Public Safety and appropriate Dean and CLA immediately,
- report any job-related chemical injury or illness to your supervisor and seek treatment as soon as possible,
- refrain from the operation of any equipment or instruments without proper instruction and authorization,
- wear or use prescribed personal protective equipment,
- remain aware of the hazards of ALL chemicals in the laboratory and how to handle hazardous chemicals safely,
- request information and training when unsure about how to handle an unfamiliar or hazardous chemical or procedure.

C. In addition Instructors shall:

- familiarize themselves with all potential hazards within the lab and learn how to minimize the risks associated with these hazards,
- ensure that all students conduct all laboratory experiments in accordance with prescribed chemical hygiene procedures. This includes enforcing the use of necessary personal protective wear, educating students about appropriate chemical handling, disposal procedures, etc.,
- educate students about relevant chemical hazards within the laboratory, share the Chemical Hazardous Waste In Laboratory/Classroom Rules For Safe Handling document (See Appendix E) with students, etc.,
- show students where to find and how to use chemical safety equipment (chemical shower, eye wash),
- report all hazardous conditions to Public Safety and appropriate Dean and CLA immediately,
- report any chemical related injury or illness to Public Safety and appropriate Dean and seek treatment as soon as possible,
- observe proper process for reporting student accidents and injuries (Public Safety Incident Report),
- are responsible for safety and compliance in their labs (MNSCU).

D. Students must:

- conduct each operation in accordance with prescribed chemical hygiene procedure (as outlined by their instructor).

V. Standard Operating Procedures for Laboratory Chemicals

A. Chemical Procurement

The decision to procure and reorder chemicals shall be completed by the CLA. Any questions regarding a procurement or reorder should be directed to the CHO. Material Safety Data Sheets must accompany a procurement and shall be updated on reorders if the current MSDS is 3 years or older.

Faculty members requesting new chemicals must evaluate chemicals for waste produced and safer alternatives. Faculty forward information on to the CLA's to complete the New Chemical Request Checklist (see Appendix A). The New Chemical Request Checklist for procurement of new chemicals will then be submitted to the Health and Safety Specialist from the appropriate CLA. Upon approval by the Health and Safety Specialist the new chemical form shall be forwarded to the appropriate Dean and then on to Purchasing.

Information on the chemical(s) will be researched by the Health and Safety Specialist through the MSDS prior to procurement of a chemical. If upon investigation the chemical is extremely hazardous, extremely flammable, explosive, or difficult to dispose of, the Health and Safety Specialist may not approve procurement or ask that an alternative chemical be procured. The Health and Safety Specialist shall notify the CLA and Instructor when this situation arises. In addition, chemicals used in the laboratory shall be those which are appropriate for the ventilation system.

All chemicals must be received in a central location. When the chemicals are received by MCTC, a designated trained person will transport the material to the appropriate CLA with the original packaging intact.

B. Chemical Storage

All chemical shipments should be addressed to the appropriate CLA. Any alternative process must be discussed with the CHO before proceeding. Chemical containers shall not be accepted without accompanying labels. The company should be contacted if appropriate labels are missing (see section G. Labeling). Appropriate CLA should accept, open, date and inventory chemicals when received. Received chemicals shall be immediately moved to a designated chemical storage area by an appropriate CLA.

The storage area shall be well-illuminated. Flammables will be stored in the designated flammable storage cabinet in the chemical storage area. Chemicals must be segregated by hazard classifications and compatibility in a well identified area.

Mineral acids should be segregated from flammable and combustible materials. Separation is defined by NFPA 49 as storage within the same fire area but separated by as much space as possible or by intervening storage from incompatible materials. Acid resistant trays shall be placed under bottles of mineral acids as well.

Acids and other oxidizers will be stored in a separate acid cabinet.

Acid sensitive materials, such as cyanides and sulfides, shall be separated from acids or protected from contact with acids and water.

Highly toxic chemicals or other chemicals whose containers have been compromised shall be stored in a labeled unbreakable secondary container.

The storage area shall **not** be used as a preparation or repackaging area. The storage area is under control of the employees assigned to the labs and lab support during normal working hours.

Storage of chemicals at the lab bench or other work area shall be limited to those amounts necessary for one operation – as small as practical.

Fume hoods in the science labs may not be used for chemical storage or evaporation of chemical wastes.

All stored chemicals shall be examined at least annually, but more frequently if appropriate, by the CLA for container integrity and/or deterioration. The inspection will determine whether any corrosion, deterioration, or damage has occurred to the storage facility as a result of leaking chemicals. Leaking chemicals will be disposed of appropriately.

Monthly inventories of chemicals outside the storage area shall be conducted by the appropriate CLA. Unneeded items shall be properly discarded or returned to the storage area.

C. Chemical Handling

General precautions that must be followed for the handling and use of all chemicals are:

1. Skin contact with chemicals should be avoided whenever possible.
2. Employees and students shall wash hands prior to leaving the laboratory. Hand soap is provided at each sink.
3. Mouth suction for pipetting or starting a siphon is prohibited.
4. Eating, drinking, smoking, or application of cosmetics in the laboratory is prohibited.
5. Storage of food or beverage is not allowed in storage areas or refrigerators used for chemical laboratory operations.
6. Determination of risks shall be conservative in nature and substances of unknown toxicity shall be assumed toxic.
7. Any chemical mixture shall be assumed to be as toxic as its most toxic component.
8. Laboratory employees shall be familiar with the symptoms of exposure for the chemicals which they work with and the precautions necessary to prevent exposure.
9. In all cases of chemical exposure neither the Permissible Exposure Limits (PEL's) of OSHA or the Threshold Limit Values (TLV's) of the American Conference of Governmental Industrial Hygienists (ACGIH) shall be exceeded.
10. Engineering controls and safety equipment in the laboratory shall be utilized and inspected in accordance with guidelines established in the CHP.

11. Specific precautions based on the toxicological characteristics of individual chemicals shall be implemented as deemed necessary by the CHP.

D. Laboratory Equipment and Glassware

All chemicals and equipment shall be properly labeled (See Section G. Labeling). When working on a task work in a clean and uncluttered area. In addition, appropriate lab procedures will be followed but not limited to the following:

1. All laboratory equipment shall be used only for its intended purpose.
2. All glassware will be handled and stored with care to minimize breakage; all broken glassware will be immediately disposed of in the sharp objects container (includes razor blades, pins, scapulas, broken glass, etc.).
3. All evacuated glass apparati shall be shielded to contain chemicals and glass fragments should implosion occur.
4. Any experiment with the potential for explosion shall be shielded to contain chemicals and glass fragments.
5. Labels shall be attached to all original chemicals containers, identifying the contents and related hazards; all other containers should be labeled with the name of chemical, concentration, and formula, if appropriate.
6. Waste receptacles shall be labeled as such.
7. All laboratory equipment shall be inspected by the CLA's on a periodic basis and replaced or repaired as necessary.

E. Personal Protective Equipment

Safety glasses/goggles meeting ANSI Z87.1 are required for employees, students, and visitors to the laboratory and will be worn at all times when chemicals/glassware are being used or manipulated in the laboratory and when there is a need for eye splash protection. Chemical goggles and/or a full face shield shall be worn during chemical transfer and handling operations as procedures dictate. Chemical goggles shall be placed in the sanitizer after use.

Chemical resistant aprons/lab coats are provided and are available for student use.

Appropriate chemical-resistant gloves (see Appendix C) must be worn at all times when there exists the potential for skin contact with chemicals. Used gloves shall be inspected and decontaminated prior to use. Damaged or deteriorated gloves will be immediately replaced.

F. Personal Work Practices

All employees working in laboratories shall be trained on safe laboratory work practices and how to minimize risk in all laboratory procedures.

G. Labeling

All containers of hazardous chemicals must be correctly labeled as described below. Labels for stationary and portable containers will be provided by each department.

All hazardous chemicals and/or products shall be subject to the labeling requirements of the Hazard Communication Standard (see MCTC's Right to Know Program on the MCTC website). The use of unmarked containers will not be permitted.

Each original shipment container, portable container, and stationary process container shall include the appropriate hazard warning for each chemical, or mixture as a whole, based on the method of hazard determination [OSHA 29 CFR 1910.1200(d)(2)]. Specifically, each original, incoming container shall be labeled, tagged, or marked by the manufacturer/distributor with the following minimum information:

1. Trade name or chemical name given on the MSDS.
2. The appropriate hazard warning, including health, flammability, reactivity, and preferably, personal protective equipment data.
3. Name and address of the manufacturer, importer, or other responsible party.

Labels and other forms of warnings must be legible and prominently displayed. Existing labels on incoming containers shall not be removed or defaced unless the container is empty of its original materials.

Secondary containers (safety cans, plastic bottles, etc.) will be labeled with the chemical name, trade name if appropriate, and/or chemical formula. Hazard warnings (health, reactivity, flammability, PPE) are not required but may be used. Secondary containers containing solutions should be labeled with the date of preparation, solution concentration, and solvent.

Containers too small to label completely shall at least be labeled with the chemical formula, and/or chemical name (or trade name, if appropriate). The container shall be stored on or near a card (for example a 3"x5" card) containing information not found on the label.

Any bottle that is re-used shall have the original label removed and an appropriate label placed on it.

Chemical containers must be monitored by the CHO or designee to ensure that they are properly labeled. Incorrect labels must be corrected immediately.

Extremely hazardous materials should also be marked with a label identifying its extreme hazards. Questions regarding the need for special labeling should be directed to the CHO.

H. Compressed Gas Cylinders

Compressed gas cylinders are to be stored and maintained in a secure position (chain, roped up) at all times. Delivery of cylinders to Science Area shall be done by a trained individual (Minneapolis Oxygen). If cylinders are not in use after 4 weeks the cylinders must be capped.

VI. Criteria for Implementation of Control Measures

A. When to use fume hoods:

All employees using fume hoods must be trained on the appropriate use of fume hoods. Processes that have potential for generating hazardous airborne chemical concentrations should be carried out within the fume hood. Hoods should be used **whenever possible** to contain and exhaust toxic, offensive, flammable, carcinogenic, mutagenic, and/or teratogenic material/agents. Fume hoods will be tested annually for effectiveness and results forwarded to the CHO for documentation.

B. Personal protective measures:

Eye protection – Safety goggles or laboratory splash glasses must be worn by all personnel in the laboratory whenever hazardous chemicals are in use. **No Exceptions.**

Gloves – Gloves should be worn to protect the skin from chemical and physical (e.g., heat, cold) exposures.

Safety Shields – Safety Shields must be used where the possibility exists for laboratory scale detonation.

Other manipulation devices - Protective devices, such as long and short handled tongs for holding or manipulating hazardous items should be used whenever necessary.

C. When to institute special work practices:

Special work practices must be approved by the CHO. If extremely hazardous chemicals are to be used specific work practices and work locations must be designated.

VII. Material Safety Data Sheets (MSDS)

MSDSs and other reference information for all chemicals will be kept on file in the laboratory or building where they are used. It is the responsibility of the CLA to ensure that these MSDS files are maintained and updated.

MSDSs must be reviewed prior to working with any new chemical. In addition, review of MSDSs shall occur every 3 years for all other chemicals.

If MSDSs are sent or mailed directly to a chemical user, forward a copy to the Health and Safety Specialist for filing.

The MSDS Main Book is located in Public Safety and a searchable database can be found on MCTC's website at:

<http://www.minneapolis.edu/employees/ehs/msds.cfm>

VIII. Employee Information and Training

All laboratory personnel will be trained of the contents of "Occupational Exposure to Hazardous Chemicals in Laboratories," OSHA Standard 29 CFR 1910.1450. Employees will be provided with training to ensure that they are apprised of the hazards of chemicals present in their work area. Such training will be provided at the time of an employee's initial assignment to a work area where hazardous chemicals are present and prior to assignments involving new exposure situations. Refresher training will be provided annually.

Employee training will include:

- Methods and observations that may be used to detect the presence or release of a hazardous chemical.
- The physical and health hazards of chemicals in the work area.
- The measures employees can take to protect themselves from these hazards.
- The applicable details of the CHP.

Additional information and training will be available upon request through the Public Safety Department as well as training documentation.

IX. Medical Consultation and Examination

An employee who works with hazardous chemicals and develops symptoms associated with hazardous chemicals shall follow the First Report of Injury process and/or seek information from Human Resources.

An injury report must be filled out by the employee's supervisor. The injury report should then be forwarded to Human Resources.

X. Emergency Response/Chemical Spills

Employees should be familiar with the college Emergency Procedure Plan (available in Public Safety Department). This Plan contains emergency telephone numbers and spill response contacts for MCTC.

A. Non Emergency Spills – a spill that presents no hazard to employees or the environment.

1. Incidental release of a chemical substance where the substance can be absorbed, neutralized or otherwise controlled at the time of release by employees in the immediate area are not considered emergencies within the scope of the OSHA standard.
2. If necessary, contact Public Safety at 612-659-6910 and they will respond, assess and resolve the spill incident.

B. Emergency Spills – a spill that can present a hazard to people or the environment

1. Release of a chemical substance where the substance can NOT be absorbed, neutralized or otherwise controlled at the time of release by employees are considered emergencies within the scope of the OSHA standard.
2. Contact Public Safety immediately (612-659-6900) and 911, if deemed necessary.

3. Isolate spill area (if possible).
4. Evacuate others from spill area.

X. Restricted Access Area

The science labs, lab prep areas and adjacent offices are restricted access areas.

A. Access to Science Laboratories is restricted to:

1. Students whose course registration includes a science lab are permitted in the laboratory assigned to the course and under the supervision of the faculty member teaching the course or an approved faculty substitute.
2. Students registered in the Biotechnology Program, which includes open lab opportunity, are permitted in the lab during scheduled open lab times and under the direct supervision of the faculty and/or the College Lab Assistant 2.
3. All those personnel listed below who have access to the lab prep areas also are permitted in the science laboratories.

B. Access to the Science Laboratory Prep areas is restricted to:

1. The science faculty, responsible Dean, Science College Lab Assistants (CLA 1 and 2), work study students assigned to assist the CLA's, Student Worker Paraprofessional (SWPP), and persons with formal work orders carried out in the prep area or with essential science lab business (IT, Facilities, Public Safety, Sale rep's, etc.), and the person(s) designated to clean the prep areas.
2. Students in the Biotechnology Program taking coursework that requires instruction in laboratory safety and operations are permitted in the lab prep areas under the supervision of the faculty assigned to the coursework and/or the Biotechnology CLA 2.

XI. Waste Disposal

All general waste disposal procedures on the MSDS will be followed. If waste disposal procedures are unknown contact the CHO. All accumulated hazardous waste must be stored in the satellite storage area and be inspected weekly by the CLA's (see Appendix B). All waste containers must be labeled to indicate the contents of the container. Disposal of hazardous waste should be coordinated through the CHO.

Dissected waste must be put in the red/grey bins in the Biology prep area. The Biology CLA contacts Healthcare Waste Solutions for proper disposal.

XII. Review and Update

This CHP will be reviewed annually and updated by MCTC's Safety Committee.

Appendix A – New Chemical Request Checklist

After answering the following questions for new chemicals (3 years since previous order), give this form, requisition form and the Material Safety Data Sheet (MSDS) with synonym highlighted to Amy Hruska, Health & Safety Specialist, R.3100. Your request will be process as expeditiously as possible. Please allow a 48 hour turn around. To speed up the process please do not staple or double side MSDSs. After approval/disapproval it will be sent to the appropriate Dean/Supervisor with the requisition form. To find new chemicals that have been previously order look under New Chemical Request Checklist Submitted in the S drive.

1. Date: _____ 2. Person responsible for this chemical: _____

3. Name of chemical: _____ 4. CAS #: _____

5. Supplier: _____ 6. Catalog #: _____

7. Quantity to be ordered: _____

8. Will this chemical be used once or will it be ordered in an on going basis? _____

9. Specific location in which it will be stored: _____

10. Attach a current MSDS. Circle your answer to the following questions about the nature of this substance:

| | | | |
|--|-----|----|------|
| Is it a corrosive? | Yes | No | N/A* |
| Is it flammable? | Yes | No | N/A |
| Is it a oxidizer? | Yes | No | N/A |
| Is it water reactive? | Yes | No | N/A |
| Is it shock sensitive? | Yes | No | N/A |
| Does it form peroxides? | Yes | No | N/A |
| If ingested, inhaled or contacts skin, is it lethal? | Yes | No | N/A |
| Is it a known or anticipated human carcinogen? | Yes | No | N/A |
| Is it a known mutagen? | Yes | No | N/A |
| Is it a known teratogen? | Yes | No | N/A |
| Is it explosive? | Yes | No | N/A |

11. Describe any other health or physical hazards associated with this chemical: _____

| | | |
|---|-----|----|
| Is there a safer substitute available? | Yes | No |
| If yes, why would you not use it? _____ | | |

| | | |
|---|-----|----|
| Will it be used to react with others to produce additional chemicals? | Yes | No |
| If yes, what will the product(s) be? _____ | | |

12. Does this chemical/process create Hazardous Waste that MCTC will dispose of? Yes No

Approval To Purchase

Approval to purchase: Yes No Yes, with restrictions: _____

Signature of Health & Safety Specialist: _____

Signature of Dean/Supervisor: _____

**Not Available*

Last Revision Date: 1/26/2009
Next Revision Date: 1/26/2010

Appendix B - Satellite Storage Area Requirements/Weekly Inspection Log

Satellite Storage Area Requirements

1. Inspections must be performed every 7 days and documented on a weekly inspection log.
 - a. Ensure all containers are closed
 - b. Ensure all containers are labeled "Hazardous Waste"
 - c. Ensure all containers include a clear description of their contents
 - d. Ensure that adequate aisle space is maintained to allow the unobstructed movement of employees, fire protection equipment, spill control equipment, and decontamination equipment
2. When a satellite container is full mark the filled date on the container.
3. Ensure all full containers are transported to the Hazardous Waste Room within 3 days.
4. Separate incompatible hazardous wastes.

Appendix C – Glove Selection Chart

www://ehs.sc.edu/gloves.htm

The above guide was developed from information in several sources. The information presented here is believed to be accurate; however, we cannot guarantee its accuracy. Many factors affect the breakthrough times of glove materials including, but not limited to:

1. Thickness of glove material
2. Concentration of the chemical worked with
3. Amount of chemical the glove comes in contact with
4. Length of time which the glove is exposed to the chemical
5. Temperature at which the work is done
6. Possibility of abrasion or puncture.

This information is provided as a guide to proper glove material selection. Glove performance varies between manufactures, so always consult the manufacturer to make sure you will have the right glove for your application.

Appendix D

Chemical Hazardous Waste in the Laboratory/Classroom Rules for Safe Handling Information for Students

Products we use every day can be harmful to humans and the environment depending on their quantity, concentration, or physical, chemical or infectious condition when improperly treated, stored, transported, or disposed of, or otherwise managed. The Minnesota Pollution Control Agency (MPCA) regulates the generation, storage and disposal of hazardous waste.

You are responsible to properly handle the wastes you generate:

1. **Always** put the wastes in the designated and labeled hazardous waste containers. Your instructor will show you the proper location in the laboratory/classroom for each type of waste generated.
2. **Never** mix one type of waste with another.
3. **Never** dispose of hazardous waste using sinks, intentional evaporation, or as regular trash. It is harmful for the environment – and against the law. All campus laboratories and classrooms must abide by strict MPCA and federal Environmental Protection Agency waste disposal requirements. You may be held liable for violations of applicable laws.
4. **Immediately report** any spills to the instructor.
5. **Remember:** Simply because a waste is nonhazardous, does not mean that it can go into a dumpster or in a drain. Other regulations may still apply. Ask your instructor.

Examples of Hazardous Wastes

- Paint and thinners, some brake and carburetor cleaners, vapor degreasing and dry cleaning solvents, distillation bottoms, electroplating baths, sludges, related wastes and waste water treatment sludges.
- Specific industry process waste such as wood preserving, manufacture of pesticides, inks and organic pigments, explosives, petroleum refining and iron and steel industries.
- Toxic chemical products or spill residues (unused or unusable). Some types are defined as “acutely hazardous” because they can be fatal to humans, even in small doses.
- “**Acute** hazardous wastes” may cause severe health effects in small amounts. (These wastes contain more than 50 parts per million (ppm) polychlorinated biphenyls (PCBs).) For this reason, acute hazardous wastes have some special rules.
- “**Characteristic** hazardous wastes” exhibit characteristics such as ignitability, corrosivity, reactivity or toxicity (wastes containing hazardous contaminants above maximum allowable concentrations) or lethality.

Hazardous wastes may be generated in laboratory courses or technical courses, for example:

- Chemistry, Biology
- Carpentry
- Industrial Technology
- Welding Technology
- Automotive Technology
- Clinical Laboratory Science
- Photographic Imaging Technology
- Cosmetology

What hazardous wastes will I come in contact with in my academic program?

Your instructor will discuss specifics with you in class.

What happens to the waste after it is put in the labeled waste container?

Each type of hazardous waste is separately stored in a special container designed for that waste. Your classroom has containers for types of wastes you will generate in your academic program. From the classroom, the hazardous wastes are typically transferred to a holding spot on campus (“satellite accumulation center” and/or “central disposal storage location”). Eventually, it is disposed of by an authorized and licensed waste disposal facility. Each waste is separately disposed of in a way that prevents it from polluting our air, water and land.

Additional Resources

Campus Environmental Health and Safety Officer is

_____.

Campus Lab Chemical Hygiene Officer is

_____.

Minnesota Pollution Control Agency

<http://www.pca.state.mn.us/waste/index.html>

Hazardous Waste Compliance Guide

<http://www.pca.state.mn.us/publications/w-hw5-25.pdf>

Minnesota State Colleges and Universities

Hazardous Waste Management Plan and Additional Resources

<http://www.firecenter.mnscu.edu/ehs/environmental/documents/AppendixItoAnnexK.pdf>

Appendix F – Definitions

ACGIH – (American Conference of Governmental Industrial Hygienists) an organization open to all practitioners in industrial hygiene, occupational health, environmental health, or safety. ACGIH publishes over 400 titles in occupational and environmental health and safety. They are most famous for their Threshold Limit Values publication which lists the TLV's for over 700 chemical substances and physical agents.

CHO – (Chemical Hygiene Officer) an employee who is designated by the employer, and who is qualified by training or experience, to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan. This definition is not intended to place limitations on the position description or job classification that the designated individual shall hold within the employer's organizational structure.

CHP – (Chemical Hygiene Plan) a written program developed and implemented by the employer which sets forth procedures, equipment, personal protective equipment and work practices that are capable of protecting employees from the health risks presented by hazardous chemicals used in the workplace.

CLA – (College Lab Assistant) a civil service classification of an employee that works directly in the labs.

Employees - An individual employed in a laboratory workplace who may be exposed to hazardous chemicals in the course of his or her assignments. Examples included: SWPP, CLA, Work Study, Faculty, and Staff.

Extremely Hazardous Chemical - Are those materials that pose an unusual risk due to high toxicity, reactivity, and flammability. Examples include mutagens, carcinogens, and teratogens.

Hazardous – 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.

MSDS – (Material Safety Data Sheet) this contains details of the hazards associated with a chemical and gives information on its safe use.

NFPA – (National Fire Protection Agency) the leading authoritative source of technical background, data, and consumer advice on fire protection, problems and prevention. The primary goal of NFPA is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically-based consensus codes and standards, research, training, and education.

OSHA – (Occupational Safety & Health Administration) a federal government agency in the U.S. Department of Labor. The primary goals of OSHA are to save lives, prevent injuries and protect the health of America's workers.

PEL's – (Permissible Exposure Limit's) the maximum amount or concentration of a chemical that a worker may be exposed to under OSHA regulations.

Satellite Storage Area - A storage area at or near any point of generation where hazardous waste initially accumulates. This should be under the control of the employee of the process generating the waste.

Science Laboratories - A facility where laboratory use of hazardous chemicals occurs. It is a workplace where relatively small quantities of hazardous chemicals are used on a non-production basis. Examples include Physics, Chemistry, and Biology laboratories.

SWPP – (Student Worker Para Professional) – unclassified service professional student worker.

TLV's – (Threshold Limit Values) guidelines (**not** standards) prepared by the ACGIH to assist Industrial Hygienists in making decisions regarding safe levels of exposure to various hazards found in the workplace.

Weekly Inspection Log – A log of a satellite storage area that must be performed every 7 days and kept on file for 3 years. The inspection includes the proper storage and labeling of the substance.

Work Study – Students that work at MCTC while they study (specific to Biology/Chemistry for the CHP).