

Your Laboratory Specific Chemical Hygiene Plan

Washington Administrative Code (WAC) 296-828, Hazardous Chemicals in Labs, AKA the “Lab standard” requires each laboratory to implement a written Chemical Hygiene Plan (CHP) and designate a “Chemical Hygiene Officer” responsible for ensuring that the plan is followed.

WAC 296-828 outlines the requirements of the CHP for all laboratories that use hazardous chemicals. Washington State University Environmental Health and Safety has developed the Laboratory Safety Manual (LSM) and this Chemical Hygiene Plan Guide to assist you with developing a Chemical Hygiene Plan specific to your laboratory (**SPPM 4.12 Chemical Hygiene Plan for Laboratories**).

In order to complete your Laboratory Chemical Hygiene Plan follow these steps.

1. Complete the pages in this Guide to provide laboratory specific information including designating individuals responsible for specific activities.
2. Review and transfer any current information or resources from your previous CHP to the current version.
3. Ensure that there is easy access to the most current version of WSU’s Laboratory Safety Manual and your CHP for everyone that works or enters the laboratory. This can be done by:
 - Bookmarking the electronic version of the LSM on the EH&S website <https://tricity.wsu.edu/documents/2017/10/wsutc-laboratory-safety-manual.pdf> and use the CHP Guide provided here in an electronic format to create your lab-specific CHP.
 - Alternatively, add a paper copy of the completed CHP Guide to the front of your designated Laboratory Safety Manual binder that contains the most current print out of the electronic version and ensure it is in an easily identified location.
4. Familiarize yourself with the Table of Contents of the LSM. It has been developed to assist you to identify potential hazards that may need to be addressed. It also provides information that will help your laboratory run safely and efficiently.
5. Training is required and must be documented on your laboratory specific procedures including your CHP. An additional page is added to this guide to assist you with documenting that the training has been completed.

If you have any questions regarding chemicals, safety or your initial laboratory set up contact Scott Tomren, 372-7163.

Laboratory Chemical Hygiene Plan (CHP)

Building: _____

Room(s): _____

Principal Investigator (name): _____

Implementation Date: _____

Annual Review Date(s): _____

Responsibility for Chemical Hygiene and Safety

Laboratory safety responsibilities are outlined in Washington State University's Laboratory Safety Manual section I.D. Complete the following information for your Laboratory Specific Chemical Hygiene Plan (CHP).

Each CHP must designate a Chemical Hygiene Officer – the person who is primarily responsible for preparing and implementing the CHP. Typically, this is the Principal Investigator or lab supervisor.

The CHP must also identify the area it covers. It may be applied to a single room or a portion of a room, or it may apply to multiple adjoining rooms as long as the CHP is accessible to all laboratory personnel at all times.

Chemical Hygiene Officer: _____

Describe the area covered by this plan (room number(s) or location within a room):

Describe the typical activities and procedures performed in this area. Specify any activities which require prior departmental approval:

Chemical Purchasing, Storage, and Dispensing

See Laboratory Safety Manual section II.B for further information.

Purchasing

Authorization to purchase chemicals should be limited to select individuals, in order to prevent duplication of orders and accumulation of excess chemicals.

Identify the individual(s) authorized to purchase chemicals for the laboratory:

List any chemical(s) that require prior departmental and/or laboratory approval for purchase, due to specialized hazards, storage, or use requirements:

All chemicals used in WSU Tri-Cities laboratories will be delivered to the Copy/Mail Center, West Building Room 127

Inventory & Storage

Develop and implement an inventory control system to determine which chemicals are necessary to laboratory operation and which are not, reducing inventories of unneeded chemicals.

Update chemical inventories when new chemicals are procured, when chemical stocks are consumed, or old chemicals are removed from the laboratory. Chemical inventories must be updated at least annually, and a copy provided to WSUTC EH&S.

Describe the location of your physical and/or digital chemical inventory system:

Each laboratory shall designate an individual responsible for:

1. Ensuring chemicals delivered include adequate identifying labels (identity, hazard information, and manufacturer), and are not leaking
2. Maintaining a complete inventory of chemicals in the laboratory, including identification of compounds which require special controls or surveillance (i.e., DHS Chemicals of Interest, Select Agents, Carcinogens, Pyrophorics, or peroxide formers).

3. Ensuring proper storage of chemicals, including concern for hazard, compatibility, and secondary containment.

Identify the individual(s) responsible for maintaining the chemical inventory and chemical storage for this Laboratory:

Dispensing

Chemicals shall be delivered to, dispensed from, and used within the same laboratory. No chemicals will be stored in another location and dispensed or picked up for use in the laboratory, without prior arrangement and approval by EHS.

Secondary Labeling System

WSU's Laboratory Safety Manual section II.H provides information on labeling requirements.

The primary labeling for chemical containers is the original manufacturers' labeling system. It shall be readable (in English), maintained in good condition, and replaced if it becomes missing/damaged/unreadable.

Secondary containers filled from the primary chemical container require labels (in English) so that occupants will be aware of the contents of the container. In the event of an emergency, such as a chemical spill, clear legible labels will enable responders to take action more efficiently.

Secondary containers are required to be labeled with:

- chemical or common name
- hazard warning (HMIS system or equivalent)

Alternative labeling systems are allowed if labeling the container itself is impractical or unreasonable (e.g. containers too small and numerous, such as test tubes/vials). Alternative methods include wire tags, labels attached to test tube racks, walls, shelves, etc. Abbreviations may be used if a poster with the full chemical name identifying chemical hazards associated with the abbreviation is prominently displayed.

If an alternative method of labeling (tags, shelf labels, etc.) is used please describe it below:

Identify the individual(s) responsible for ensure all labeling is completed in this laboratory:

Name

Title

Name

Title

Name

Title

Safety Data Sheets (SDSs)

Information on Safety Data Sheets is provided in WSU's Laboratory Safety Manual section II.M.

Safety Data Sheets are documents provided by chemical manufacturers describing the physical and health hazards and other information pertaining to hazardous chemicals (and trade name products) used in your laboratory. They must be accessible to all employees on all work shifts.

Describe where current SDSs can be found for the chemicals used in your laboratory, and identify the person responsible for obtaining and maintaining SDSs:.

Web address for Online SDSs (if applicable):

Location of hard copies of SDSs:
(building, room number, and description of binder)

- Hard copy SDSs are not required, though it is necessary all laboratory employees know where digital copies are maintained and how to access them at all times. Note: Simply indicating that SDSs are available from the manufacturer website is *not* permissible.
- If you produce chemicals in the laboratory for users outside the laboratory, an SDS for the chemical will need to be created per WAC 296-901-14014, **Safety Data Sheets**. Contact EH&S for assistance.

Name of person responsible for maintaining SDSs for this lab:

Name

Title

Standard Operating Procedures for Hazardous Substances

WSU's *Laboratory Safety Manual section IV.C* provides direction on creating and documenting SOPs. EH&S makes *SOP Templates* available for use by WSU laboratories if needed.

Standard Operating Procedures (SOPs) must be prepared for all procedures involving hazardous substances, defined as: *A chemical which is classified as posing one of the following hazardous effects: Acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard; or simple asphyxiant.* Laboratory specific procedures shall also be prepared identifying controls for physical hazards such as fire, explosion, over pressurization etc. if those hazard controls are not already identified in your Accident Prevention Program.

- SOPs are crucial in defining additional employee protection needed for select carcinogens, reproductive toxins, and chemicals with high degree of acute toxicity (formerly referred to as particularly hazardous substances). Additional protection includes exposure control areas, containment devices (fume hoods or glove boxes), and decontamination procedures.
- SOPs shall also include descriptions of circumstances when specific laboratory operation, activity, or procedure requires prior approval from the PI or their designated representative.
- SOPs for hazardous substances are considered part of the CHP and copies should be kept with the laboratory's CHP.

Describe where SOPs are stored:

Name of person responsible for developing and maintaining SOPs for this lab:

Name

Title

Chemical Spills

If there is a danger to life and health, or when a large spill has occurred, call 911

Employees can clean-up minor chemical spills ONLY when all of the following conditions are met:

- The chemical is known and the spill can be cleaned-up in ten minutes or less.
- Employees are trained to safely clean-up chemical spills.
- Employees can wear the same personal protective equipment that they wear during normal work activities.
- Appropriate clean-up supplies are readily accessible.
- The chemical does not have a Ceiling Limit listed in WAC 296-841 and it cannot create an Immediate Danger to Life and Health (IDLH) atmosphere. IDLH information can be found in the NIOSH Pocket Guide to Chemical Hazards.
- Clean-up materials are disposed of per SPPM 5.66

If ALL of these conditions are not met, evacuate the spill area and call 372-7234 for assistance.

Person(s) who have completed EHS' small spill cleanup training:

Name

Title

Name

Title

Name

Title

Mercury Spills

Employees cannot clean-up mercury spills. EH&S must respond to all mercury releases.

Recommended Spill Clean-Up Kit

Each laboratory should assemble a chemical spill clean-up kit consisting of:

- Personal protective equipment normally worn during routine work
- Absorbent pads
- One-gallon Ziploc bags
- Dust pan and brush
- Duct tape
- Five-gallon bucket with lid

The five-gallon bucket can be used to store spill clean-up materials and then can store contaminated items, such as gloves and absorbent pads, used during the clean-up. Once the spill is cleaned up the bucket must be closed and labeled as Dangerous Waste.

Location of Chemical Spill Kit: _____

Individual responsible for
maintaining spill kit(s): _____

Regulated Hazardous Substances

WSU's *Laboratory Safety Manual Appendix V.B* provides additional information on regulated hazardous substances that have specific rules.

In addition to WAC 296-828, **Hazardous Chemicals in Laboratories**, some hazardous substances have their own individual rules which apply when using those substances in the workplace. If you use any of the substances listed in the table below, you should be familiar with the rule for that substance as they may contain additional provisions for employee exposure protection. Contact EH&S at 509-372-7163 for assistance.

Specified Washington State Regulated Hazardous Substances	
<ul style="list-style-type: none"> • Acrylonitrile • Arsenic (inorganic) • Asbestos • Benzene • Butadiene • Cadmium • Coke ovens • Cotton dust • 1,2-Dibromo-3-chloropropane • Ethylene oxide • Formaldehyde • Hexavalent chromium • Lead • Methylene chloride • Methylenedianiline • Thiram 	<ul style="list-style-type: none"> • Vinyl chloride • Ionizing radiation • 4-Nitrobiphenyl • Alpha-Naphthylamine • 4,4'-Methylene bis (2-chloroaniline) • Methyl chloromethyl ether • 3,3'-Dichlorobenzidine (and its salts) • Bis-chloromethyl ether • Beta-Naphthylamine benzidine • 4-Aminodiphenyl • Ethyleneimine • Beta-Propiolactone • 2-Acetylaminofluorene • 4-Dimethylaminoazobenzene • N-Nitrosodimethylamine

Washington State Regulated Hazardous Chemical Classe	
<ul style="list-style-type: none"> • Listed or Specific Carcinogens • Select Carcinogens* 	<ul style="list-style-type: none"> • Reproductive Toxins • Compounds with high acute toxicity

* Select Carcinogens include any compounds:

- regulated by DOSH as carcinogens
- Listed as “Known to be carcinogens” by the National Toxicity Program (NTP)
- Listed in Group IA, 2A, or 2B in IARC monographs, or
- Listed as “Reasonably anticipated to be carcinogens by the NTP

If this laboratory uses any of the chemicals listed on the previous page, please list them here:

Additional requirements and procedures are required for use of any of these compounds.
Contact EHS for assistance.

Site Specific Ventilation Information

*WSU's **Laboratory Safety Manual section III.C** describes fume hood certification, general ventilation, and maintenance and repair requirements for WSU facilities.*

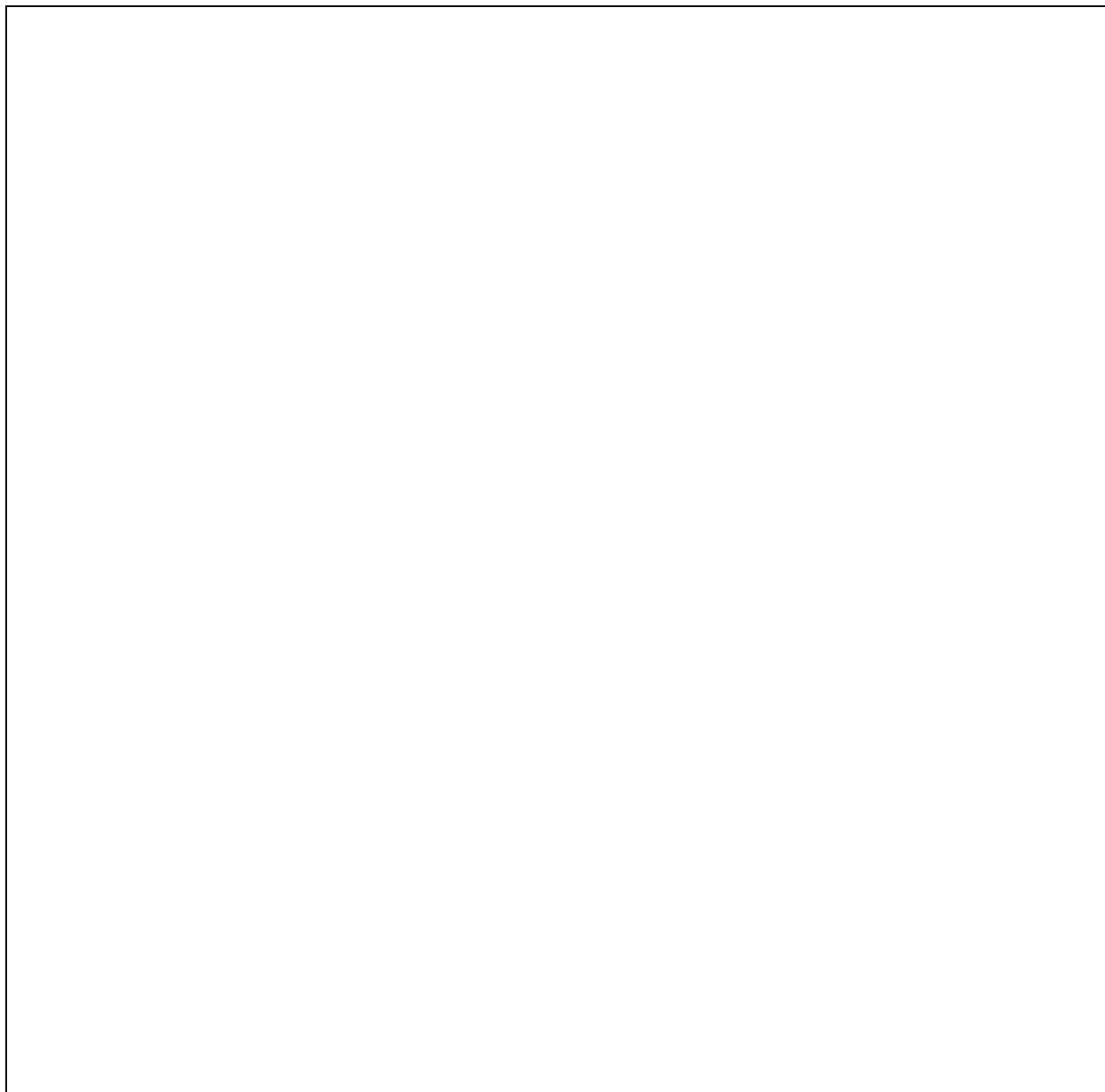
In order to protect employees and keep exposure levels below those in **WAC 296-841**, specific measures may need to be taken to ensure fume hoods and other protective equipment in your laboratory provide proper and adequate performance and are properly functioning.

Describe any additional ventilation requirements or usage in your laboratory (i.e. fume hood sashes must be left open at all times, snorkel procedures, clean benches procedures):

Diagram of Laboratory Layout

*WSU's **Laboratory Safety Manual section III.A** provides information on how to create a laboratory floor plan and provides an example. Additionally, EH&S can provide you with a scaled building plan section of your laboratory room(s) to help you create the floor plan in lieu of sketching it. Contact EH&S at 509-372-7163 for more information.*

Floor plans must indicate the location of safety equipment and other features such as emergency washing facilities, first aid kits, fume hoods, biosafety cabinets, flammable storage cabinets, refrigerators, local exhaust units, fire extinguisher, control areas and hazardous substance storage and use areas.



Employee Training

*WSU's **Laboratory Safety Manual section II.J** provides detailed information on employee training and the PI or Laboratory Supervisor's responsibilities.*

Describe the lab-specific training requirement(s), including content and frequency, which will ensure that employees are informed of information specific to the hazards associated with the employee's assignment and work area, use of hazardous substances, and details of the laboratory Chemical Hygiene Plan and Standard Operating Procedures.

Identify the person responsible for providing training for this laboratory:

Name

Title

All training must be documented upon completion, and records retained by the department.