

## CHEMICAL HYGIENE PLAN

1. In order to meet the requirements set forth at WAC 296-828 for using hazardous chemicals in laboratories all elements of the Whitman College Chemical Hygiene Plan (Plan) is documented in this Laboratory Safety Notebook (Notebook). Each laboratory<sup>1</sup> must provide unique information to make the Notebook specific to the space(s), chemicals and procedures covered. This information must be kept as an integral part of the Notebook. At a minimum each Notebook must contain:
  - designation of the person(s) responsible for implementation of the Plan in the laboratory
  - location covered by the Plan
  - standard operating procedures for use of hazardous chemicals
  - designated hazardous chemical/equipment use area provisions
  - provisions for employee information, training, and medical monitoring and examination
  - evaluation criteria used to identify and reduce exposure to laboratory hazards
  - prior approval provisions for special laboratory projects
  - Additional protective measures for use of select carcinogens, reproductive toxins, and chemicals with high degree of acute toxicity
    - exposure control areas (if applicable)
    - containment devices such as fume hoods or glove boxes
    - dangerous/contaminated waste accumulation and removal
    - decontamination procedures and equipment
  - fume hoods and other protective equipment use and maintenance
  - safety equipment (emergency shower/eye wash, fire extinguisher, etc.)
  - Plan review, evaluation and update procedure(s) and schedule
    - Review required at least annually
    - Update required prior to implementing new procedure(s) or when new equipment is put into service
2. The Notebook must be readily available to all employees and students in the laboratory. The term "readily available" means accessible to all laboratory staff at any time during the work period, day or night. It must also be available upon request to Environmental Health and Safety (EHS) staff and Washington State Division of Safety and Health (DOSH) representatives.
3. The "laboratory" for which the Notebook is applicable may be adjoining rooms, a single room or an area within a room as long as the definition of "readily available," as stated above is met. The spatial definition of a "laboratory" is left to the discretion of the individual who will ultimately take responsibility for the safety of all employees who work within that area. The designated responsible person must be a Whitman College faculty or staff member having supervisory authority<sup>2</sup> over all space(s) where the Notebook is applicable.
4. The Whitman College Chemical Hygiene Officer is Fred Miller, Manager, Environmental Health and Safety.

---

<sup>1</sup> "Laboratory" includes chemical stock/prep rooms, instrument rooms, teaching laboratories, research laboratories, field camps and research locations, animal care and use facilities, and art studios.

<sup>2</sup> Teaching labs and other shared spaces such as instrument rooms are the responsibility of the Department Chair, or, in the case of a space shared by multiple departments, the Division Chair.

## **Duties**

The Principle Investigator or other faculty/staff assigned management responsibility for the laboratory is responsible for ensuring the following:

- Provide employees Chemical Safety Training (detailed below)
- Ensure employees are familiar with the contents of the Plan
- Inform employees about the presence of hazardous chemicals at the following times:
  - At the time of initial assignment to a work area where hazardous chemicals are present
  - Prior to situations involving a new exposure to hazardous chemicals
- Train employees on all of the following:
  - Methods and observations for detecting the presence or release of hazardous substances  
Examples of these methods and observations may include:
    - Monitoring methods and devices
    - Visual appearance or odor of hazardous chemicals when being released
  - The physical and health hazards of chemicals in the work area
  - The procedures and measures employees can use to protect themselves from hazardous substances. Examples of these include:
    - Appropriate work practices
    - Emergency procedures
    - Personal protective equipment
- Provide refresher training as required
- Provide information to employees on all of the following:
  - The contents of this plan and its location (i.e. Manual, EHS web site)
  - Permissible exposure limits found in chapter 296-841 WAC, Respiratory hazards
  - Any recommended exposure levels for compounds without an exposure limit in the WISHA rules  
Examples include:
    - The PELs found in the National Institute for Occupational Safety and Health (NIOSH) NIOSH Pocket Guide to Chemical Hazards 2004; or
    - The American Conference of Governmental Industrial Hygienists (ACGIH®) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs), 7th Ed
  - Signs and symptoms associated with exposures to hazardous chemicals used in the laboratory.
  - Where to find a copy of:
    - Safety data sheets (SDSs), including those received from the chemical suppliers
    - Reference material on the hazards, safe handling, storage, and disposal of hazardous chemicals found in the laboratory
- Ensure student activities in the laboratory are conducted in a manner which comports with the Plan

The Chemical Hygiene Officer is responsible for ensuring the campus Plan is up to date and disseminated to using departments, for providing advice and assistance completing their Plans for individual laboratories, providing health and safety training for faculty and staff, managing dangerous wastes generated by laboratories, and communicating emergent information relevant to health and safety.

**General Information**

The laboratory covered by this Plan is located at:

Building Name \_\_\_\_\_

Physical Address (off-campus only)

Street<sup>3</sup>: \_\_\_\_\_ Suite/Apt: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Responsible Person: \_\_\_\_\_

Office: \_\_\_\_\_ Phone: \_\_\_\_\_

Notebook storage location or access instructions

\_\_\_\_\_  
\_\_\_\_\_

Review (annual review required)

Date	Initials

\_\_\_\_\_  
<sup>3</sup> Field location without assigned address use GPS coordinates

**Hazardous Chemicals**

Hazardous chemicals present in this laboratory     see list below     see attached

---

---

---

---

**Chemical Hazard Information**

Safety Data Sheets for hazardous chemicals present in this laboratory can be accessed at (enter location of hard copies or instructions for accessing electronic version)

---

---

---

---

**Chemical Safety Training**

All hazardous chemicals in this laboratory will be used in accordance with the procedures included in this Notebook. Before using a chemical ensure you're familiar the procedure(s) you're going to conduct, its properties, appropriate uses, necessary personal protective equipment (PPE), and other requirements and restrictions attendant thereto. Unauthorized experiments are not permitted in the laboratory. Take the following steps before beginning work:

- Familiarize yourself with the location and operation of necessary apparatus, glassware, and safety equipment
- Determine whether Dangerous Waste will be generated as a result of your work and ensure proper waste container(s) having sufficient capacity are present
- Obtain and use necessary PPE
- Ensure fume hoods are working properly and within certification date
- Read the Safety Data Sheet (SDS) or equivalent reference for each chemical and make certain you understand its hazards before using it for the first time
- Consider whether you should use the necessary chemical(s) due to existing medical condition or other factors which might make you extraordinarily susceptible to the hazards associated with exposure
- Ensure the work area is free of hazards and equipment is in good working order
- Use only clean and sound glassware, tubing and consumable supplies
- Remove unnecessary chemicals and equipment from the work area

## **Spills**

Immediately evacuate the laboratory and **call 911** in the event of a spill which creates an immediate danger to the life or health of employees or students. More detailed instructions are given below.

Small spills of a few milliliters or grams often occur during experiments. If liquid spills can be cleaned up using two or three paper towels (generally 10 ml or less) the present little hazard to the worker. If you spill more than 10 ml of a hazardous chemical you must immediately suspend work and report the incident to your supervisor. Warn others in the laboratory to avoid the spill. If the chemical presents an inhalation hazard (i.e. halogenated solvent, concentrated ammonia) warn others and evacuate the room. Environmental Health and Safety should be notified immediately of such spills. Faculty and staff may attempt to clean up their own spills if in their professional judgment it can be accomplished without endangering themselves or others using normal PPE, and cleanup can be accomplished within 10 minutes. Larger and more hazardous spills require cleanup by personnel trained in accordance with WAC 296-824, Emergency Response. Small and low-hazard spills of solid materials may be conducted by laboratory staff within the time and PPE limits described above.

In case of a spill which endangers the life or safety of any person:

- Immediately warn others in the area
- Evacuate the impacted space
  - For spills having the potential to impact persons outside the laboratory
    - Warn others to evacuate immediately
    - Exit the building
    - Activate the building fire alarm by using the pull station adjacent to the door you exit
    - Stand by in a safe location so you may provide information regarding the release to emergency response personnel
    - If you are instructing a class ensure your students are accounted for and stay with you until released by emergency responders
  - For spills confined to the laboratory
    - Warn others to evacuate immediately
    - Exit the laboratory and close the door(s)
    - Immediately contact Whitman Security at 529-5777
    - Stand by in a safe location so you may provide information regarding the release to emergency response personnel
    - If you are instructing a class ensure your students are accounted for and stay with you until released by emergency responders
  - For spills in outdoor locations
    - Warn others to evacuate the area immediately
    - Small spills may be cleaned up following the same guidelines as in the laboratory
    - Larger spills and any spill which impacts surface water (enters a storm drain or waterway)
      - Evacuate the immediate area and retreat to a safe distance
      - Immediately notify Whitman Security at (509)527-5777. If you cannot immediately reach Whitman Security contact the local authorities by calling 911.