

# ATAMI Laboratory Guidelines and Chemical Management

An outline of laboratory guidelines, chemical management, and chemical waste instructions can be found on the following pages. Lab responsibilities include regular upkeep of: Lab-Specific Chemical Hygiene Plan (LCHP), chemical inventory forms, safety data sheets (SDS), training, and online chemical inventory.

**Required documents/information are to be kept in the following locations:**

- Laboratory binder:
  - Printed Safety Data Sheets
  - Printed lab worker training records
- Box folder:
  - Lab-Specific Chemical Hygiene Plan (LCHP)
  - Chemical inventory forms
  - Electronic Safety Data Sheets (SDS)
- Online chemical inventory system:
  - Chemical names and quantities

# Laboratory Guidelines and Responsibilities

Lab requirements are as follows:

1. Implement a Lab-Specific Chemical Hygiene Plan (LCHP) for the lab. The LCHP should include:
  - a. Job hazard assessment
  - b. PPE recommendations
  - c. Laboratory specific standard operating procedures (SOP)
    - A template for the LCHP can be viewed at <http://oregonstate.edu/ehs/chp>
    - For reference the ATAMI LCHP can be viewed at <http://oregonstate.edu/ehs/MBICHP>
2. Maintain chemical inventory (further instructions provided in 'ATAMI Chemical Management' section below):
  - a. Chemical inventory forms
  - b. Chemical Safety Data Sheets (SDS)
  - c. Online chemical management
3. Ensure all lab users are properly trained, including documentation indicating that they have:
  - a. Read and understand the LCHP
  - b. Completed the required training and quizzes\*

## INTERNAL (OSU) PI and USERS:

- i. Hazardous Waste Training and Quiz (renewal required every 12 months)
  - <http://ehs.oregonstate.edu/training/hazwaste>
- ii. Laboratory Safety Training and Quiz (renewal required every 36 months)
  - [http://ehs.oregonstate.edu/training/lab\\_safety\\_training](http://ehs.oregonstate.edu/training/lab_safety_training)
- iii. Hazard Communication Training and Quiz (renewal required every 36 months)
  - <http://ehs.oregonstate.edu/hazard-communication-global-harmonizing-system>
- iv. OSU Fire Extinguished Training and Quiz (renewal required every 36 months)
  - <http://ehs.oregonstate.edu/osu-fire-extinguisher-use>
- v. ATAMI Chemical Training and Quiz (renewal required every 36 months)
  - Training - [https://media.oregonstate.edu/media/t/0\\_zpa45nf2](https://media.oregonstate.edu/media/t/0_zpa45nf2)
  - Quiz - [http://oregonstate.qualtrics.com/jfe/form/SV\\_cBUzQeiyEHLRsyN](http://oregonstate.qualtrics.com/jfe/form/SV_cBUzQeiyEHLRsyN)

## EXTERNAL PI and USERS:

- i. Hazardous Waste Training (renewal required every 12 months)
    - [https://media.oregonstate.edu/media/t/0\\_izqrgwk5](https://media.oregonstate.edu/media/t/0_izqrgwk5)
  - ii. Laboratory Safety Training (renewal required every 36 months)
    - <https://media.oregonstate.edu/media/labsafety>
  - iii. Hazard Communication Training (renewal required every 36 months)
    - [https://media.oregonstate.edu/media/t/0\\_kzb4mtwl](https://media.oregonstate.edu/media/t/0_kzb4mtwl)
  - iv. OSU Fire Extinguisher Training (renewal required every 36 months)
    - [https://media.oregonstate.edu/media/t/0\\_5stzakof](https://media.oregonstate.edu/media/t/0_5stzakof)
  - v. External User 4-Part Safety Quiz (renewal required every 36 months)
    - [http://oregonstate.qualtrics.com/jfe/form/SV\\_5hc9FnaWWNYtpSI](http://oregonstate.qualtrics.com/jfe/form/SV_5hc9FnaWWNYtpSI)
  - vi. ATAMI Chemical Training and Quiz (renewal required every 36 months)
    - Training - [https://media.oregonstate.edu/media/t/0\\_zpa45nf2](https://media.oregonstate.edu/media/t/0_zpa45nf2)
    - Quiz - [http://oregonstate.qualtrics.com/jfe/form/SV\\_cBUzQeiyEHLRsyN](http://oregonstate.qualtrics.com/jfe/form/SV_cBUzQeiyEHLRsyN)
- c. Completed SOP training, including training procedure/topic

\*Training records are to be kept in an organized fashion and made available to OSU EH&S upon request.

# ATAMI Chemical Management

## Bringing Chemicals to ATAMI

When planning to bring new chemicals into ATAMI, (i.e., chemicals not already listed in your inventory), follow this sequence of actions:

- Complete a chemical inventory form for the new chemicals. The chemical inventory form can be found in the SDS folder on BOX.
  - <https://oregonstate.app.box.com/files/0/f/13792580333/Administration>
- Obtain electronic copies of the new chemical SDSs
- Submit chemical inventory and SDSs to:
  - Neill Thornton, ATAMI Chemical Safety Officer, [neill.thornton@oregonstate.edu](mailto:neill.thornton@oregonstate.edu)
  - OSU Environmental Health and Safety, [kent.lanning@oregonstate.edu](mailto:kent.lanning@oregonstate.edu)
- Save the inventory form and the electronic SDSs in your lab's SDS folder on BOX
  - <https://oregonstate.app.box.com/files/0/f/11705747148/SDS>
- Print out paper copies of the SDSs and add them to the SDS binder for your lab space.
- EHS will reply if specific restrictions or instructions on handling or disposal are necessary.
- Order your chemicals.

The inventory form does not need to be completed for replenishing stock to comparable inventory levels. Significant increases in quantities, however, should be reported using the form.

## OSU Online Chemical Inventory Management

When receiving chemicals, either new to your lab or additional quantities of chemicals already in use, follow this sequence of actions:

- Upon receipt, add chemicals or update quantities to your lab's OSU online inventory (<http://oregonstate.edu/ehs/cheminv>). Maintain accuracy of the inventory to the size and quantity of chemical containers. Instructions on using the OSU Chemical Inventory are posted here <http://oregonstate.edu/ehs/sites/default/files/pdf/EnteringChemicalInventory.pdf>
- Reconcile OSU online inventory with physical inventory through quarterly audits. Adjust OSU online inventory quantities and remove any chemicals no longer present. Unwanted chemicals can be disposed of by completing a chemical waste pickup request (<http://oregonstate.edu/ehs/waste>)
- Remove SDSs for chemicals no longer in inventory from both your lab's SDS folder on BOX and from the binder in your lab.

# Chemical Waste Disposal

All liquid chemical wastes go into compatible, sealable containers. Sealed containers are then to be placed within secondary containment. Contaminated solids (e.g., wipes, gloves, etc.) are to go in wide mouth sealable jars. Some containers are provided on the supplies racks. Defaced, relabeled, original reagent containers may also be used.

All chemical waste containers must be labeled with contents and percentages of constituents. In some instances this may require logging additions to the waste container and calculating final percentages once the container is full. Complete an online Chemical Waste Pickup request to have your waste retrieved (<http://oregonstate.edu/ehs/waste>). Follow the instructions provided through the request form to prepare your waste for pickup. Non-OSU entities should enter "ATAMI" for the Department. Note that EH&S provides large reusable containers for collection of certain liquid chemical wastes. Some wastes will be removed from your lab by EH&S; some will be removed by waste contractor during annual scheduled pickup.

## **Hazardous Versus Non-hazardous Labeling**

Certain chemical wastes can be labeled as non-hazardous (white label). OSU EH&S maintains a list of these on their website (<http://oregonstate.edu/ehs/hmgnonhaz>), and is reproduced here:

- Acetates: Ca, K, Na, K, Mg, NH<sub>4</sub>
- Naturally occurring amino acids & salts
- Citric acid and salts of Na, K, Mg, NH<sub>4</sub>, Ca
- Bicarbonates: Na, K
- Borates: Na, K, Mg, Ca
- Bromides: Na, K, NH<sub>4</sub>
- Carbonates: Na, K, Mg, Ca, NH<sub>4</sub>
- Chlorides: Na, K, Mg, Ca, NH<sub>4</sub>
- Formates: Na, K, Mg, Ca, NH<sub>4</sub>
- Lactic acid and salts of Na, K, Mg, NH<sub>4</sub>, Ca
- Sugars and sugar alcohols
- Starch
- Iodides: Na, K, Ca
- Oxides: B, Mg, Ca, Al, Si, Fe, Zn
- Phosphates: Na, K, Mg, Ca, NH<sub>4</sub>
- Silicates: Na, K, Mg, Ca
- Sulfates: Na, K, Mg, Ca, NH<sub>4</sub>

Label solids as non-hazardous, seal in cardboard box, label the box as "nonhazardous chemicals" and schedule a Chemical Waste Pickup, as described above. EH&S can also pick up nonhazardous liquid chemical waste during a scheduled pickup.

All other chemical waste should be labeled as hazardous waste (yellow label).

## **Empty Chemical Container Disposal**

Empty chemical containers can be disposed if functionally empty, meaning, "empty by typical means". Prior to disposal the labeling must be defaced. Plastic containers may be disposed of in the trash. To dispose of glass containers, box them in a cardboard box and label the box "glass for disposal", and complete a chemical waste pickup request (<http://oregonstate.edu/ehs/waste>).

Exceptions:

- Acutely hazardous material containers must be disposed of as hazardous waste. Appendix A has the list of acutely hazardous materials.
- Solvent containers must be completely dry before they can be disposed of.
- Metal cans are reclaimed. Deface the labels completely and label as "Empty". Ensure they are completely empty and dry, remove lids, and place in northeast corner of the building for EH&S pickup.
- Aerosol cans are considered hazardous waste when disposed. Place in the designated receptacle in the northeast corner of building for EH&S pickup.