Getting Started: A Guide for New PIs

Laboratory Safety

The Laboratory Safety Requirements below apply to all OSU research, teaching, and support spaces that use or store hazardous materials or equipment (such as a lab, shop, mechanical room, art studio, etc.); the requirements have been approved by the OSU Executive Compliance Committee and the OSU Provost’s Council.

Supervisor and PI Responsibilities

OSU Principle Investigators (PI’s) are required to register labs, personnel, and their chemical inventory with Environmental Health & Safety (EH&S). Registration can be done at http://my.ehs.oregonstate.edu/qualtrics/pi-registration. PIs are also responsible for maintaining safe working conditions, ensuring worker safety training, communicating hazards associated with their space and maintaining an annual up-to-date chemical inventory.

EHS Assistant for Lab Safety

After PI’s register with EH&S, they will be set-up in the EH&S Assistant (e.g. EHSA) Program. The program is designed to assist with regulatory compliance and should be used as a tool to enter and update your chemical inventory, register lab rooms and employees, view employee-training records, and mark off completed deficiencies. Link to EHSA

Chemical Inventory:

All OSU groups that use or store chemicals must maintain an up-to-date chemical inventory in the EHSA online inventory system. Information regarding what must be included and excluded from your chemical inventory can be found on the Chemical Inventory Guidelines Safety Instruction.

Lab-Specific Chemical Hygiene Plan (L-CHP) and Standard Operating Procedures (SOPs)

Each Laboratory Supervisor/Principle Investigator (LS/PI) must develop and maintain their own L-CHP, which should contain lab-specific SOPs. The L-CHP Template can be used as an aid in creating your own plan. EH&S suggests keeping both an electronic copy and a hard copy of the LCHP in your Laboratory Safety Resources Binder.

Chemicals, equipment, and processes identified as particularly hazardous or high risk require a lab-specific SOP. SOPs should be reviewed by all employees in the laboratory. An SOP template is available at our SOP template library page.
Safety Training

Both initial and refresher training is required for each employee. All lab employees will require the minimum three required trainings: Laboratory Safety Training, Safety Data Sheets/GHS, and Hazardous Waste Training. Additional training may be required based on lab practices or contents. More information on training can be found on the EH&S training page.

You can keep track of all your employee’s EH&S required trainings through the EHSA Program. Be sure to add/remove all employees into the system so training can be recorded properly.

PIs and supervisors should augment an employee’s training with additional lab-specific training materials tailored to their unique work (i.e. acid washing, etc.). The Employee Training Documentation Form can be used to assist with documenting lab-specific training.

Lab Safety Resources Binder

OSU EH&S provides a Lab Safety Resource Binder to assist Lab Supervisors and Principle Investigators (LSs/PIs) in meeting safety and regulatory goals. The binder should be kept in a central location within the lab so employees can have easy access to find required safety information, including your lab-specific Chemical Hygiene Plan, training documents, job hazard assessment, SOPs, etc.

If a binder is needed, please contact EH&S. An electronic version of the Lab Safety Resources Binder is also available at http://ehs.oregonstate.edu/lab_safety

Access to Safety Data Sheets (SDSs)

All employees who work in labs/shops/spaces on campus that contain chemicals or other hazardous materials must have access to SDSs (or MSDSs). If your lab/shop/space has computer and internet access within, you may use OSU’s MSDS online program to access SDSs for your hazardous materials. If no internet access is accessible, hard copies must be available in the space.

Lab Hazard Sign(s)

Every laboratory room, teaching lab, workshop, chemical storage room, and space with materials not commonly found in an office requires a lab hazard sign at each entrance. The signs are produced by EH&S, but it is the responsibility of laboratory personnel to provide information to keep the sign up-to-date. A Lab Hazard Sign can be requested here: http://ehs.oregonstate.edu/LabHazSign. If no hazards are present, you can also request a Notice Sign that still denotes emergency information/contact info.

Assessments: Laboratory and Hazardous Waste
EH&S conducts official lab assessments on a 1-3 year plan based on OSU’s building list and associated lab/shop hazard rankings. Deficiencies noted during an assessment should be completed in a timely manner; priority items are required to be completed in a 30-day period and necessitate a follow-up. The EH&S hazardous waste team conducts periodic hazardous waste inspections. These inspections are not scheduled. EH&S will conduct a laboratory consult of your space upon request as well; no official report is generated during these consults.

Lab Set-up Tips

Equipment

- **Fume Hoods**: EH&S annually inspects all laboratory fume hoods on campus. Before using a fume hood, ensure that the hood has been inspected within the year (see the sticker on the fume hood). If the hood is not working properly, notify EH&S and Facilities Services (contact info at end of document).
- **Eyewash & Safety Showers**: EH&S annually inspects all emergency safety showers. Lab personnel are required to conduct and document inspections of eyewashes on a weekly basis. A copy of the “Emergency Eyewash/Drench Hose Inspection Record” is available in the Lab Safety Resources Binder and online: Eyewash & Safety Shower Safety Instruction. If your eyewash or shower does not work properly, please notify the OSU Fire and Life Safety Specialist (contact info at end of document).
- **Autoclaves**: Autoclaves need periodic testing to ensure proper functioning. If your lab requires the use of a new autoclave, be sure to enroll in the autoclave testing program to request an autoclave testing kit.
- **Drying ovens**: OSU requires a written safety procedure posted on the front of the oven. Information on the procedure should include, but is not limited to, time and temperature maximums for specific uses.

Chemical Storage Tips

- Flammable and combustible liquids exceeding ten gallons need to be stored inside an approved flammable storage cabinet.
- Secondary containers for storage of liquids such as solvents and concentrated acids or bases are required.
- No glass storage containers are permitted on the floor.
- Ensure all chemicals stored together are compatible (including gas cylinders).
- **Labeling**: All chemical containers one gallon or larger in size must be labeled in plain English (e.g. Ethanol rather than EtOH) and must be legible. If the liquid is in a container less than a gallon in size, an acronym/abbreviation may be used if a corresponding
abbreviations page is accessible in the lab. EH&S provides a basic abbreviations page. More labeling information available on the chemical container labeling safety instruction.

Laboratory Self-Assessments

A lab self-assessment is required annually and will help fulfill Chemical Hygiene Plan requirements. More information: Laboratory Safety Self-Assessment Form, Self-Assessment Guide.

Hazardous and Universal Waste

Hazardous and universal waste generated at OSU must be disposed of through a system managed by EH&S.

- All hazardous waste must be appropriately labeled using OSU’s waste label. They can be printed (Hazardous Waste Label) or you can request a hardcopy via hazardous waste pickup request.
- If your lab uses sharps (including needles, razor blades, syringes, and even used microscope slides) then a red sharps container will be needed in your lab in order for disposal of such items. These are available at Chem. Stores in Gilbert Hall (OSU EH&S does not provide replacements).
- A hazardous waste and/or universal waste pickup request can be accessed at: http://ehs.oregonstate.edu/waste. You can also use this link to request primary and secondary waste containers as well as to donate unused chemicals for the chemical reuse program.
- A Chemical Labeling Station is required for each PI/Manager in their lab(s). Stations include hazardous waste labeling guidelines, waste labels, reaction postings, a list of your waste codes, and an abbreviations list template. If your lab does not have a station, one can be requested.
- Universal waste stations are available at various buildings on campus. See your building manager or EH&S for the location of these stations.

Personal Protective Equipment (PPE)

- Closed-toed shoes must be worn at all times by all individuals that are occupying the laboratory.
- Laboratory coats, gloves, and eyewear are required to be worn while working with or in the vicinity of hazardous materials that pose a potential hazard to the employee.
- Some operations and procedures may warrant protective clothing in addition to laboratory coats, gloves, and protective eyewear. PPE such as respiratory protection, hearing protection, etc. should be discussed with EH&S prior to use.
Lab Coats – Laboratories with chemical hazards are required to provide and utilize lab coats. The OSU laboratory safety coat program is sponsored by EH&S and provides safety coats for all OSU laboratory employees at no charge to the department. You can use the sign up form to submit a safety coat request directly to CINTAS. Once ordered, lab coats are typically delivered within 4 weeks to a central location within your building. Your building manager or department personnel should be able to provide you with the location of this central location.

Eye Protection – OSU policy and OSHA regulations require that appropriate eye protection be provided to and worn by employees whose jobs expose them to eye hazards. Normal prescription glasses do not provide adequate protection from injury to the eyes and do not meet ANSI eye protection specifications. If an employee is required to wear prescription eyewear, prescription safety glasses are considered a reasonable departmental expense and should be covered by the department. Questions regarding the Safety Glasses Prescription Program can be directed towards EH&S.

Chemical Spills

All laboratories with hazardous chemicals are required to have a chemical spill kit readily accessible within the space. Chemical spill kits are available for purchase from Chemistry Stores in Gilbert Hall. Instructions on cleaning up a chemical spill can be found here and should be reviewed before attempting to clean up a spill: If the spill is large (greater than 1 gallon), is of a highly hazardous chemical, or if the employee does not feel comfortable cleaning up the spill, call the public safety emergency line (541-737-7000) to report it for immediate EH&S response.

Research Safety

Each program listed below will have special requirements associated. Below are a few of such requirements. Each program also has their own assessment and check off sheet. The program manager can provide you a copy upon request.

Biosafety (BSL) Labs

Programs have been established to provide a central registry of potentially hazardous microbial agents and other hazardous biologicals, oversight of recombinant DNA activities, and control exposures to bloodborne pathogens and zoonotic agents of human disease. If you plan on doing any work described above, please contact the Biological Safety Officer at ibc@oregonstate.edu. More information is also available on the Biological Safety webpage: http://ehs.oregonstate.edu/bio

Radiation
All research and teaching activities at OSU that require the possession and/or use of radioisotopes or radiation-emitting machines must apply for a Radiation Use Authorization Form (RSC102). From there, an EH&S Radiation Safety Specialist will contact you regarding additional training, forms, inspections, and other requirements including the Radiation Safety Waste Program procedures. More information is available at [http://ehs.oregonstate.edu/rso](http://ehs.oregonstate.edu/rso)

**Laser Use**

Some lasers must be registered with EH&S: [http://ehs.oregonstate.edu/laser](http://ehs.oregonstate.edu/laser). Laser users must complete online training (required for use of Class 3B and 4 lasers; recommended for all others) and should schedule machine specific training with the laser administrator of the laser systems you will use.

**Shop Equipment/Processes**

A shop at OSU is any area that has equipment, processes, or activities relating to lathes, surface grinders, milling machines, table saws, drill presses, etc. Each type of shop presents specific safety hazards, which if not properly identified and addressed, can lead to injury. The EH&S Shop Safety Program provides inspections and recommendations to shops for the hazards present. EHS will work with shop personnel to help ensure appropriate safety programs and training are in place to protect workers from hazards they could encounter as part of their work assignments. More information: [http://ehs.oregonstate.edu/shop-safety](http://ehs.oregonstate.edu/shop-safety)

**Other EH&S Resource Links:**

- EH&S Home Page: [http://oregonstate.edu/ehs/](http://oregonstate.edu/ehs/)
- EH&S Contact Information: [http://oregonstate.edu/ehs/staff](http://oregonstate.edu/ehs/staff)
- Access to Safety Training Records: [http://oregonstate.edu/ehs/safetytrainingreview](http://oregonstate.edu/ehs/safetytrainingreview)
- EH&S general email: [ehs@oregonstate.edu](mailto:ehs@oregonstate.edu)
- Facilities services email: [facilities@oregonstate.edu](mailto:facilities@oregonstate.edu)