

## Laboratory Safety Assessment Form Guide

### Introduction

This guide is intended to provide information as you perform a [Laboratory Safety Self-Assessment](#). Most topics are addressed with [Safety Instructions](#) on the [EH&S website](#) or other EH&S resources. Some topics, barring unusual circumstances, are self-explanatory. Please [contact EH&S staff](#) if you require additional guidance.

### Information/Postings

1. An up to date [Lab Hazard Sign](#) is required for all laboratories and lab-related storage rooms (freezer/refrigerator rooms, chemical storage, sample storage, etc.). Request a Lab Hazard Sign using [this Form](#).
2. The current version of the Laboratory Safety Quick Reference Guide is Orange and replaces all earlier versions (pink, green, etc.). Contact EH&S at (541) 737-2273 to obtain copies of the current Quick Reference Guide.
3. Some areas require personal protective equipment (PPE), training and security clearance beyond that required for most labs and should be clearly marked.
4. This poster addresses a number of Emergency events, not just those pertaining to lab safety. The OSU Emergency Poster is available at [this link](#).
5. Each principal investigator (PI) at OSU who has a lab or field based research program that involves chemical use and/or storage must create a lab-specific chemical hygiene plan (LCHP), per OSHA requirements. An [LCHP template](#) is provided as a starting point. PIs should customize this document (add or remove sections) to address the potential hazards associated with their research program. Items requiring attention are highlighted in yellow. Standard operating procedures (SOPs) should be written to describe use and handling of potentially hazardous chemicals, equipment, and processes in the lab/field, then included with the LCHP as an appendix. The LCHP should be included as part of every lab employee's training.
6. If there is a potential health and/or safety hazard associated with a piece of equipment, process, or chemical, the Principal Investigator is responsible for creating and providing workers with a standard operating procedure (SOP) that describes safe handling and/or use practices. A job hazard assessment form is located in Appendix 1 of the [LCHP template](#) and can be used to help develop SOPs. SOPs should be maintained as an appendix in the LCHP, and included as part of every lab employee's training. **Note:** Even if there is no hazard associated with a process or piece of equipment, SOPs can help ensure that employees properly operate equipment, which can minimize the risk of property and equipment damage.
7. Safety Data Sheets (SDS; formerly MSDS) must be available to workers in either paper or electronic form. SDS's are available to OSU employees via [MSDSOnline](#).
8. State and federal codes require that some categories of chemicals be recorded into an online database that is accessible by EH&S personnel. The EH&S Chemical Inventory System is available at [this link](#). Information about chemicals that must be included in an inventory, as well as those that may be excluded, is provided on the Safety Instruction: [Chemical Inventory Guidelines](#).
9. Self-explanatory.

### Employee Training

**10. through 13.** These items are basic laboratory safety training that all lab employees must complete. EH&S provides an assortment of training on the [Safety Training Website](#).

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14. Per OSHA requirements, all employee training must be documented. Laboratory employees should receive two types of training.

1) Training provided by OSU/EH&S should be documented using the [Acknowledgement of Safety Instructions, Hazard Communication, General Laboratory Safety, and Emergency Preparation Training](#) form.

2) Job/Lab-specific training must be determined and provided by the lab employee's supervisor or principal investigator and documented using either the editable MS Word doc [Sample Training Documentation Form](#), or similar.

**Note:** All employee training records must be retained by the employee's principal investigator for 30 years, following an employee's separation from OSU.

## Equipment

15. EH&S verifies that fume hoods are functioning properly, and an up-to-date tag indicating the maximum sash height is located on the fume hood frame. Malfunctioning fume hoods must be reported to Facilities Services via the Work Coordination Center and EH&S.

16. through 23. Self-explanatory.

24. Autoclaves need periodic testing to ensure proper functioning. Oregon Public Health regulations require that autoclaves used to decontaminate regulated wastes such as cultures and stocks be tested monthly by challenge testing using biological indicators containing endospores of the bacterium *Geobacillus stearothermophilis*. EH&S Biosafety offers autoclave testing kits to researchers or other users on the campus. [Go here](#) for information and to request a test kit.

25. A biological safety cabinet may be present in some labs. If present and in use, it must be certified annually or whenever moved to ensure proper function. Certification is done by outside contractors; for a list of available contractors in the area, contact OSU Biosafety at 7-4557 or send a request to [safety@oregonstate.edu](mailto:safety@oregonstate.edu). Biological safety cabinets should be placed in labs away from doors, traffic pathways and ventilation ducts or other equipment that creates air currents that can impact function. For information about proper use of a biological safety cabinet, see the use guide at [this link](#) from CDC.

26. Chemical and biological spill kits should be available in labs if the risk of a biological or chemical spill exists. Refer to Safety Instructions [Spill Response - Chemicals](#) and [Spill Response - Biohazards](#) for additional information.

## Personal Protective Equipment (PPE)

27. Self-explanatory.

28. Refer to [PPE](#) Safety Instructions for additional information.

29. through 31. Refer to Safety Instruction: [Respiratory Protection Program](#) for additional information.

## Electrical Hazards/Fire Safety

32. through 35. Self-explanatory.

36. Refer to Safety Instruction: [Drying Ovens](#) for additional information.

## Chemical Storage

37. Lab employees should periodically check their physical chemical inventory to ensure it matches their online chemical inventory database. The inventory does not need to be updated each time a chemical is used, however. The total number of containers of each chemical needs to be accurately logged. For example, a one liter bottle of acetone that is 50% full should be logged in the chemical inventory as one liter of acetone. When the bottle is emptied, it should be removed from the inventory, unless a new one liter bottle of acetone is purchased to replace the empty bottle. Please contact EH&S to remove any unwanted, unused, or

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out of date chemicals from your lab. Maintaining the least amount of chemicals possible will make maintaining your chemical inventory easier.

38. Most chemical containers will have hazard information on the manufacturer's label. Chemicals that are mixed or diluted in the laboratory and kept in unmarked containers need to be labeled with an. Refer to Safety Instruction: [Chemical Container Labeling](#) for additional information.
39. Self-explanatory.
40. Refer to Safety Instruction: [Chemical Storage Guidelines](#) for additional information.
41. and 42. Self-explanatory
43. Secondary containers should be made of a material that will not react with the chemicals they are intended to contain. The secondary container must be deep enough and provide sufficient volume to contain a spill that would result from the largest bottle in the secondary container breaking.
44. through 53. Self-explanatory.

**Waste Storage**

54. Hazardous waste labels are available at [this link](#).

55. through 57. Self-explanatory

58. Sharps in Oregon includes all needles, IV tubing with needles attached, scalpel blades, lancets, glass tubes that could be broken during handling, used microscope slides and syringes (even if they have not been used with a needle) that have been removed from their original sterile containers. Federal regulations for the use of human source materials define a sharp as any instrument capable of penetrating the skin. All disposable sharps, including disposable glass test tubes used for the culture of pathogens, used microscope slides, and syringes removed from their wrappings, must be collected into hard-sided, leak-proof commercially-available sharps containers that are red and have the universal biohazard symbol. The containers can be obtained from most scientific supply companies and Chemical Stores in Gilbert Hall. When the containers are about  $\frac{3}{4}$  full or have reached the level indicated by the fill line on the side of the container, they should be sealed and removed for disposal. **Do not overfill sharps containers**, as this poses a hazard for individuals who handle these containers during transport and disposal. Do not replace the cap on used needles after use. Sterile syringe caps may be discarded as regular solid lab waste. For campus facilities other than the Veterinary Teaching Hospital, collection of sealed sharps containers for disposal can be [requested from the EH&S website](#).
59. Refer to the [Biological Waste Management](#) website and Safety Instruction :[Infectious Waste Disposal](#) for more information.
60. Most interior drains on campus lead to the City of Corvallis Waste Water Treatment Plant, while most exterior drains lead directly to Oak Creek or the Willamette River without pre-treatment. Interior and exterior drain disposal at OSU is regulated by the Federal Clean Water Act and the City of Corvallis Municipal Code. Civil and Criminal penalties can be incurred from improper drain disposal. Refer to Safety Instruction: [Wastewater Disposal Guidelines](#) for information about what can and can't go down the drain.
- NOTE:** Liquid (at room temperature) microbiological cultures may be disposed of down the drain if they do not contain any toxic chemicals **and** if the culture has been autoclaved. It is not permissible in the state of Oregon to treat cultures with bleach prior to drain disposal.