

## Self Audit Lab Inspection (PI or Lab Manager)

The purpose of this lab audit form is to allow the principal investigator or laboratory manager to do quick and easy self-audit of their lab procedures. The checklist incorporates major components of lab safety, biosafety and radiation safety, as well as regulatory items pertaining to Ohio PERRA, OSHA, EPA, NIH, ODH, and NRC. This checklist should serve as an easy way to generally check on major components of your chemical hygiene plan (lab health and safety programs). These are the same questions that are in the EHS audit system.

<b>Section # 1</b>	<b><u>Policies and Procedures</u></b>	<b><u>Yes / No</u></b>
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<b>#1.1</b>	Are individual PI's procedures/special situations incorporated in the Chemical Hygiene Plan?	
<b>#1.2</b>	Is safety orientations for all graduate students, teaching assistants, research assistants, technicians, post-doc's and visiting professors done?	
<b>#1.3</b>	Are safety orientations or course work in lab safety insured for undergraduate students?	
<b>#1.4</b>	Does the lab staff understand fumehood flow alarms, audible alarms, magnehelic gauges and what to do when indicators go off?	
<b>#1.5</b>	Does the visitors policy require compliance with lab safety and PPE requirements?	
<b>#1.6</b>	Are visitors, contractors, and maintenance personnel informed of lab hazards and requirements?	
<b>#1.7</b>	Are appropriate chemical and safety reference materials, books, etc. available as needed?	
<b>#1.8</b>	Is a chemical inventory available and are material safety data sheets (MSDS) available for all chemicals used in the lab?	
<b>#1.9</b>	Are MSDSs obtained and hazards evaluated before purchase?	
<b>#1.10</b>	Are OU Hazardous Materials Policies followed (44.104 and 44.108)? They can be found at <a href="http://www.ohiou.edu/policy/numeric.html">http://www.ohiou.edu/policy/numeric.html</a> .	
<b>#1.11</b>	Are all injuries and incidents happening in the lab reported to EHS on an OU Incident Report Form and/or State needle-stick form?	
<b>#1.12</b>	Are preventive actions initiated following an accident, incident or near miss?	
<b>#1.13</b>	Have provisions been made with emergency or medical services for any special needs (neutralizers, antidotes, special medical, etc)?	
<b>#1.14</b>	Is chemical toxicity and exposure potential evaluated? Are routes of exposure considered?	
<b>#1.15</b>	Have Personal Protective Equipment (PPE) needs been evaluated and documented in writing (including chemical resistance)?	
<b>#1.16</b>	Is necessary PPE provided and used in the lab?	
<b>#1.17</b>	Is there no respirator usage?	
<b>#1.18</b>	If respirators are used, is proper evaluation by EHS and enrollment in Respiratory Protection Program complete?	
<b>#1.19</b>	Is a spark-proof electrical systems used, if needed?	
<b>#1.20</b>	Are unattended reactions or operations minimized or forbidden?	
<b>#1.21</b>	Are unsafe conditions corrected immediately or referred to appropriate academic or administrative offices?	
<b>#1.22</b>	Is the safety shower/eyewash thoroughly tested at least monthly, with reminder sheet posted?	
<b>#1.23</b>	Are spills cleaned up immediately?	
<b>#1.24</b>	Are clean up materials and absorbents available for mercury collection and clean up?	
<b>#1.25</b>	Are spill clean up kits available in the lab and maintained/stocked as needed?	
<b>#1.26</b>	Is safety equipment tested, checked, refilled regularly (for anything other than safety shower, eyewash & spill kits)?	
<b>#1.27</b>	Do all research projects have appropriate institutional approvals and numbers (Radiation Safety Committee, IBC, IRB, IACUC, etc.)?	

**Section # 2**    **Radiation (Ionizing and Non-Ionizing)**

<b>#2.1</b>	Have needed projects been reviewed and assigned a radiation approval #?	
<b>#2.2</b>	Are radioactive material users properly permitted by the RSC, trained, and in compliance with NRC/ODH/RSC guidelines?	
<b>#2.3</b>	Do labs generating low level radioactive waste participate in OU radioactive waste disposal program?	
<b>#2.4</b>	Have non-radioactive material users who need to come in radiation labs received orientation training?	
<b>#2.5</b>	Are specialized eye protection (lasers) or other safety devices used properly?	
<b>#2.6</b>	Are physical non-ionizing radiation sources safely used, labeled, categorized and maintained (lasers, UV, etc.)?	

**Section # 3**    **Biosafety**

<b>#3.1</b>	Have needed projects been reviewed and assigned a biosafety approval #?	
<b>#3.2</b>	Do biological labs meet O.U. Biosafety Program and CDC/NIH guidelines?	
<b>#3.3</b>	Do labs generating infectious waste participate in OU Infectious Waste Management Program?	
<b>#3.4</b>	Do labs working with blood or other potentially infectious materials have a written and implemented OSHA Bloodborne Pathogens (BBP) Plan?	
<b>#3.5</b>	Are organisms or toxins in laboratory permitted for use at OU? Remember that OU is not registered for the federal "Select Agent Transfer or Possession Laws" and there are no BSL3 or BSL4 facilities.	
<b>#3.6</b>	Are biosafety cabinets tested and recertified annually, when new, and when moved?	

## Self Audit Lab Inspection (Physical Laboratory)

The purpose of this lab audit form is to allow lab personnel to do quick and easy self-audit of their labs. The checklist incorporates major components of lab safety, biosafety and radiation safety, as well as regulatory items pertaining to Ohio PERRA, OSHA, EPA, NIH, ODH, and NRC. This checklist should serve as an easy way to generally check on major components of your chemical hygiene plan (lab health and safety programs). These are the same questions that are in the EHS audit system.

<u>Section # 1</u>	<u>Chemical Storage</u>	<u>Yes / No</u>
#1.1	Are chemicals stored by chemical classes and separated vertically and horizontally from incompatibles (not alphabetically)?	
#1.2	Are peroxide-formers, shock sensitive, water sensitive and other special materials properly stored?	
#1.3	Are flammables stored in approved flammable storage cabinets?	
#1.4	Are cylinder gases properly secured, used, and transported?	
#1.5	Are cylinder gases stored separately from incompatible materials?	
#1.6	Are high hazards chemicals, carcinogens, and mutagens stored in secure, labeled areas or cabinets? (per OSHA 29CFR1910.1450(e)(3)(viii))	
#1.7	Are chemical storage cabinets or shelves: sturdy, secured to floor/wall, stable and have lips, curbs, ropes or other "knock-off" protection?	
#1.8	Are secondary containers used for chemicals when necessary (storage, use, transport)?	
#1.9	Are fumehoods free of stored materials (chemicals are stored in appropriate cabinets, not the fumehood)?	
#1.10	Are flammables stored outside of flammable storage cabinets only in daily working amounts?	
#1.11	Are chemical containers wiped and capped immediately after use to avoid spills and off-gassing?	
#1.12	Are all chemicals properly labeled?	
#1.13	Are chemical containers dated when received and when opened?	
#1.14	Are date-sensitive materials controlled and disposed of when needed?	
#1.15	Are old chemicals properly and legally disposed of and not allowed to accumulate?	
#1.16	Are refrigerators maintained and clean?	
#1.17	Are lab refrigerators free of food, cosmetics, medicines, and personal item storage?	
#1.18	Are explosive-proof refrigerators used and labeled when needed?	
#1.19	Are lab refrigerator labeled as needed (radioactive or infectious materials, etc.)?	

<u>Section # 2</u>	<u>Laboratory Set-Up</u>	<u>Yes / No</u>
#2.1	Does the signage on the lab door and inside lab have appropriate warnings, symbols, safety information, and names and phone numbers of principle investigator, lab director, and /or alternates?	
#2.2	If radioactive materials are allowed to be used in this lab, is there proper signage on the door?	
#2.3	Are lab rules (SOP's) posted? ( A general list is available from Lab Safety Coordinator)	
#2.4	Is lab housekeeping good and is a system established for set up, dismantling, and clean up?	
#2.5	Is any office space inside the lab separated from the other work areas and labeled as an office area?	
#2.6	If food or other typically prohibited items are allowed and approved in the lab, is the area of use demarcated (labeled)?	
#2.7	Are aisles clear and unobstructed? Are slips, trips, and falls avoided?	
#2.8	Are lab sinks free of contamination and thoroughly rinsed with water?	

#2.9	Is broken or defective equipment tagged out?	
#2.10	Are spills cleaned up immediately and are emergency/spills kits available in the lab areas?	
#2.11	Are unsafe conditions corrected immediately or referred to appropriate academic or administrative offices?	
#2.12	Do all vacuum pumps and other equipment have appropriate parts guarded (and vented if needed)?	
#2.13	* Is lab room differential pressure acceptable (negative pressure, etc)?	
#2.14	Are physical non-ionizing radiation sources safely used, labeled, categorized and maintained (lasers, UV, etc.)?	
#2.15	Are a hand washing sink, soap, and towels available and used?	
#2.16	Are proper techniques and equipment used for glass tubing, stopper, connections & assemblies?	
#2.17	Are centrifuges properly installed and used?	
#2.18	Are pressurized operations and containers properly designed, used, monitored (vacuum chambers, carboys, pressurized vessels) and temperature controlled?	
#2.19	Has mercury use has been minimized? Have mercury thermometers have been replaced?	
#2.20	Is needed equipment supplied (hoods, biosafety cabinets, shields, etc)?	
#2.21	Is the lighting adequate?	
#2.22	Are heat sources or flames used away from flammables (no heat sources near flammables)?	
#2.23	Are ground fault circuit interruptions (GFCI) on electrical outlets within 6' of water and/or to code?	
#2.24	* Are electrical systems grounded?	
#2.25	Are spark-proof electrical systems used, if needed?	
#2.26	Are extension cords or temporary wiring used appropriately? (i.e. cords are out of the way and not bunched up. Surge protectors and extension cords are not chain linked)	
#2.27	Is grounding and bonding used where static spark or flammables may be a concern?	
#2.28	Are plumbing system/spigots protected with back flow prevention (vacuum breakers, etc.)?	
#2.29	Is natural gas properly installed and leak-free?	
#2.30	Is the laboratory free of asbestos containing materials (ACM)? (i.e. no insulating ropes, etc. that contain asbestos)	

### **Section # 3**     **Practices**

#3.1	Do eating, drinking, using tobacco products, applying of cosmetics, or taking medicine, occur only outside the lab (these activities prohibited in lab)?	
#3.2	Is proper lab technique required at all times (no mouth pipetting, experiential procedure established, proper chemistry techniques followed)?	
#3.3	Is appropriate lab attire worn (lab coats, no shorts, no open-toed shoes, etc)?	
#3.4	Is specialized eye protection (for lasers) or other specialized safety devices used properly?	
#3.5	Are unattended reactions forbidden or minimized and properly structured?	
#3.6	Is there a procedure for cleaning lab coats?	

### **Section # 4**     **Emergency Preparedness**

#4.1	Is a lab phone available with emergency phone numbers posted?	
#4.2	Is a lab safety shower/eyewash available?	
#4.3	Is safety equipment available and operational (fire extinguisher, fire aid kits, etc.)?	

#4.4	Are safety shower/eyewash thoroughly tested at least monthly, with reminder sheet posted?	
#4.5	Is safety equipment easily accessible (NOT blocked or obstructed)?	
#4.6	Are egress routes from lab established, not blocked, and known?	

**Section # 5      Hoods and HVAC**

#5.1	Are special hoods or ventilation devices available (perchloric acid hoods, etc?)	
#5.2	Are fumehoods working properly?	
#5.3	Are lab fumehoods and biosafety cabinets registered with EHS?	
#5.4	Are fumehoods independently tested?	
#5.5	Is the fumehood monitor/flow device checked daily?	
#5.6	Are any fumehoods filters maintained and changed regularly (HEPA, charcoal, etc.)?	
#5.7	Are duct-less hoods approved by EHS and filters maintained/changed regularly?	
#5.8	Is lab air relatively odor-free?	
#5.9	Do the lab staff understand fumehood flow alarms, audible alarms, magnehelic gauges and what to do when indicators go off? Are the alarms not disabled?	

**Section # 6      Waste**

#6.1	Are normal trash waste streams categorized, labeled, covered, and disposal methods established?	
#6.2	Are animal carcass waste streams categorized, labeled, covered, and disposal methods established?	
#6.3	Are chemical/hazardous waste streams categorized, labeled, covered, and disposal methods established?	
#6.4	Are radiation waste streams categorized, labeled, covered, and disposal methods established?	
#6.5	Are infectious waste streams categorized, labeled, covered, and disposal methods established?	
#6.6	Are noncontaminated sharps and glass waste streams categorized, labeled, covered, and disposal methods established?	
#6.7	Are other necessary waste streams categorized, labeled, covered, and disposal methods established?	
#6.8	Are waste chemicals stored in secondary containment until pickup in case of leaks or spillage?	

**Section # 7      Other**

Any other comments or observations?	

\*Equipment is needed to determine compliance and may be tested by EHS during inspection.

## Self Audit Lab Inspection (Department)

The purpose of this lab audit form is to allow the department chair or chemical hygiene officer to do a quick and easy self-audit of their laboratory safety practices and procedures. The checklist incorporates major components of lab safety, biosafety and radiation safety, as well as regulatory items pertaining to Ohio PERRA, OSHA, EPA, NIH, ODH, and NRC. This checklist should serve as an easy way to generally check on major components of your chemical hygiene plan (lab health and safety programs). These are the same questions that are in the EHS audit system.

<u>Question</u>	<u>Department Policies and Procedures</u>	<u>Yes / No</u>
#1.1	Is a Chemical Hygiene Plan (CHP) written and implemented for the department?	
#1.2	Is a Chemical Hygiene Officer (CHO)/Safety Officer designated for the department?	
#1.3	Is the CHP reviewed annually and adjustments made if necessary?	
#1.4	Is a department Safety/Audit committee established and active?	
#1.5	Is record keeping in order for written CHP and are CHP annual review documents in order?	
#1.6	Do all employees that use chemicals in the lab (including grad and teaching assistants) have had documented chemical hygiene training?	
#1.7	Has staff been trained on use of fire extinguishes, fire prevention, and egress?	
#1.8	Are student safety policies established that mirror employee/lab standard practices?	
#1.9	Are department safety orientations done for all graduate students, teaching assistants, research assistants, technicians, post-doc's and visiting professors?	
#1.10	Are safety orientations or course work in lab safety insured for undergraduate students?	
#1.11	Does the visitors policy require compliance with lab safety and PPE requirements?	
#1.12	Is HB308-"Public Employees OSHA" Poster posted on department public bulletin boards?	
#1.13	Are department employees informed of the EHS web site (www.ohio.edu/ehs)?	
#1.14	Are lab maintenance and testing duties assigned to appropriate staff?	
#1.15	Does the department have appropriate research apparatus/shop design reviews and safety considerations established for the design and construction of "home-made" research equipment and apparatus?	
#1.16	Are unsafe conditions corrected immediately or referred to appropriate academic or administrative offices?	
#1.17	Are emergency/spills kits available in the lab areas and/or within the department?	
#1.18	Are clean up materials and absorbents available for mercury collection and clean up?	
#1.19	Does the department have a communications system/mechanism in place to quickly disseminate environmental, health, and safety information?	
#1.20	Is record keeping for incident reports and follow-up in order?	
#1.21	Is a departmental policy established and enforced for faculty lab clean out or departure from the university (coordinated with EHS)?	
#1.22	Are OU Hazardous Materials Policies followed (44.104 and 44.108)? These can be found at <a href="http://www.ohiou.edu/policy/numeric.html">http://www.ohiou.edu/policy/numeric.html</a>	
#1.23	Is there a procedure for cleaning lab coats?	
#1.24	Does the department have appropriate stockroom procedures established for chemical control?	
#1.25	Are policies established for small quantity purchase and waste minimization?	
#1.26	Is the proper equipment maintained for the safe transport of chemicals (carts, secondary containers, break-resistant containers)?	
#1.27	Is a chemical inventory maintained?	
#1.28	Are MSDSs maintained with record keeping and a system to add/delete/archive MSDSs?	