

EHS Lab Review Topics List

(for lab self-audit and EHS annual lab review use)

Date of Audit	PI's Name	Staff Completing Audit (please print)
Department	Bldg	Lab Phone #
	Room Number	Office Phone #
HSC/Safety Representative	EHS Safety Advisor	EHS Web Site http://ehs.research.uiowa.edu/
Check All That Apply		
<input type="checkbox"/> Chemical Use	<input type="checkbox"/> Animals	<input type="checkbox"/> Radioactive Materials (RAM) Human: <input type="checkbox"/> Human BBP At-Risk
<input type="checkbox"/> Biological Agents	<input type="checkbox"/> rDNA	<input type="checkbox"/> Tissue Culture <input type="checkbox"/> Isoflurane Use <input type="checkbox"/> ESC <input type="checkbox"/> iPS
<input type="checkbox"/> Nanomaterials, please list:	<input type="checkbox"/> Off-Campus/Field Work	<input type="checkbox"/> Lasers, <input type="checkbox"/> Class 3B or 4 lasers
<input type="checkbox"/> Controlled Substance Use, non-animal	<input type="checkbox"/> Controlled Substance Use, animal	<input type="checkbox"/> CDC/USDA permits <input type="checkbox"/> Corrosives

New: Following the EHS annual lab review, corrective actions are required for any deficiency noted below. Based on the severity of the finding, each audit item has been classified as requiring immediate (**highlighted**) or 30-day resolution. A 30-day follow-up meeting will be scheduled by the safety advisor to review and document all corrective actions, if necessary.

New questions are written in red text.

Required Documentation <i>(at the time of the audit)</i>	Lab Chemical Hygiene Plan Annual Review (question 1) – most recent date:
	Chemical inventory update (question 2) – most recent update :
	PPE Hazard Assessment Tool Annual Review/Update (question 31) – most recent review date:
	Respirator/Mask Use Evaluation Documentation (question 32) date:
	RAM Authorization # (question 63) List of Authorized RAM Users <input type="checkbox"/>
	Training Records (questions 68, 69) – (Complete <input type="checkbox"/> Incomplete <input type="checkbox"/>)
Chemical Hygiene	General

1.	The Lab Chemical Hygiene Plan (CHP) is reviewed annually, contains pertinent lab-specific information and/or procedures (if needed), and is available in the lab. <ul style="list-style-type: none"> Chemical Hygiene Plan cover page [Include specific lab information] Documentation of annual review of CHP Any lab-specific procedures are included (including work requiring prior approval or work with Particularly Hazardous Substances)
2.	Is the lab chemical inventory, including compressed gas cylinders and mass/volume unit sizes (e.g. kg, lb, ft3, etc.), in the inventory management system and up-to-date? [Must be updated annually; required for Department of Homeland Security regulations and Emergency Responders] <ul style="list-style-type: none"> Please list lab chemical inventory contact person: EHS contacts: Rachelle Justice for password or general assistance, 353-4692 Rick Byrum for DHS or COI issues, 335-9379
3.	Lab uses sound electrical safety practices. <ul style="list-style-type: none"> All cords in good condition and no exposed wiring No extension cords except approved cords for computer equipment No electrical strips in hoods Cords are clear of burners or other heating equipment
4.	The chemical fume hood airflow is not blocked with equipment or chemical containers. [Large equipment should be raised ~2" to allow flow toward back of hood; items in the hood should be set back at least 6" from sash; back slots are not blocked; front airfoil is not blocked.] Fume hood has been checked by EHS in the past 12 months.
5.	There is no evidence of food and beverage consumption in lab hazard areas.

6.	The lab's chemical safety data sheets are stored in an approved electronic format or locations within the lab. <ul style="list-style-type: none"> • Primary SDS electronic format or location: • Secondary SDS electronic format or location, if applicable:
7.	Controlled substances are stored in a locked cabinet and labs maintain a usage log for their controlled substances. <ul style="list-style-type: none"> • Last four digits of the DEA registration number: • DEA registrant's name: • Name of controlled substance(s): • Controlled substances use is animal or non-animal related?
8.	Lab Housekeeping is adequate to minimize safety incidents. <ul style="list-style-type: none"> • No overfilled biohazardous waste/sharps containers. • No recapped sharps. • All house vacuum lines have filters and double traps. • Used gloves are disposed of properly in biohazardous waste containers.

Notes/Comments:

Emergency Preparedness

9.	Emergency contact information is posted inside the lab and includes lab-specific contacts. What form of emergency communication does the lab utilize (check all that apply)? <input type="checkbox"/> Fire alarm <input type="checkbox"/> Phone system <input type="checkbox"/> Other – Please Describe:
10.	Lab emergency plans for spills and other emergencies are readily accessible to personnel.
11.	Spill supplies are readily accessible in one location and employees know their location and proper use. Supplies are adequate for the hazardous materials used in the lab.
12.	Safety showers and eye washes are readily accessible (within the room/lab if working with corrosives).
13.	Safety showers and eye washes are not blocked.
14.	Plumbed eyewash stations are tested/flushed at least monthly and a record of testing is maintained for each eyewash station. Self-contained eyewash stations are visually inspected at least monthly and flushing fluids changed out per manufacturer's schedule or at least annually. Type of eye wash station available to the lab:
15.	Electrical panels and fire extinguishers are readily accessible and/or not blocked. <ul style="list-style-type: none"> • Electrical panels should have 36" clearance in front of the panel. • Electrical panels should have floor to ceiling clearance.
16.	Electrical panels are locked. <ul style="list-style-type: none"> • Has there ever been a need to access the panel to reset a tripped breaker (If yes, who was the access person)?

Notes/Comments:

Waste Management

Hazardous chemical wastes are collected and stored according to the following requirements:

17.	Waste is collected in a container that is compatible with the waste.
18.	Wastes are stored at or near the point where they are generated and in an area controlled by the generator of the waste.
19.	All waste containers are labeled with the words "Hazardous Waste", the container contents and waste characteristics.
20.	Waste containers are in good condition and are closed except when adding or removing waste.
21.	Incompatible wastes are not collected in the same container.
22.	Containers of waste that are incompatible with other wastes or material are segregated.
23.	The container is labeled as soon as waste is added.
24.	The label is not dated until container is ready to be picked up by EHS.
25.	If waste must be stored on the floor, secondary containment is used.
26.	The appropriate head space is left in the waste container (1.5"-3" per Waste Management Guidelines).
27.	The waste containers are free of contamination (clean and do not contain materials not listed on label).
28.	Used oil is labeled as "Used Oil".

<i>Notes/Comments:</i>	
PPE	
29.	Appropriate personal protective equipment (PPE) is provided to lab employees.
30.	Lab coat and gloves are worn when working in the lab with biological, chemical, or radioactive materials or when conducting work that involves other hazards; eye protection is worn per the PPE Hazard Assessment Tool (PPE HAT) requirements. Lab coats, gloves and other PPE are removed prior to leaving the lab.
31.	The lab PPE Hazard Assessment Tool (PPE HAT) is complete, including: <ul style="list-style-type: none"> • Initial certification/signatures by PI or designee for hazard assessment • Annual review date and signature of PI or designee for hazard assessment • Annual PPE HAT review (training) with staff signed by PI or designee and staff Contact Rick Byrum at 335-9379 with questions.
32.	Does anyone in the lab wear a mask or respirator? If “Yes”, list type (manufacturer, model # found on mask) If “Yes” above, does the lab have a documented respirator use evaluation by EHS (or other expert) maintained on file for the respirator-use task? If not, a respirator use evaluation request may be submitted to EHS. Your Safety Advisor will assist you with this request. Does the lab maintain a current list of users allowed to wear the respirator/mask for each approved use? Contact Rick Byrum at 335-9379 with questions.
<i>Notes/Comments:</i>	
Chemical Management	
33.	Chemical containers, including beakers and flasks, are in good condition and labeled with the chemical name (best practice labeling includes chemical name and hazards). Labels on incoming chemicals are not removed or defaced.
34.	Chemicals are stored segregated by compatible storage group.
35.	Chemicals are stored to prevent spills; liquids are not stored high on shelves. Shelves have lips and/or secondary containment is used.
36.	Peroxide-forming chemicals (such as ethyl ether, tetrahydrofuran, or dioxane) are dated when opened and tested or disposed of before the expiration date.
37.	Quantities of flammable and combustible chemicals greater than 10 gal. are stored in a flammable storage cabinet (ideally as little as possible outside the flammable cabinet).
38.	Cylinders, including small cylinders/lecture bottles, are labeled with the chemical name of the contents, stored by compatibility, and stored away from heat sources.
39.	Large cylinders are firmly secured to a solid support and those without regulators have caps in place. Small cylinders are carefully stored to prevent damage to valves.
40.	Cylinders containing acutely toxic gases are stored in continuously ventilated cabinets [OSHA GHS signal word “Danger” on label, NFPA health rating = 4 or equivalent].
41.	Precautions to prevent spills such as bottle carriers and carts with side protection are available and are used when transporting chemicals outside the lab.
<i>Notes/Comments:</i>	
Recombinant DNA Information	
42.	Is work with rDNA performed in this laboratory/by this PI? Such as, but not limited to, cloning, transfections, transformations, transductions, and the creation of transgenics. If yes, does the PI have an active rDNA protocol approved by the IBC or is a co-investigator on an active rDNA protocol? Note: All recombinant DNA research must be registered with the Institutional Biosafety Committee. (https://osp.od.nih.gov/biotechnology/biosafety-and-recombinant-dna-activities/). The PI is responsible for submitting an rDNA Registration Document (cibc.research.uiowa.edu) to the Institutional Biosafety Committee (IBC). Contact chs-rdna@uiowa.edu with questions.

43.	<p>Is an amendment to your rDNA protocol needed? If yes, <input type="checkbox"/> Staff <input type="checkbox"/> Lab Location <input type="checkbox"/> Agents If Yes, the PI or assigned proxy must submit an amendment request through the eIBC protocol management system (eibc.research.uiowa.edu).</p> <p>Is exempt rDNA work carried out? If yes, is the exempt work registered with the IBC?</p>
<i>Notes/Comments:</i>	
Biological Agent Information	
44.	<p>The biological agent inventory, provided by EHS, was reviewed by the laboratory.</p> <ul style="list-style-type: none"> • <i>Does the lab currently or has in the past ever worked with Risk Group 2 biological agents, toxins, or genomic elements?</i> • <i>Is the individual completing this review aware of all research occurring under the PI?</i> <p><i>Please communicate the addition of any new pathogenic agent to your EHS safety advisor at the time of acquisition.</i></p>
45.	<p>Is the inventory provided by EHS accurate, containing all agents currently in use as well as those in storage? <i>(Genetically altered agents do not need to be listed separately unless the pathogenicity or transmissibility has been increased above those of the parental agent.)</i></p> <p>If NO, has a corrected inventory (additions, deletions, additional strain information, etc.) been provided to EHS staff?</p>
46.	Are all staff members aware of the potential health effects of all biological agents/organisms worked with in the laboratory? How is staff informed of the health effects?
47.	A copy of the USDA or CDC Permit(s) has been provided to EHS staff. Permit Number:
48.	<p>Does the lab possess any of the following: abrin, botulinum neurotoxins, conotoxins, diacetoxyscirpenol, ricin, saxitoxin, Staph. Enterotoxins, T-2 toxin, tetrodotoxin? If yes,</p> <ul style="list-style-type: none"> • List all Select Agent Toxins in the lab: • Has the lab transferred any of the listed toxins (in exempt amounts)? • Does the lab have a written SOP in place for each toxin possessed? • Is the toxin(s) properly secured, i.e. locked freezer or lock-box? • A copy of the signed current inventory must be made available. Amount in inventory:
<i>Notes/Comments:</i>	
Bloodborne Pathogens (BBP) Information	
49.	Does work in this laboratory involve human blood, tissue, human cell lines or other potentially infectious material? If yes, please specify:
50.	Does work in this laboratory involve human embryonic stem cells (ESC) or human induced pluripotent stem cells (iPSC)? If applicable, please identify NIH Registration number _____ and/or cell line _____.
51.	<p>If the answer to #49 or #50 is yes, are all laboratory staff familiar with the lab's/department's Exposure Control Plan (ECP)?</p> <p>Name of Exposure Control Officer for Dept/Lab: Date of last update: Location of ECP (including electronic if available):</p>
52.	Are universal precautions practiced, as the BBP poster demonstrates?
53.	Have all At Risk employees completed a Hepatitis B vaccine survey on ReadySet (after March 2017) or has a Hepatitis B vaccine Consent/Declination form been submitted to UEHC (prior to March 2017)?
<i>Notes/Comments:</i>	
Work Practices/Equipment	
54.	Are biohazard signs or labels on doors and equipment that contain biological agents?
55.	What disinfectant is used to decontaminate surfaces at the end of the day or after spills? Please specify:
56.	Do you autoclave biological cultures before disposal?

	If no, how do you decontaminate culture materials?
57.	Do you have access to a broom/dustpan for picking up broken glass?
58.	Have all staff been informed that all injuries and accidents must be reported to the PI and an Iowa First Report of Injury form completed?
59.	Is a biological safety cabinet used whenever there is a potential for splashes or the creation of aerosols? Contact bio-cabinet@uiowa.edu with questions. Visually inspect and record BSC Serial #, Date of Expiration and Room Number:
60.	Does a lab have an inactive/expired BSC? If yes, are there signs the BSC is still being used? Is an "Inactive" sticker present?
61.	Do all laboratory staff members wash hands after removing gloves?
62.	Do you ship any biological material or use dry ice in your shipments? If yes, contact Nyree Mortensen for training materials/questions, 353-5679.
Notes/Comments:	
Radioactive Materials (RAM) Information	
63.	Does work in this laboratory include the use of radioactive materials? If yes, list the RAM use authorization number, the PI's name, and answer questions 64-67: RAM Authorization #: Principal Investigator:
64.	Are all laboratory staff members working with radioactive materials in this lab listed as approved users on the PI's RAM Authorization?
65.	Are all laboratory staff members listed as approved RAM users familiar with the EHS's <i>Radiation Protection Guide for Radioactive Materials Use in the Basic Sciences</i> ? And where to find the Radiation Protection Guide? <input type="checkbox"/> Hard copy accessible in the lab. <input type="checkbox"/> EHS web site
66.	Are all laboratory staff members familiar with procedures and requirements described on the EHS's UNSEALED RADIOACTIVE MATERIALS Radiation Protection Procedures posting? Location of the UNSEALED RADIOACTIVE MATERIALS posting:
67.	Are all laboratory staff members familiar with the regulatory requirement that all radioactive materials and radioactive waste in the lab must be secured from unauthorized use or removal? How are materials and waste secured when staff members are not present in the lab?
Notes/Comments:	

Training	
68.	<p>Determine the Required Safety Training Completion Status for each lab staff member.</p> <p>Work with your EHS Safety Advisor to complete a Lab Training Needs Assessment that includes a list of all lab personnel and a simple assessment of the types of work each person does in the lab. EHS will subsequently use this information to enter lab personnel into their lab inspection software program and assigning required ICON training courses for each person. The Safety Advisor will then produce a report for the lab identifying lab personnel missing required training, if any. This process will take the place of providing training documentation for employee ICON courses.</p>
69.	Provide records of all site-specific training that has not been entered into the EHS lab review database.

<i>Additional Review Notes/Comments:</i>	
<i>Lab Questions, Concerns, Issues:</i>	