

# UMBC Laboratory Safety Audit

8 Aug 2022 / William Jardel

Complete

Score	<b>100%</b>	Flagged items	<b>0</b>	Actions	<b>0</b>
<b>Site conducted</b>					Unanswered
<b>Conducted on</b>					08.08.2022 10:01 EDT
<b>Prepared by</b>					William Jardel
<b>Location</b>					Blank Copy
<b>Document No.</b>					000269
<b>Audit Title</b>					Blank Copy

<b>Inspection</b>	100%
<b>Not Subject to Inspection</b>	100%
Is the lab currently unoccupied?	N/A
<b>Full Compliance</b>	100%
Your laboratory has been recently audited by ESH and has been found to be in full compliance. We greatly appreciate your hard work to maintain a safe working environment at UMBC.	N/A
<b>Laboratory Safety</b>	100%
Is a laboratory door sign present that accurately conveys the hazards contained within as well as emergency contact information? For biological laboratories, is the agent name, entry/exit requirements, and biosafety level clearly defined?	N/A
Is the lab sufficiently lit, lighting fixtures are intact and no bulbs are burned out?	N/A
Is good housekeeping evident? Routine maintenance in the laboratory must be improved. Chemicals and equipment that are not in use must be properly stored or disposed of. Walkways, benches and active work spaces must free from obstructions. Ongoing experiments must be organized, labeled and contained, leaving ample work space for safe work practices.	N/A
Do broken glass boxes only contain glass? Do not dispose of any material other than glass in broken glass boxes.	N/A
Is the lab free from tripping hazards? Walkways must be free of obstructions.	N/A
Is the lab free of evidence of eating, drinking or cosmetics? Eating, drinking or the application of cosmetics in the laboratory is strictly prohibited. Under no circumstances may food, drink or cosmetic products (exception hand cream) be present in the lab. This includes storage of unopened food, water bottles, coffee mugs, nail polish, lipstick, etc. Empty wrappers, cups, containers, etc. must be discarded prior to entering the laboratory. Samples specifically intended for analysis or animal use must be clearly labeled as such. There are no "clean areas" in a laboratory. Separate break rooms or kitchenettes must be used for all food, drink and cosmetics, and free from the storage of any biological, chemical or radioactive hazard.	N/A
Spill response materials available? Absorbent pads, paper	N/A

towels, vermiculite or oil dry must be available to clean up spills. Materials used to clean up hazardous waste must be labeled and treated as hazardous waste. Many vendors sell prepackaged kits.

## Safety Showers/Eyewash Stations

100%

Are eyewash stations tested weekly?

N/A

Are eyewash stations accessible? All material that impedes access to eyewash stations must be removed.

N/A

Are safety showers inspected annually? All safety showers must be inspected annually

N/A

Are safety Showers accessible? All material that impedes access to safety showers must be removed.

N/A

## Fume Hoods/ Biosafety Cabinets

100%

Is the fume hood tested. If the fume hood has failed inspection, all chemical and material hazards must be removed and stored appropriately. Contact Facilities Management at (410) 455-2550 to have the fume hood repaired. Once repaired, contact ESH to have the fume hood re-certified prior to resuming work.

N/A

Are all fume hood(s) accessible? Material that impedes access to fume hoods must be removed.

N/A

Is the fume hood being used properly? Fume hoods must be kept clear of excess chemicals and equipment.

N/A

Are fume hoods free from Perchloric Acid? Perchloric Acid may not be stored in any portion of the hood due to the potential damage fumes cause in the duct system.

N/A

Are Biosafety cabinets accessible? Material that impedes access to the Biosafety cabinet must be removed.

N/A

Are Biosafety cabinets being used properly? Biosafety cabinets must be kept clear of excess chemicals and equipment.

N/A

Is the Biosafety cabinet certified? Biosafety cabinets must be certified annually, after repairs, and after relocation. If the biosafety cabinet has failed inspection, all biological and material hazards must be removed and stored appropriately. Work may not be resumed until the unit is fully operational and re-certified. Contact ESH to schedule certification with vendor.

N/A

Have new Biosafety cabinets been reported to Environmental Safety and Health? Any new Biosafety cabinets must be reported to ESH so they can be added to the certification list.

N/A

## Glove Boxes

100%

Is the glove box being used properly? Glove boxes should be kept clear of all excess chemicals/equipment.

N/A

Is the glove box in acceptable condition and has it been certified according to manufacturer recommendations?

N/A

## Personal Protective Equipment

100%

Has respirator usage been authorized? Respirators should not be necessary in the laboratory when proper safe work practices and engineering controls are employed. Contact ESH at 410-455-2918 to review the issue specific to your needs

N/A

Is the proper personal protective equipment available? Eye protection, protective gloves and a laboratory coat must be made available to all personnel conducting laboratory experiments.

N/A

Is the proper personal protective equipment in use? Eye protection, protective gloves and a laboratory coat must be worn while conducting laboratory experiments.

N/A

Are closed toe shoes being worn in the laboratory? Open toe shoes are not permitted to be worn in laboratories.

N/A

Are hand washing supplies available in the lab? A sink must be available with paper towels and liquid soap for hand washing.

N/A

## Equipment Safety

100%

Does all equipment have proper guarding? All saws, grinders, drills, etc. must have the proper factory installed guarding in place.

N/A

Is all equipment properly secured to the bench or floor? All equipment must be anchored to the bench top or floor where it is being used.

N/A

There is no more than a 1/4 inch between grind wheels and work rests.

N/A

## Electrical Safety

100%

<p><b>Are electrical cords in good condition? Electrical cords must be securely plugged into wall outlets with the grounding prongs intact. Equipment with cracked, frayed or damaged cords must be taken out of service until the cord may be repaired or replaced.</b></p>	<p>N/A</p>
<p><b>Are covers in place on all outlets and electrical fixtures?</b></p>	<p>N/A</p>
<p><b>Are extension cords only in use temporarily? Extension cords may not be used as permanent wiring, and must be removed.</b></p>	<p>N/A</p>
<p><b>Are electrical panels free from obstructions? Material that impedes access to the electrical panel must be removed. At least 36 inches in front of the panel must remain clear at all times.</b></p>	<p>N/A</p>
<p><b>Laser Safety</b></p>	<p>100%</p>
<p><b>Is there adequate signage denoting the specific hazards associated with the laser?</b></p>	<p>N/A</p>
<p><b>Are there laboratory specific laser SOPs readily available?</b></p>	<p>N/A</p>
<p><b>Is laser specific PPE available that is appropriate for the wavelength?</b></p>	<p>N/A</p>
<p><b>Position of laser does not create additional hazards? Laser is below eye level, controls are located so that the operator is not exposed to beam, beam is not directed towards doors or windows or reflective surfaces.</b></p>	<p>N/A</p>
<p><b>Beams are terminated with adequate beam stops? All beam stops should be in good working condition, any worn or broken beam stops should be replaced. Curtains, if present, should be fire resistant and not have holes in them.</b></p>	<p>N/A</p>
<p><b>Are all class 3B or class 4 lasers registered with ESH? Complete the New Laser Use and Registration form found on <a href="http://safety.umbc.edu">safety.umbc.edu</a> and email it to <a href="mailto:esh@umbc.edu">esh@umbc.edu</a>. Contact ESH at <a href="mailto:esh@umbc.edu">esh@umbc.edu</a> or 5-2918 for questions.</b></p>	<p>N/A</p>
<p><b>Fire Safety</b></p>	<p>100%</p>
<p><b>Are sprinkler heads free from obstructions? Sprinkler heads require a minimum of 18 inches of clearance in all directions. All material that interferes with the performance of the sprinkler heads must be removed.</b></p>	<p>N/A</p>
<p><b>Is there a minimum of 18 inches of clearance between flammable materials and ceiling? Cardboard boxes and other combustible materials within 18 inches of the ceiling must be</b></p>	<p>N/A</p>

relocated.

**Is the fire extinguisher accessible?  
Material that impedes access to a fire extinguisher must be removed.**

N/A

**Is fire extinguisher inspected annually?  
Fire extinguishers must be tested annually or discarded.  
Contact ESH at 5- 2918 to have fire extinguisher inspected or to evaluate if it can be discarded.**

N/A

## Compressed Gas Cylinders

100%

**Are gas cylinders properly secured? Compressed gas cylinders must be secured to a wall, bench mount, floor bracket or other stable fixture to prevent falling. Protective valve caps must be tightly in place when regulators are not in use.**

N/A

**Oxygen cylinders are stored >20ft away from flammable gas cylinders or are properly shielded.**

N/A

## Biosafety

100%

**Non-Cloth chairs present in lab?  
Laboratory furniture must be capable of supporting anticipated loads and uses. Chairs used in the biological laboratory must be covered with a non-porous material that can be easily cleaned and decontaminated with appropriate disinfectant. Implementing a standard operating procedure (SOP) that requires laboratory personnel to contact ESH if a porous chair is contaminated is a suitable alternative to replacement.**

N/A

**No presence of non-research plants/animals in laboratory?  
Animal and plants not associated with the work being performed must not be permitted in the laboratory.**

N/A

**Are sharps being stored properly? When not in use, razor blades and other sharps must be stored in a protective device, or disposed of in a disposable sharps container. Manual recapping of needles is prohibited.**

N/A

**Biohazard labels are present were required? All equipment and materials used to store or process potentially infectious material must be labeled with the universal "Biohazard" symbol when material is present.**

N/A

**Are vacuum lines are protected?  
Building and laboratory vacuum systems must be protected during vacuum filtration or aspiration procedures. Vacuum lines must be off when not in use. High Efficiency Particulate Air (HEPA) disposable cartridges must be used to prevent fluid and aerosol contamination of vacuum lines and vacuum**

N/A

pumps.

## Chemical Safety

100%

**Are all containers labeled properly?**

All containers must be labeled, in English, with their full chemical contents.

N/A

**Are all containers in good condition?**

All chemical containers must be in good condition with no visible damage or deterioration. Caps must be secure, intact, and without chemical residue. Labels must be intact, and fully legible.

N/A

**Are all containers closed? . Funnels remaining in the containers, corks with holes, aluminum foil and para film are not acceptable lids.**

N/A

**Are corrosive liquids stored below eye level? Liquid corrosives are prohibited above eye level.**

N/A

**Are acids segregated from bases? Acids must be segregated from bases at all times.**

N/A

**Are acids segregated from flammable liquids? Acids must be segregated from flammables at all times.**

N/A

**Are oxidizers segregated from flammables?**

Oxidizers and flammable liquids must be stored separately.

N/A

**Are refrigerators and freezers free of non compatible material? Flammable, oxidizing and reactive chemicals may not be stored in a non- explosion proof refrigerator or freezer and must be removed.**

N/A

**Peroxide-forming chemicals are dated upon receipt and opening? Peroxide-forming chemicals must be labeled with the date of receipt, and with the date the material is opened. All peroxide-forming chemicals must be discarded six months after opening, or by the expiration date, whichever occurs first.**

N/A

**Has the laboratory chemical inventory been updated?**

Chemical inventories should be updated quarterly and be emailed to [esh@umbc.edu](mailto:esh@umbc.edu) in excel format. Maintaining an updated chemical inventory can greatly assist emergency responders in the event of an emergency. All chemical inventories should include the relative quantities of each chemical. It is also important to update MSDS online whenever a chemical is added or removed from the chemical inventory. Visit [safety.umbc.edu](http://safety.umbc.edu) for assistance with logging on to MSDS online.

N/A

## Chemical Waste

100%

Are all chemical waste containers labeled with the words "Hazardous Waste"? All containers that contain chemical waste must be labeled as "Hazardous Waste".

N/A

Do all chemical waste containers have their constituents listed? All chemical waste containers must be labeled with its constituents in English with no abbreviations. The waste label must be dated when waste is first added to a waste container.

N/A

Are all containers closed? . Funnels remaining in the containers, corks with holes, aluminum foil and para film are not acceptable lids.

N/A

Are chemical waste containers stored in secondary containment? All containers storing liquid chemical waste require secondary containment, such as a plastic tub.

N/A

Waste is under the control of the generator?  
All hazardous waste must be stored in a controlled location that can be secured by the generator. Waste may not be stored in common or public areas.

N/A

## Biohazard Waste

100%

All Biohazard waste containers are labeled? All biohazardous waste containers must be labeled with the Universal Biohazard symbol.

N/A

Waste is under the control of the generator?  
All biohazardous waste must be stored in a controlled location that can be secured by the generator. Waste may not be stored in common or public areas.

N/A

Sharps are disposed of in proper containers? All sharps(needles, scapels, razor blades, etc.) must be disposed of in containers that are specifically manufactured for those types of items.

N/A

## Other

100%

Is lab free of mercury containing devices? UMBC strongly encourages the use of non-mercury containing thermometers and devices. Existing mercury devices can be turned into ESH as hazardous waste.

N/A

Containers of used oil is labeled correctly? Uncontaminated oil from vacuum pumps and other laboratory equipment should be labeled as "Used Oil".

N/A



**Are laboratory specific SOPs readily available and have all staff been trained on them?**

N/A

**Are all laboratory staff up to date with all ANNUAL required trainings (webnet, CITI, laboratory specific trainings)?**

N/A

**There are no further safety concerns?**

N/A