



MONTANA
STATE UNIVERSITY

125
YEARS

Biosafety

Office of Research Compliance
(406) 994-3779

304 Montana Hall
Bozeman, MT 59717
FAX: (406) 994-4790

2018 Laboratory Self-Inspection Form

Date of Survey: _____

Conducted By: _____

Building: _____

Room Number: _____

Department: _____

Principal Investigator: _____

Notes: Annual lab self-inspections are a key component of hazard identification and control intended to assist labs in compliance with the Occupational Health and Safety Administration (OSHA), Environmental Protection Agency (EPA), National Institutes of Health (NIH), Center for Disease Control and Prevention (CDC), Department of Transportation (DOT), and International Air Transportation Association (IATA).

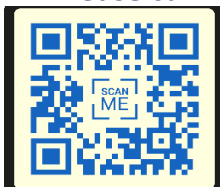
Instructions:

- Complete this form manually while inspecting the lab.
- Note that CTI stands for corrected at time of inspection.
- File the completed Lab Self-Inspection Form in your Lab Safety Binder & send a copy to philip.merta@montana.edu

Questions/Concerns/Comments:

Please call MSU Biosafety Officer Phil J. Merta

994-3779 / 600-8787



No.	Item	Yes	No	CTI	N/A	Comments
1.00 General Safety						
Administrative Controls						
1.01	The external lab doors are posted with ORC/SRM provided signage that reflects the hazards present in the lab and displays current emergency contact information.					
1.02	All lab personnel training can be verified as current for applicable ORC/SRM training courses.					
Housekeeping/Work Practices						
1.03	Lab equipment is decontaminated on a routine basis in addition to any of the following instances: After spills, splashes, or other potential contamination. Before repair, maintenance, or removal from the lab.					
1.04	There is a sink available for washing hands with soap and paper towels. If sink is unavailable, hand sanitizer is used as a temporary sanitation & personnel wash their hands with soap and water afterwards at the nearest sink.					
1.05	Personnel wash their hands after working with potentially hazardous materials & before leaving the lab.					
1.06	Sinks are free of foreign objects that could clog drain.					
1.07	No water reactive compounds are stored under sinks, except for cleaning products (i.e. bleach, detergent).					
1.08	Food/drink/cosmetics/lotions are not in the lab.					
1.09	Lab is clean, orderly & free from trip hazards (ex. equip. on floor, cardboard, boxes, electrical cords, etc.)					
1.10	Hazardous reagents and samples are labeled and stored upright in appropriate containers.					
1.11	Lab doors are self-closing&have locks in accordance with institutional policies. Lab doors are not propped open.					
1.12	Animal and plants not associated with the work being performed are not present in the lab.					
1.13	Electrical cords are appropriate for the equipment and are grounded with no 3-pin to 2-pin adaptors; they are not damaged or frayed. Electrical outlets are not overloaded.					
Sharps						
1.14	Unprotected sharps are not present in the lab (examples: razor blades, scalpels, needles, Pasteur pipettes).					
1.15	Needles are not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.					
1.16	Reusable sharps are placed in a hard walled container for transport to a processing area for decontamination, preferably by autoclaving.					
1.17	Disposable sharps are disposed of in a sharps disposal container and the containers are no greater than 3/4 full. The sharps container lid is either kept shut or designed to prevent the contents from spilling.					
1.18	Broken glass containers with plastic liners are available and the containers are no greater than 3/4 full.					

No.	Item	Yes	No	CTI	N/A	Comments
2.00 Biological Safety						
Do you work with biological material? If no skip Section 2.0 and go to Section 3.0						
2.01	Lab has a current and accurate Biosafety Protocol approval for all research activities involving biohazard materials					
2.02	Lab has Biosafety SOPs. SOPs are stored in a Lab Safety Binder and have been signed by those working in the lab as a method of documenting lab-specific biosafety training. The Biosafety SOPs are reviewed annually and updated as needed.					
2.03	A freezer inventory listing all biological agents (i.e., microorganisms, viruses, toxins, etc.) that are stored in the lab is available.					
2.04	All individuals involved in the transportation/shipping of hazardous materials other than biomedical waste (e.g., dry ice, infectious substances, or biological substances) have taken Shipping Training for Infectious and Biological Substances within the past 2 years and are certified to ship these materials.					
2.05	A copy of the signed Shipping Training certificate(s) is stored in the lab safety binder. In the event that the lab is visited by a USDOT or FAA Inspector, they request these as forms of training documentation.					
Engineering Controls						
2.06	All active Biological Safety Cabinets (BSCs) have been certified within the last 12 months.					
2.07	BSCs that have failed certification or have not been certified within the last 12 months are tagged out of service and are not in use.					
2.08	Bunsen burners and/or open flames are not used in the BSC. Flammable gas is not used or connected to the BSC gas lines.					
2.09	Intake and rear grilles are clear of obstructions.					
2.10	No items are stored on top of the BSC.					
2.11	The BSC sash is functioning properly, set at an appropriate height, and not cracked. Sash is not propped open with lab equipment and alarm is not muted.					
2.12	All active laminar flow hoods/clean benches have been certified within the last 12 months. Laminar flow hoods/clean benches that have failed certification or have not been certified within the last 12 months are tagged out of service and are not in use.					
2.13	Laminar flow hoods/clean benches are not used for work with biohazard material or other hazardous material.					
General Safety						
2.14	All procedures involving the manipulation of infectious materials that may generate aerosols are conducted within a BSC or other physical containment devices.					
2.15	Lab equipment and containers used to store or manipulate biohazard materials are labeled biohazard (e.g., refrigerators, incubators, centrifuges).					
2.16	Centrifuges have door interlocks (mechanism to keep lid closed during operation).					
2.17	Lab has an adequately stocked biological spill kit in the lab area.					
2.18	Mechanical pipetting devices are used. Mouth pipetting is prohibited.					
2.19	Biological and biohazard samples are placed in a durable, leak proof container during collection, handling, processing, storage, or transport within a facility.					

No.	Item	Yes	No	CTI	N/A	Comments
6.00 Personal Protective Equipment (PPE)						
6.01	Gloves are worn & are appropriate for hazards being used.					
6.02	Alternatives to latex gloves are available.					
6.03	Personnel change gloves when their gloves become contaminated, glove integrity is compromised, or when otherwise necessary.					
6.04	Personnel remove gloves before leaving the lab.					
6.05	Personnel do not wash or reuse disposable gloves.					
6.06	Gloves and other disposable PPE (such as gowns & masks) are disposed with other contaminated waste.					
6.07	Safety glasses with side protection meeting ANSI Z87.1 are available in the lab and are worn while research is being performed. Normal prescription glasses and contact lenses are not considered eye protection.					
6.08	Safety goggles are available & worn in place of safety glasses when there is potential for splashes or spatters of infectious or other hazardous materials. For instance, when pouring chemicals, disinfecting work surfaces, etc.					
6.09	Face shields are available in the lab and used when additional face and neck protection is required. They are worn in conjunction with eye protection.					
6.10	Eye and face protection is disposed of with other contaminated lab waste or decontaminated before reuse.					
6.11	Lab coats and other appropriate protective clothing (i.e., shoe covers and gowns) are available in the lab and are worn while conducting laboratory experiments.					
6.12	Closed toed shoes and long pants are worn at all times when inside the lab.					
6.13	Hearing protection is worn when working in loud areas.					
6.14	If personnel are wearing hearing protection, lab has requested noise monitoring from SRM. High noise areas (above the OSHA action level) will trigger hearing conservation medical surveillance.					
6.15	If required by ORC/SRM based on a risk assessment, respiratory protection is available in the lab and worn. Reusable respirators are regularly cleaned, disinfected, inspected, and stored appropriately. Medical clearance, fit testing, and training for respirator use is renewed annually.					
Biological Waste						
2.20	All biohazard waste is collected for decontamination prior to disposal. Examples of biohazard waste include: rDNA, cultures, plates, transgenic animals/ plants/ arthropods, and sharps.					
2.21	Untreated biohazard waste is not poured down the drain, discarded in the regular trash, or mixed with chemical waste.					
2.22	Vacuum lines are protected with liquid disinfectant traps, and traps are labeled as biohazard waste with a biohazard label.					
2.23	Solid, non-sharps biological waste is collected in a durable, leakproof biological waste container that is lined with a biohazard bag.					
2.24	Biohazard waste is properly transported to the autoclave using approved primary and secondary transportation.					

No.	Item	Yes	No	CTI	N/A	Comments
7.00 Emergency						
Emergency Procedures						
7.01	Personnel in the lab know how to formally report accidents & injuries to SRM after first aid/medical care has been received.					
7.02	All personnel know to dial (406-994-2121) in the event of an emergency.					
7.03	Spills & accidents with recombinant/synthetic nucleic acids are immediately reported to the Biosafety Officer so that ORC can report the incident to NIH.					
7.04	The eyewash in the lab is tested and documented weekly.					
7.05	Double ocular and single ocular eyewashes have protective caps in place.					
7.06	Eyewash and safety shower are available and free of obstruction.					
General comments						

**For Questions/comments,
please contact MSU Biosafety
Officer Phil J. Merta 994-3779
philip.merta@montana.edu**



IMPORTANT LINKS:

<http://www.montana.edu/orc/documents/biosafety/Biosafety%20Manual%202016.pdf>

MSU BIOSAFETY MANUAL

<https://www.cdc.gov/biosafety/publications/bmbl5/bmbl.pdf>

BMBL -Biosafety in Microbiological and Biomedical Laboratories (CDC)

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051

OSHA Bloodborne Pathogen Standard

https://osp.od.nih.gov/wp-content/uploads/2013/06/NIH_Guidelines.pdf

NIH Guidelines (recombinant DNA)

TRAINING REQUIREMENTS FOR ALL SCIENTISTS:

Online (CITI Training)--

General Biosafety- EVERY 3 YEARS

<https://about.citiprogram.org/en/homepage/>

Recombinant DNA (if it applies)- - EVERY 3 YEARS

In-House Training (covers all biosafety requirements)

OSHA Bloodborne Pathogens - ANNUAL

<http://www.montana.edu/orc/biosafety/training.html>

(for work on human-sourced materials)

CHECK WITH CSO for Additional Requirements.

In case of a lab injury-

File a First Report of Injury (FROI) to activate Workers' Compensation resulting from work related injuries.

<https://firstreportinjury.mus.edu/>

Coverage includes "Occupational Diseases" as described in the link below, to protect against potential infections.

<http://www.montana.edu/srm/insurance/WorkersCompensation.html>

(See under Forms on left- "First Report of Injury")

5.00 Chemical Safety



Engineering Controls

No.	Item	Yes	No	CTI	N/A	Comments
5.01	All Chemical Fume Hoods (CFH) have been certified within the last 12 months and the certification label is attached and initialed by the certifier.					
5.02	CFH is not overcrowded with equipment, storage containers, & equip. is 6" from front, sides & back to ensure airflow.					
5.03	CFH work surfaces are clean, free of obvious chemical residue.					
5.04	CFH sash is not propped open with lab equipment and alarm is not muted. Additionally sash is clean for clear visibility.					
5.05	Tubes, hoses, and cables are routed through transfer/access ports or other openings that will not inhibit proper sash closer & operation.					
5.06	Vented storage areas under the CFH are free of spilled chemicals. The walls in the vented storage areas under the CFH are intact.					

General Chemical Storage

5.07	Lab has a Chemical Hygiene plan. The Chemical Hygiene plan is stored in a Lab Safety Binder and has been signed by those working in the lab as a method of documenting lab-specific training.					
5.08	An inventory listing all chemicals stored in the lab is available.					
5.09	Aerosol cans are stored away from heat and ignition sources.					
5.10	Chemical containers are in good condition. For example, lids are not cracked and crystals are not forming on the inside or outside of the container.					
5.11	Legacy/obsolete chemicals (inherited, unused for 10+ years, or off spec) are collected and given to SRM for disposal.					
5.12	All chemical containers (including stock bottles, solutions, & beakers) are labeled legibly with the full chemical name in English as indicated on the stock bottle.					
5.13	Chemicals are stored by compatibility (i.e., flammables & oxidizers are separated; acids and bases are separated; mineral & organic acids separated). Common mineral acids are Hydrochloric Acid, Sulfuric Acid, and Phosphoric Acid. Common organic acids are Acetic Acid, Citric Acid, & Formic Acid.					
5.14	Liquid corrosives are stored in a corrosives cabinet & have secondary containment. Examples of secondary containment for liquid corrosives are Nalgene or Polypropylene containers.					
5.15	Flammables are stored in an approved flammable liquids cabinet, or volume outside the cabinet does not exceed 16L/100 square ft of lab space.					
5.16	Hazardous chemicals are stored on bench tops, shelves or cabinets. If containers of hazardous chemicals are too large to fit safely on shelves, they are stored on the floor in secondary containers and in such a way that they do not pose a trip hazard.					
5.17	Hazardous chemicals are stored in such a way as to prevent release to the environment by being tightly capped at all times and in secondary containment except when in use and stored away from the drains.					

No.	Item	Yes	No	CTI	N/A	Comments
5.18	Flammable/volatile liquids are stored in a rated flammable storage refrigerator when refrigeration is required.					
Special Chemical Hazards						
5.19	Written lab procedures are in place for Special Chemical Hazards (highly toxic substances, acetyl cholinesterase inhibitors, pyrophoric compounds, shock sensitive compounds, water reactive compounds, mutagens, teratogens, carcinogens, suspect carcinogens, and unstable compounds). Additionally, highly toxic substances, carcinogens, and suspect carcinogens may require medical surveillance.					
5.20	Compounds identified as Special Chemical Hazards are stored securely, in compatibility groups, and handled according to the lab's written procedures.					
5.21	Peroxide-forming chemicals and other shelf-life chemicals are labeled with the date received and the expiration date. Expired containers of peroxide-forming chemicals are disposed of properly through SRM immediately.					
5.22	Alternatives to mercury are used, or if mercury-containing device is still in use, it is intact and not leaking. Mercury leaks or spills are reported to SRM immediately.					
5.23	Unused mercury containing devices (thermometers, thermostats, etc.) are disposed of through SRM.					
DEA Controlled Substances						
5.24	Federal DEA Licenses are available.					
5.25	DEA-regulated items are secured in a locked container.					
5.26	Lab maintains proper recordkeeping of DEA controlled substances (including stock, usage, and disposal).					
Compressed Gas Cylinders						
5.27	Compressed Gas Cylinders are:- Tagged as "empty" or "full" when not in use.- Labeled as to their contents.- Stored upright and secured to a stationary surface by a chain or strap that is two thirds up the cylinder. - Capped when not in use and have a pressure regulator when in use.- Flammable and oxidizer gases are separated.-Cylinders not in use are not stored in labs.					
Chemical Waste						
5.28	The final destination for chemical waste (including non-DEA controlled pharmaceutical waste) is SRM. Chemicals are not poured down the drain or discarded in regular or biohazard waste.					
5.29	All chemical waste is stored in SRM provided chemical waste containers with completed SRM Chemical Waste Labels, & are securely closed except when in use.					
5.30	Chemical wastes are compatible with their containers and are stored by compatibility (i.e., acid waste is not stored with alkaline waste).					
5.31	All chemical waste generators are trained using the on-line course (SRM web page).					

**For Questions concerning Chemical Safety, please contact: Ryan Brickman, CSO
Safety and Risk Management 994-7760
ryan.brickman@montana.edu**

SKIP PP.8-10 if you do not use Radioactive Isotopes, X-rays, Nuclear Gauges, or Lasers.

3.00 Radiation Safety



Does your lab work with radiological material? If no skip Section 3.0 and go to Section 4.0.

3.01	Lab has current authorization for ordering, working with, and/or storing radioactive materials.					
3.02	Radioisotopes in use are listed on authorization permit.					
3.03	Authorized Users (AUs) of radioactive materials are identified on PI's authorization permit.					
3.04	AUs listed on the radiation safety permit are up-to-date on their required Radiation Safety Training. (Annual online refresher courses and full training every three years. 63Ni ECD users are exempt from refresher training)					
3.05	NRC Form 3 Notice to Employees is clearly posted at all entrances to the lab spaces containing radioactive materials.					
3.06	Caution Radioactive materials icon is present on the Lab Entrance Safety Sign					
3.07	Only/all approved isotopes are listed on the Lab Entrance Safety Sign					
3.08	Acquisition of radioactive materials has not occurred without prior approval from RSO.					
3.09	No unauthorized removal of radioactive material from a facility has occurred.					
3.10	Radiation works areas/equipment are labeled with appropriate signage.					

General Radiation Safety

3.11	Use and storage of radioactive materials takes place in the authorized area.					
3.12	Shielding is present and appropriate for the type of radiation. Shielding reduces dose rate to 2 mR/hr or less at 30 cm from source or surface.					
3.13	Geiger meters have been calibrated within the last year and are in good operating condition or marked out of service by RSO.					
3.14	Liquid scintillation fluid is non-hazardous (i.e., biodegradable, high flash point, or non-flammable). Ex. nonhazardous liquid scintillation fluid include Ecoscint (National Diagnostics), Opti-Fluor (Perkin Elmer), Ultima Gold (PerkinElmer), Scintiverse BD (Fisher), ScintiSafe (Fisher).					
3.15	Radioactive material is secured against unauthorized access or removal. Methods include locking unattended laboratories, locking refrigerators or freezers in unrestricted areas or for shared refrigerators or freezers, securing in a lock box attached to the refrigerator or freezer.					

Inventory and Usage

3.16	Inventory of all RAM is tracked and current on the Inventory and Waste Tracking spreadsheet located on the Radiation Safety Program D2L site					
3.17	AUs update the Inventory and Waste Tracking spreadsheet on every day of use and whenever a package is received.					

Contamination Surveys

3.18	Surveys are performed and documented after each usage in the survey folder located on the Radiation Safety Program D2L site.					
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No.	Item	Yes	No	CTI	N/A	Comments
Radioactive Waste						
3.19	For each usage date the distribution of inventory into waste streams is tracked on the Inventory and Waste Tracking spreadsheet located on the Radiation Safety Program D2L site.					
3.20	Orders in the Inventory & Waste Tracking spreadsheet are shaded out once their storage amts are reduced to 0.					
3.21	The final destination for radioactive waste is the RSO.					
3.22	All radioactive waste is stored in RSO provided radioactive waste containers.					
3.23	Radioactive waste is segregated by isotope and waste type (Dry, Liquid, or Liquids Scintillation Vial).					
3.24	Radioactive waste containers are labeled with a provided RSO Radioactive Waste Label.					
3.25	Radioactive waste is properly prepared for pick-up.					
3.26	Radioactive waste is not disposed of via the sewer.					
3.27	Labels (e.g., white I, yellow II) on shipping boxes used for receiving radioactive materials are defaced prior to disposal through housekeeping.					
Dosimetry						
3.28	Personal dosimetry badges and control badges are stored away from radioactive materials.					
3.29	Personnel wear badges properly when handling radioactive material.					
Nuclear Gauges						
3.30	Inventory is taken every 6 months					
3.31	Leak Tests are performed every 6 months					
3.32	Two levels of security measures and an additional lock on the nuclear gauge cases are present while gauges are in storage					
3.33	Shipping papers are submitted to the RSO prior to transport and kept accessible to the driver at all times					
3.34	All AUs have been trained on the specific operating procedures for safe use of their nuclear gauge					
3.35	A copy of the license for use is kept within the gauge storage case.					
3.36	The gauge is clearly and durably labelled with the radiation warning symbol, and with the name and telephone number of the PI and RSO for contact in case of problems. The Special Form Approval (USA/0627/S or CZ/1009/S) is kept within the gauge case.					
3.37	The gauge and gauge case is in good physical condition					
3.38	The gauge is stored within the case and placed in an unoccupied part of the vehicle during transport					
3.39	The gauge is blocked and braced during transport to prevent movement within the vehicle					
3.40	The package testing results of the type A package (gauge case) are kept within the case					
3.41	The gauge case has the proper shipping label affixed to it: UN3332, Radioactive Material Type A Package, Special form 7 Transport index 0.2 Yellow II label, RQ					
3.42	The Special Form Approval (USA/0627/S or CZ/1009/S) is kept within the gauge case.					

No.	Item	Yes	No	CTI	N/A	Comments
4.00 X-ray Safety						
Does your lab work with X-rays? If no skip Section 4.0 and go to Section 5.0.						
4.01	Lab has current authorization for using equipment capable of producing X-rays.					
4.02	All Authorized Users (AUs) of equipment capable of producing X-rays are identified on PI's authorization permit.					
4.03	AUs listed on the X-ray safety permit are up-to-date on their required safety training. (Full training every three years)					
4.04	Caution X-ray equipment icon is present on the lab entrance safety sign					
4.05	No unauthorized relocation of X-ray generating equipment from a location has occurred.					
4.06	X-ray generating equipment is secured from unauthorized operation (Examples: locked room while unattended, removal of operational keys or a required passcode)					
4.07	A log of hours of operation of the X-ray beam with shutters open, if applicable, is maintained.					
4.08	Surveys using calibrated radiation detection equipment are performed once a year or whenever changes are made to the unit.					
4.09	A safety device, such as an interlock, is present that prevents the entry of any portion of an individual's body into the path of the active primary x-ray beam					
4.10	The x-ray unit has a discernible indication of x-ray tube "on-off" status, shutter "open-closed" status (if applicable), and an easily visible warning light labeled with the words "X-Ray on", or similar words (electron microscopes are exempt)					
4.11	X-ray equipment is labeled near any switch that energizes an x-ray tube with a readily discernible sign bearing the radiation symbol and the words: "Caution Radiation – This equip. produces radiation when energized", or similar words (electron microscopes are exempt)					

**For Questions concerning Radiation Safety, please contact:
Dr. Nick Childs, MSU Radiation Safety Officer 994-7317**

