Laboratory Safety Policy

I. Administrative Units Serving in Oversight Role

a. Environmental Health and Safety (EHS)
   i. 765-285-2807
   ii. BSU EHS Main Webpage

b. Office of Research Integrity (ORI)
   i. 765-285-5052
   ii. BSU ORI Main Webpage

II. Scope

This policy applies to all Ball State University (BSU) employees, students, visitors, and contractors. This policy applies to any applicable BSU facility or site. The policy covers general laboratory safety.

This policy does not cover Institutional Animal Care and Use (IACUC) semi-annual inspections or controlled substances inspections. Each is addressed as part of their own regulatory process and policy.

III. Definitions

a. Primary space
   i. Area where scientific research and/or laboratory instruction is conducted, where materials are stored (includes stock rooms), and/or where preparation of materials is conducted (includes prep rooms).
   ii. Location where potentially hazardous chemicals, biologicals, or active or passive radiological materials are routinely in use.
   iii. The determination of what spaces are primary spaces will be made by Environmental Health and Safety (EHS). Simply calling a space a "lab" does not automatically mean it is a primary space for inspection purposes. Each space will be reviewed on a case-by-case basis.
   iv. These designated primary spaces are to be inspected at least annually, unless otherwise rescheduled by ORI and EHS.

b. Secondary space
   i. Ball State University (BSU) secondary spaces generally are not used for research or laboratory instruction but are locations where hazardous chemicals may be present.
   ii. The determination of what spaces are secondary spaces will be made by EHS.

iii. These spaces are inspected at least every three (3) years, or for a shorter period as needed (as determined by EHS).

c. Responsible Party (RP)
   i. BSU employee assigned as the person responsible for overseeing a primary and/or secondary space as defined above.
   ii. The RP can include a principal investigator (PI), a lab manager, a department chairperson, or other applicable laboratory.

d. Laboratory Incident
   i. Any situation or unplanned event that involves chemical spills, biological spills, hazardous exposures, and/or physical incidents associated with laboratory work.

IV. EHS responsibilities

a. Developing and maintaining the BSU Chemical Hygiene Plan (CHP).
   i. EHS Laboratory Safety
b. Managing BSU's Hazard Communication Program.
   i. EHS Chemical Management
c. Administrating BSU's chemical inventory management system.
d. Performing all primary and secondary space chemical hygiene Inspections.
   i. Ensuring all chemicals are not expired, properly segregated, and stored per instructions in each safety data sheet (SDS).
e. Maintaining records of all inspections performed by EHS.
f. Identifying Chemicals of Concern and determining whether they are designated as exempt or regulated amounts.
g. Providing laboratory safety and chemical hygiene training to BSU faculty, staff, and students, and maintaining training records in coordination with the Responsible Parties.
h. Maintaining the Occupational Safety and Health Administration (OSHA) Exposure Control Plan.
   i. EHS Chemical Management
i. Providing basic OSHA Bloodborne Pathogen Training to faculty, staff, and students.
   i. EHS Public Health
j. Providing inspection findings and/or reports to ORI for dissemination.
k. Reporting instances of non-compliance in writing to ORI for communication and to administer corrective actions.
l. Managing hazardous waste removal and administrative functions related to waste removal.
m. Inspecting and managing safety equipment (ex. Fume hoods, first-aid kits, eyewash stations, etc.).
n. Take immediate appropriate action(s) in situations where the potential for imminent harm exists to persons, property, or the environment.
o. Acts as the subject matter expert for the use, storage, disposal, and containment of hazardous materials.

V. ORI responsibilities

a. Develop and maintain the BSU Biological Safety Manual.
   i. BSU Biosafety Manual

b. Provide training on biological safety and the National Institutes of Health (NIH) Guidelines.
c. Conduct biosafety inspections on laboratories using biological hazards and disseminating findings, as described in section VII.
d. ORI will have the responsibility of inspecting lab spaces that store or use biological hazards (including toxins of biological origin).
    i. Biosafety inspections of lab spaces will be on at least an annual basis. Semi-annual inspections will occur for:
    ii. Research protocols involving Biosafety Level (BSL)/Animal Biosafety Level (ABSL) 2 or higher protocols;
    iii. Protocols using select agents, regardless of status (Exempt v. Non-Exempt amounts); or
    iv. As required by federal, state, or local statute or regulation or as a condition by a funding agency.
    v. Biosafety inspections for IBC protocol final approvals will occur as needed. This differs from annual inspections and ensures the designated lab space(s) can conduct the proposed research under proper containment.
e. Review material transfer agreements (MTA), in conjunction with EHS (when applicable), that may require safety inspections and/or specific handling/shipping requirements.
f. Administer quarterly autoclave quality assurance (QA) testing.
g. Communicate on issues related to chemical hygiene processes, issues and concerns, and hazard communication to EHS.
h. Address and remediate all non-compliance reported by EHS to ORI and provide written confirmation of required outcomes.
i. Act as point of contact and communication relating to findings of EHS lab inspections to responsible parties. This includes any follow-up correspondence regarding corrective actions and/or deficiencies noted in the EHS inspection report.
j. Notify appropriate research review or institutional review committee (ex. Institutional Biosafety Committee (IBC), Institutional Animal Care and Use Committee (IACUC), etc.) as applicable.
k. Take immediate appropriate administrative action(s) in situations where the potential for imminent harm exists to persons, property, or the environment.
l. Review any space that contains items regulated under the US Export Control/Deemed Export Control regulations for compliance with said regulations.
m. Assist with biosecurity risk assessments where valuable biological materials, valuable laboratory materials, e.g., equipment, intellectual property, informational assets, and intangible assets exist.
n. Serves as the subject matter expert for the use, storage, disposal, containment, and import/export of biological materials.
o. Administratively maintaining space designations and supporting documentation.

VI. Responsible Party (RP) Responsibilities

a. Must ensure all individuals using a primary or secondary space have met training requirements, in accordance with federal regulations, funder policies, and BSU policies and procedures prior to use of the facility.
    i. Includes maintaining current and accurate training records.

b. Must ensure that all lab personnel receive basic laboratory safety training.
c. Must ensure each user is capable of, and properly trained for, safely performing delegated procedures.
d. Shall support and endorse cooperation with BSU compliance and monitoring, i.e., annual inspections and/or reporting noncompliance with established policy to the ORI.
e. Shall follow all approved procedures and protocol requirements.
f. Shall provide all necessary Personal Protective Equipment (PPE) and instructing in proper use and disposal.
g. Must ensure all required hazard signage and labeling is done to current standards.
h. Must ensure all lab personnel are familiar with:
    i. Biosafety Manual (where applicable);
    ii. All approved protocols, procedures, and documentation;
    iii. The CHP (Chemical Hygiene Plan);
    iv. Current SDS (Safety Data Sheets) for each chemical;
    v. Emergency procedures for the space (ex. evacuation plan); and
    vi. Emergency contact information.
i. Must correct improper or unsafe practices and ensures reporting takes place for large spills, accidents, and exposure incidents.
j. Shall address any known security/biosecurity risk or risk(s) requiring special handling (for example, controlled substances or biological toxins being secured in a locked box with limited access).
k. Shall create and maintain inventory, documenting dates of receipt, usage, and disposal amounts of biological toxins and controlled substances.
l. Must inform EHS and ORI of any changes to the hazards present in their assigned primary or secondary space.
m. Must notify the Institutional Biosafety Committee (IBC) via a new or amended IBC protocol detailing the proposed use for new biological hazards higher than Risk Group 1 (including synthetic/rDNA, toxins of biological origin).
n. Must enter and ensure accuracy of chemical inventories in the BSU Chemical Inventory Management System.
o. Shall fully cooperate with, and actively participate in, any incident/accident investigation.
p. Shall promptly notify EHS about any laboratory incident (as defined in section III (d) above).
q. BSU's Campus Police should be notified of the above during non-business hours.
r. If the incident involves a spill, or exposure of, biological materials, recombinant/synthetic nucleic acids, or radioactive biological materials, the BSU Biosafety Officer (BSO) must also be notified at the same time.

VII. Inspections by ORI and EHS

ORI and EHS cooperatively conduct or oversee inspections of primary and secondary spaces to help safeguard the quality of BSU's laboratory programs, as well as minimize the overall risk to the health and safety of individuals working in those laboratories.

a. Inspection process
    i. Inspection dates and times will be set up by the ORI, with the option for the principal investigator/lab manager, and/or other key personnel to attend.

ii. Inspections will be completed annually, unless otherwise noted in section III above.
    1. Spaces may be inspected at higher frequency based on factors such as repeat deficiencies or high hazard areas.
iii. EHS will be responsible for inspecting all lab spaces that have chemical hazards present.
iv. Semi-annual inspections of animal facilities and housing areas are a separate type of inspection process, governed by the Animal Welfare Act (AWA), regulations and guidance promulgated by the Office of Laboratory Animal Welfare (OLAW) and the US Department of Agriculture (USDA), and the most current version of the Guide for the Care and Use of Laboratory Animals.
    1. Semi-annual inspections are conducted by the BSU Institutional Animal Care and Use Committee (IACUC) in collaboration with the ORI.

b. Reports
    i. Checklists from EHS inspections shall be forwarded to ORI, who will generate reports for communication with faculty/lab managers directly.
    ii. Inspection reports for shared spaces, used by 2 or more faculty, will be sent collectively to each listed faculty/lab manager of a given lab space.
    iii. ORI, in coordination with EHS, shall communicate necessary corrective action plans needed to address deficiencies noted in EHS's inspection and disseminate these plans.
    iv. ORI will conduct follow-up meetings with the principal investigator/lab manager within sixty (60) business days post inspection to review the report and document action(s) taken or completed. Once this step is complete, the report will become "final".
    v. Reports may be supplied to a research review committee (ex. Institutional Biosafety Committee; IBC) chairperson when inspection results impact an approved research protocol(s).

c. ORI/EHS coordination concerning identified risks/chemicals/etc.
    i. Should the Biosafety Officer (BSO) observe an issue regarding a chemical hazard, the Chemical Hygiene Officer (CHO) will be notified. Likewise, if an issue related to biological hazards is noted, the CHO will inform the BSO.

VIII. Incident Reports

a. For all Laboratory Incident (s), EHS must be contacted immediately and provided with initial notification. The initial notification must include at a minimum:
    i. Nature of incident (ex. accidental spill, injury, etc.)
    ii. Parties involved (ex. student, researcher, etc.)
    iii. Date, time, and location (building and room number)
    iv. Initial actions taken/personnel contacted for assistance (ex. contact EHS and campus police)
    v. Description of any controlled or regulated items, chemicals, biological agents, etc.
b. EHS shall conduct a root-cause investigation, prepare incident reports, and contact other applicable offices.

i. EHS will coordinate with RPs in order to gather additional information

c. EHS shall notify the Vice Provost for Research (VPR) about the incident and provide what information is currently available. EHS shall be responsible for any mandatory reporting to Occupational Safety and Health Administration (OSHA) and applicable state officials. ORI shall be responsible for any mandatory reporting to Office of Laboratory Animal Welfare (OLAW), Centers for Disease Control and Prevention (CDC), US Department of Agriculture (USDA), or the National Institutes of Health (NIH).

IX. Emergency Procedures and Insurance in Case of Potential Student Injury

a. It is the responsibility of all supervisors, lab managers, principle investigators (PIs), and faculty to:
   i. Be familiar with BSU emergency procedures;
   ii. Ensure their personnel and students understand internal and/or specific emergency procedures; and
   iii. Make sure all personnel and students are aware of potential hazards and potential risks.

b. Units are expected to utilize a written acknowledgement form concerning potential risks associated with activities that carry an increased risk of accident and/or physical injury for the lab/studio in question and/or not already covered by a requirement through an approved research protocol (such as with the IRB or IACUC).
   i. The written acknowledgement form should:
      1. Include an explanation of the procedures that carry an increased risk of accident and/or physical injury;
      2. Include a statement that the volunteer or student understands and acknowledges the risks and is agreeing to accept these risks by participating in the activity;
      3. Include a statement that all such activities are voluntary, and that if a student declines to participate, they will suffer no negative reprisal in terms of their relationship with their supervisor, potential letters of referral, or other opportunities in the lab/studio setting;
      4. Be signed by the volunteer or student involved in the activity prior to them participating in the activity; and
      5. Be kept on file, with a copy provided to the volunteer or student upon request.
   ii. The written acknowledgement form should not be used as a mechanism for the unit to waive liabilities or responsibilities the university is obligated to follow and/or are covered by other university policies.

c. Students participating in lab/research/studio settings or volunteering for such activities not already covered as an approved research protocol should be informed prior to the activity or participation that BSU does not provide a domestic health insurance plan for students in case of accident or injury, and that they can seek information on student insurance options here.

i. For non-severe or non-life-threatening situations, students injured during normal operational hours of the BSU Health Center should go to the Health Center for initial care and evaluation.
ii. Units are responsible for familiarizing themselves and students with safety protocols for labs or activities occurring off-campus.
iii. If the injury is severe and/or life threatening (ex. severe uncontrolled bleeding, compromised breathing, unconscious person after a fall, etc.), use the procedure for Emergency Preparedness found here: https://www.bsu.edu/about/administrativeoffices/emergency-preparedness/guidelines/medical-emergencies

X. Chemical inventory requirements

a. EHS will provide a chemical inventory system and serve as the administrators for the system, to maintain compliance.
b. Each RP is responsible for ensuring their inventories are current and regularly updated in the chemical inventory system.

XI. Hazardous communication requirements

a. All BSU personnel are required to be trained on, and follow, BSU's hazard communications program, before beginning work in any laboratory space.
    i. EHS Chemical Management
    ii. Hazardous communication items will be reviewed during inspections of primary and secondary spaces.

XII. Training

a. All laboratory personnel are required to take EHS's available basic lab safety training before beginning work in any laboratory space.
b. Beyond the basic lab safety required training, individuals may be required to take training(s) applicable to their role in the lab, that cover specific situations/hazards, and/or specific lab requirements.
c. All completed training(s) must be documented and maintained by the RP and available during routine inspections.
    i. Records must be maintained for a minimum of five (5) years, unless other retention periods are prescribed by law.
    ii. Additional training and records retention will be established as needed.

XIII. Charter for Laboratory Oversight Committees

a. Executive Oversight Committee
    i. Membership:
        - Vice Provost for Research (VPR) (Chair), Institutional Official (IO)
        - Associate Vice President (AVP) for Business and Auxiliary Services, or their designee (Co-Chair)
        - Director, Office of Research Integrity
        - Director, Office of Risk Management

- Associate Director, Office of Research Integrity
- Associate Director, Office of Environmental Health and Safety (EHS)
- Invited College and Facilities ad hoc representatives as needed

ii. Functions:
- Review new and updated regulations
- Develop policy and periodic review of current policies
- Enforce policies and corrective action plans
- Establish educational priorities and/or criteria
- Review and manage action steps needed to address issues of non-compliance and/or continued non-compliance
- Has authority to limit or suspend use of a primary or secondary space(s).
- Make recommendations to university leadership related to:
    - Budget needs
    - Course(s) of action to address new compliance requirements
    - New building design or renovation efforts

b. Laboratory Space Working Group

i. Membership:
- Associate Director, Office of Research Integrity
- Associate Director of Environmental Health and Safety
- Chemical Health and Safety Officer, EHS

i. Functions:
- Manage the day-to-day operations of the Lab Safety Program
- Implement policies and procedures established by the Executive Oversight Committee
- Make training and policy recommendations to the Executive Oversight Committee
- Assist with developing and conducting training, when needed
- Provide the Executive Oversight Committee with feedback and recommendations from the various stakeholders
- Manage the annual lab safety inspection process

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