

Responsible Office: Research and Engagement, Environmental Health and Safety

Requirements for Laboratories, Work Areas and Equipment Shared among Principal Investigators

Rationale/Purpose of the Policy

Sharing may be voluntary or mandated by the University administration. PIs and administrators are encouraged to weigh the benefits and challenges before planning and constructing spaces for sharing or implementing sharing.

Benefits:

- Efficient and flexible use of spaces, equipment, and materials
- Facilitated collaboration

Challenges:

- Identifying responsibilities
- Communication of hazards and house keeping
- Restrictions on procedures that may be conducted – use of highly hazardous materials or conditions may not be permissible at all or only after prior review and approval by EH&S

To help navigate the challenges, UMass Environmental Health and Safety (EH&S) in conjunction with the Institutional Chemical Safety Committee (ICSC) has developed the following guidelines/policy to help ensure safe, secure, and efficient conduct of operations in shared lab spaces and with shared equipment.

Definitions

Principal Investigator (PI) – as per the Chemical Hygiene Plan (CHP), page 3:

<https://ehs.umass.edu/laboratory-health-and-safety-manualchemical-hygiene-plan>

Occupant - someone who is routinely present and working in a room (e.g., graduate students in the lab of their PI, technical staff in a teaching lab or user facility)

User - a person who is not an occupant and is present in a space or room to perform a specified task (e.g., a student in a lab class, or a person accessing an instrument in a user facility or a person accessing an instrument in a lab other than their own)

Room - an enclosure with permanent physical barriers (walls, doors) with an individual University-assigned number and a Door Card

Door Card – A sign placed on rooms containing hazardous materials or processes by EH&S that indicates general information on hazards present in the room and contact information for owners (PIs) and occupants.

Space- a section of room without an individual number, including but not limited to items such as a hood, bench, eyewash station, secondary container for hazardous waste, floor area, shelf in a cabinet or refrigerator, or sink.

Scope

This policy generally applies to research and teaching laboratories, analytical facilities, studios, shops and other spaces for which the UMass Chemical Hygiene Plan (<https://ehs.umass.edu/laboratory-health-and-safety-manualchemical-hygiene-plan>) applies. The term laboratory is meant to be inclusive of all the above

named spaces in the following. This policy specifically applies to locations that are shared in some manner (see classifications and characteristics in the policy below) **and** in which hazardous materials are stored or handled.

Policy

RECOMMENDATIONS

Room Access

Room access protocols and policies will be established by the PI or responsible department or business unit.

Hazardous Material Use

EH&S must review and approve the use of highly hazardous materials in these spaces as part of the ICSC review process.

Multi-PI Laboratories

Non-Shared Spaces

Characteristics

A subdivided laboratory with multiple responsible PIs and with occupants associated with these PIs, with the spaces assigned to individual PIs (typically by departments or major business units) and not shared.

Recommendations

Signage indicating the responsible PI with contact information is required for each space (use of the EH&S template for this purpose is encouraged: <https://ehs.umass.edu/shared-lab-space-ownership-labeling-template#overlay-context=manage-documents>). Clear demarcation of each PI's space is recommended (where use of tape or similar on benches or floor is encouraged).

PIs, or their trained designee as specified in the lab-specific chemical hygiene plan, are responsible to instruct their group members, as part of provided lab-specific training, to (i) read the Door Card posted at the room's main entrance for information on hazards present in the room, (ii) identify all safety features such as fire alarm pull stations, First Aid kits, purge buttons, nearest exits, and fire extinguishers, and (iii) familiarize themselves with emergency procedures such as fire evacuation routes and assembly points and the posted Emergency Action Plan.

Minimum PPE requirements as per Door Card shall be applicable to the entire laboratory. PPE requirements for procedures involving hazardous materials in a space may extend to additional occupants and users of the room.

If materials are present in a space that can lead to the release of highly hazardous materials, the responsible PI shall share this information with all other PIs, who will share the information with their lab personnel, including information on any installed alarms, for example from gas detectors or other equipment. PIs shall share information on SOPs that may affect others.

Labels on chemicals or other hazardous materials (including waste) in multi-PI shared spaces should include the name of the owner.

Shared Spaces or Shared Instruments in Multi-PI Laboratories

Characteristics

An instrument or other piece of equipment (e.g., a refrigerator or centrifuge) or a space (such as a hood or satellite accumulation area for waste) in a laboratory used by occupants associated with more than one PI.

Identifying responsibilities

The PIs may agree on designating a responsible PI for a shared space in its entirety or may agree on subdividing responsibility for spaces and equipment as reasonable and most feasible for operations.

Information about the responsibility shall be posted in or near the space including name, department, contact information and a period of responsibility or a date from the present academic year when the information was last updated (you may use the EH&S template: <https://ehs.umass.edu/shared-lab-space-ownership-labeling-template#overlay-context=manage-documents>). Responsibility for testing of emergency equipment and for satellite inspections shall be clearly identified as well.

In the absence of written agreement on sharing among PIs, or in the absence of posted information and labels, the responsible PI is the person identified by the department or major business unit as communicated to EH&S by the department as part of the lab assessment process. In cases of doubt, responsibility for space may extend to equipment located in that space, and responsibility for equipment may include the surrounding bench or floor space. To avoid doubts, departments are encouraged to regularly update the space distribution and PIs are required to report any informal agreements about spaces to the involved department(s).

Recommendations (in addition to and superseding recommendations under previous section)

Labels on chemicals or other hazardous materials (including waste) in shared spaces should include the name of the owner. In case of small vials or similar, labels may be placed in a larger container (boxes, racks etc. or secondary containment).

Experiments or operations with hazardous materials that are conducted in shared spaces such as hoods and that may be left unattended for longer periods (with the operator leaving the lab) must always be labeled to identify the owner's contact information as specified in the CHP. Hazardous materials used shall be identified. The PI responsible for a space or instrument will

- require safety or other training from people accessing the space or instrument
- institute an SOP (e.g., for safe use or to ensure the instrument is returned to a safe state) or require an SOP for experiments with particularly hazardous materials
- ask that a sharing agreement be revised or discontinued if the arrangement is not working

Depending on the hazard level of materials and procedures, or if otherwise deemed necessary, the PI responsible for a shared space or instrument may institute a short or long-term record. This record may include, for example, hazardous materials used, people accessing the space or instrument, or cleaning procedures executed. The record may be kept by any of the following

- a rolling erasable log (as used for SAA inspections)
- log books (physical copy present in room or shared electronic)
- informative entries (*i.e.*, full chemical names of hazardous compounds) in instrument software
- a reservation system

Adjoining Rooms without Sealing Physical Barriers and with Different Responsible PIs

Characteristics

Adjacent rooms with separate room numbers, but open doorways or separation by a removable barrier.

Recommendations

Signage indicating the transition into a different room with room numbers and responsible PIs and a prompt for users to inform themselves about hazards by reading the door card posted at the room's main entrance.

If materials are present in a room that can lead to the release of highly hazardous materials, the responsible PI shall share this information with the neighboring room's PI, including information on any installed alarms. The PI shall share the laboratory-specific chemical hygiene plan and any associated SOPs. It is the responsibility of the respective PIs to share information with occupants and users of the rooms.

Single PI Laboratories with Users: User Facilities, Teaching Laboratories, Experiential Learning Spaces, Shared Instruments in Single-PI Laboratories

Characteristics

User Facility: Any room or space designated for one or more shared instruments.

Teaching Laboratory: Any room or space listed for formal instruction on SPIRE, or as part of a University-approved workshop or program.

Experiential Learning Spaces: Any laboratory or shop made accessible to students of independent study or projects.

Shared Instrument: An instrument shared by members of several groups but located in the space of a single PI and not in any of the above.

Recommendations

The operator (department or major business unit) of the laboratory or spaces designates a responsible PI.

The PI

- will require training and SOPs from occupants and users
- shares the lab-specific CHP and SOPs with all occupants and users
- informs users about alarms and SOPs in place if they may affect the user

The PI ensures that a record with time stamps (date) is kept of users and hazardous materials used in the laboratory or at the instrument, via any of the following:

- log books
- understandable entries in instrument software (full chemical names)
- instructional documents including a schedule that can be used to identify when hazardous materials are/were used a reservation system (user facilities, experiential learning, shops)
- course participants and course schedule (teaching laboratory)

The User's responsibilities and expected conduct are as follows

- unless evident from course enrollment, ask the PI in writing for, and keep a copy of the response to, permission to enter the laboratory and use equipment, for single/multiple occasions or time periods, as applicable
- inform the PI of all hazardous materials and procedures and provide an SOP upon request
- comply with SOPs and cleaning procedures, make entries into record as stipulated by the PI

Rooms without Occupants where Hazardous Materials are Manipulated or Stored

Characteristics

No occupants, only users. Manipulating of hazardous materials may occur including opening of container or heating of closed containers. Generally sequential use of the room.

Examples

Freezer rooms, chemical storage areas

Recommendations

The assigned department or major business unit designates a PI, who is responsible for signage informing users about hazards and for housekeeping. The PI can require training and SOPs from users. The lab-specific CHP and SOPs shall be shared electronically, and access shall be provided to all users. The PI ensures that a record with time stamps is kept of users and hazardous materials used in the laboratory, via any of the following:

- log books (physical present in room or shared electronic)
- informative entries in instrument software (full chemical names)
- any cleaning procedures (if applicable)

For additional questions or concerns with safety and security of shared spaces or equipment, please contact EH&S at (413)-545-2682.

Related UMass Amherst Documents

- UMass CHP: <https://ehs.umass.edu/laboratory-health-and-safety-manualchemical-hygiene-plan>
- Room numbers and assigned departments are as defined by Space Management data currently stored in Trirega: <https://www.umass.edu/cp/space-asset-management-0>
- Electronic sharing of information shall use University-sponsored platforms (OneDrive and Google Drive as of April 2022).

Policy Administration

Approval Authority

Vice Chancellor of Research and Engagement

Policy Manager

Assistant Director, Academic Safety, EH&S

Policy Contact(s)

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Policy History	
Effective Date	5/20/2022
Date Issued	5/20/2022
End Date	None

Revised Dates

List all the dates the policy was revised, using MM/DD/YYYY format. *(optional)*

Reviewed Dates

List all the dates the policy was reviewed, using MM/DD/YYYY format. *(optional)*