



Moline City Police Department  
309.797.0401 (non emergency)

Moline City Fire Department  
309.524.2250 (non emergency)

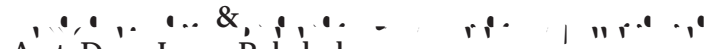
Moline City Public Works (24 hr. sewer & water emergencies)  
309.524.2300

WIU-Quad Cities Security  
Ext. 64526 from any WIU-QC campus phone

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May 19, 2015



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All lab workers are required to read the Chemical Hygiene Plan, complete the associated lab safety training materials, and sign and submit a training certification form to the Faculty Laboratory Supervisor before beginning work in QCC 1226 (Environmental Science Research Laboratory) or QCC 1220 (the adjacent prep lab). Each lab worker will repeat this process annually.

Failure to comply with this policy will result in a revocation of lab privileges which can be reinstated only after (1) completing the required review of the Chemical Hygiene Plan, safety training materials and submission of a signed training certification form to the Faculty Laboratory Supervisor and (2) obtaining written and/or electronic permission to work in the lab from the Faculty Laboratory Supervisor. Revocation and/or reinstatement of laboratory privileges will be communicated via the official WIU email system. Only official WIU email addresses will be used in correspondence.

Ultimate permission to work in the laboratory can be granted and/or revoked at the discretion of the Faculty Laboratory Supervisor.

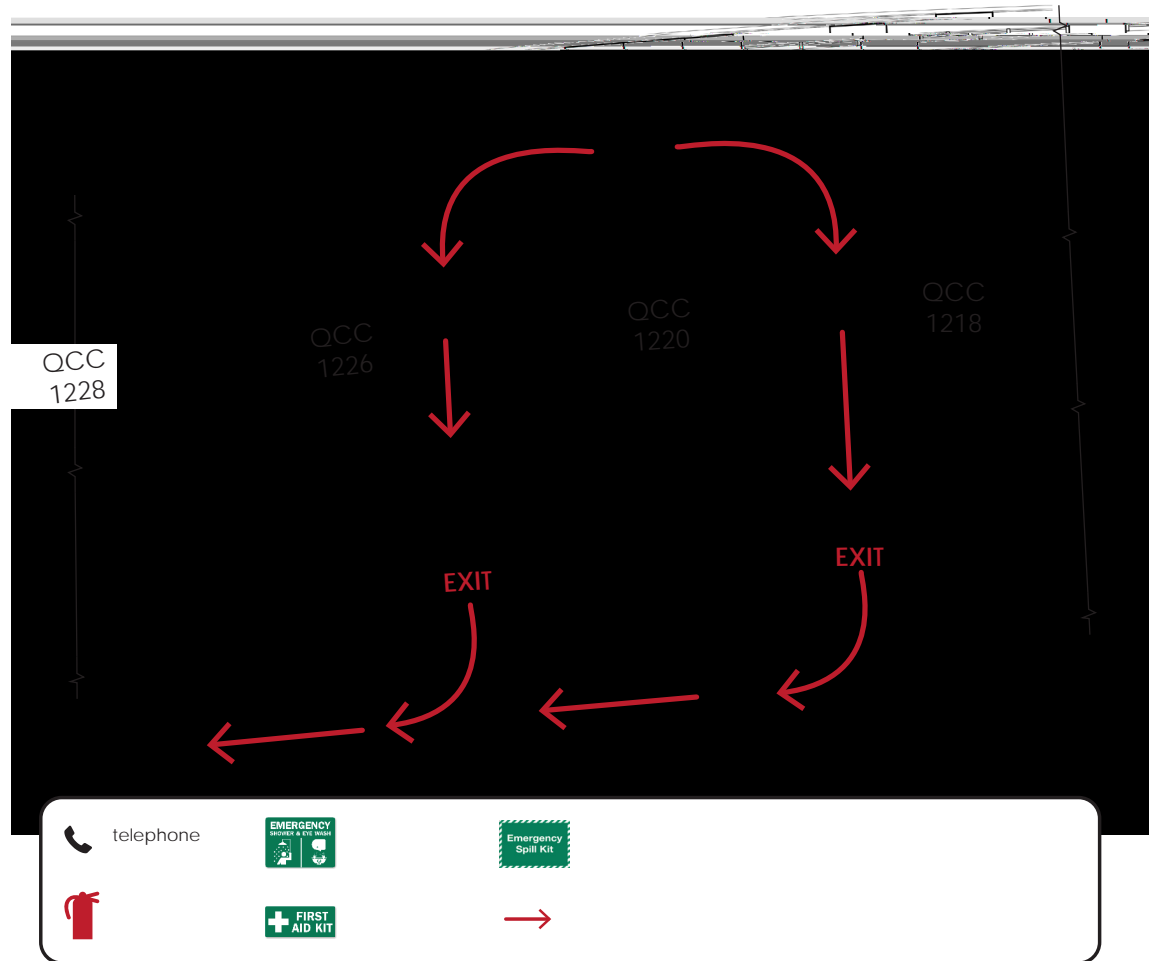
Environmental Science Research Laboratory and the attached Prep Lab are used to prepare and analyze surface-water samples and sediment collected in the field. Typically, samples are preserved with nitric, sulfuric, or hydrochloric acids. Strong bases such as sodium hydroxide may also be used. Sample containers and caps/lids (typically Nalgene™ high density polyethylene bottles) are rinsed with dilute acid and stored in cabinets prior to field sampling. Some water

- Skin burns and other thermal injuries from hot ovens, muffle furnace, and the flame atomic absorption spectrophotometer
- Breakage of glass beakers, flasks, etc.
- Explosion from leaking containerized gas
- Slip or trip on wet floor from spills
- Eye injury from chemical splashes

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- Ensure that visitors follow the laboratory rules and assumes responsibility for laboratory visitors.
- Ensure that personal protective equipment is available and properly used by each laboratory employee and visitor.
- Maintain and implement safe laboratory practices.
- Provide regular, formal chemical hygiene and housekeeping inspections.
- Monitor the facilities and the chemical fume hoods to ensure that they are maintained and function properly. Contact facilities management to report problems with the facilities or the chemical fume hoods.





Orientation & Training

(<http://safety.dow.com/en/safety-courses/safety-orientation-and-training>)

- Office Ergonomics
- Laboratory Ergonomics
- Fall, Slip, and Trip Protection
- PPE Basics
- Waste Handling
- Secondary Containment
- Housekeeping
- Basic Electrical Safety
- Fire Extinguisher Basics
- Lone Worker

Specialized Topics (<http://safety.dow.com/en/safety-courses/specialized-topics>)

- Fume Hood Basics
- Gas Cylinder Use
- Glassware Handling
- Biological Hazards
- Mechanical Integrity

- Always read the Material Safety Data Sheet (MSDS) and label before using any chemical with which you are not familiar.<sup>1</sup>
- Wear appropriate Personal Protective Equipment at all times.
- Loose-fitting clothing is not permitted in the laboratory.
- Loose, unconfined long hair is not permitted in the laboratory.
- Open-toed shoes or sandals are not permitted in the laboratory.
- Always wear long pants and closed-toe shoes to protect your skin from splashes and spills.
- Contact lenses should not be worn when working with chemicals in the laboratory.
- Hands should be washed with soap and water immediately after working with any laboratory chemicals, even if gloves have been worn.
- Eating, drinking, smoking, gum chewing, applying cosmetics, and taking medicine in the laboratory is strictly prohibited.
- Food, beverages, cups, and other drinking and eating utensils are not permitted in the laboratory.
- Laboratory refrigerators, ice chests, cold rooms, and ovens should not be used for food storage or preparation.
- Use appropriate ventilation (fume hoods) when working with hazardous chemicals.
- Pipetting should never be done by mouth.
- Unplug hot plates when not in use.
- When in use, hot plates should not be left unattended.
- Contact the faculty laboratory supervisor with all safety questions or concerns.
- Know the location and proper use of safety equipment.
- Maintain situational awareness.
- Make others aware of special hazards associated with your work.
- Notify faculty laboratory supervisor of chemical sensitivities or allergies.
- Do not store chemicals on bench tops and in hoods.
- Avoid exposing chemicals to heat or direct sunlight.
- Report all injuries, accidents, incidents, and near misses to the faculty laboratory supervisor.
- Report unsafe conditions to the faculty laboratory supervisor.
- Chemical wastes must be disposed of safely.

Each individual lab worker is responsible for wearing appropriate Personal Protective Equipment (PPE; clothing and safety-related apparel and equipment such as lab coats, eye protection, and gloves). Lab workers are required to consult the "Handling and Storage" section in the Material

Compressed gases are potential chemical and physical hazards. The following guidelines must be followed when working with compressed gas cylinders:

- The contents of each compressed gas cylinder must be appropriately identified with a durable label.
- When not in use, compressed gas cylinders must be secured to a stationary surface using an approved bracket and chain and stored with the protective cap installed.
- Compressed gas cylinders will be transported using an approved cylinder cart. The cylinder must be fastened securely to the cart in an upright position. Cylinders will be transported with the safety cap installed and fully screwed down.
- Compressed gas cylinders should never be lifted by the safety cap.
- Compressed gas cylinders should not be transported with regulators in place.
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- Engineering controls should be implemented as necessary.

Working alone in a laboratory is dangerous and should be strictly avoided. Accidents are inherently unexpected; consequently, coworkers should always be present. Workers should coordinate schedules to avoid working alone.

For unattended laboratory operations/experiments, signs should be posted to identify the nature of the experiment and any hazardous substances in use. Emergency contact information should be clearly posted.

Under some circumstances working alone in the laboratory and/or conducting unattended laboratory operations can be prohibited outright by the faculty laboratory supervisor.

**Dial 911 if there is an immediate threat to life or health.** Provide your name, location - including the building name and room number - and a description of the emergency.

The WIU Emergency Alert System (WEAS) is used to quickly and reliably communicate with students, staff, and faculty in the event of an emergency.

Emergency contact information for the WIU Emergency Alert System can be updated on STARS (students) and MVS/WIUP (employees). STARS and MVS/WIUP can both be accessed at: [http://www.wiu.edu/university\\_technology/administrative\\_information\\_management\\_systems/#](http://www.wiu.edu/university_technology/administrative_information_management_systems/#)

- If you are unable to control or extinguish a fire, pull the nearest fire alarm and follow the building evacuation procedures.
- Attend to any injured worker(s) if it is safe to reach them.
- Close the laboratory doors.
- Spills should be contained using absorbent materials compatible with the chemical as specified in the appropriate MSDS/SDS. A spill containment supply cabinet is located on the right side bench top immediately upon entering QCC 1226.
- Notify personnel in the immediate and adjacent areas about the spill.
- Appropriate PPE must be worn during cleanup.
- Spills should be cleaned from the outer perimeter, cleaning toward the center.
- If the spilled material is flammable, turn off all potential ignition sources.
- If the spilled material is flammable, avoid breathing vapors.
- Liquid spills should be covered with a compatible absorbent material such as spill pillows.
- Powdered materials can be covered with wet paper towels (when compatible) to avoid dispersal.
- Corrosives should be neutralized prior to absorption.

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- Chemicals should be separated and stored according to hazard category and compatibility.
  - MSDS/SDS and label information should be followed for storage requirements.
  - Labels on containers used for storing hazardous chemicals must include the chemical identification and appropriate hazard warnings.
  - The contents of all other chemical containers should be properly labeled.
  - Chemical shipments should be dated upon receipt and stock rotated.
  - Peroxide formers should be dated upon receipt and upon opening. They should be stored away from heat and light in containers with tight fitting, nonmetal lids.
  - Keep incompatible chemicals separate during transport, storage, use, and disposal.
  - Oxidizers, reducing agents, and fuels should be stored separately.
  - Laboratory-grade, flammable-rated refrigerators and freezers should be used to store sealed chemical containers of flammable liquids that require cool storage.
  - Food or beverages must not be stored in the laboratory refrigerator.
  - Chemical storage rooms should have controlled-access with proper ventilation, appropriate signage, and fire suppression systems.
- A risk assessment should be conducted prior to beginning work with any hazardous chemical.
  - All MSDS/SDS and label information should be read before using a chemical for the first time.
  - Trained laboratory workers should ensure that proper engineering controls (ventilation) and PPE are in place and used correctly.
- An accurate inventory of the chemicals stored in the laboratory will be maintained. The inventory will be stored in the laboratory with MSDS/SDS sheets and in Room QCC 2115.
  - Unneeded items should be discarded using appropriate procedures.
- Secondary containment devices should be used when transporting chemicals.
  - When transporting chemicals outside of the laboratory or between stockrooms and laboratories, the transport container should be break-resistant.
  - High-traffic areas should be avoided.
- Adequate ventilation (such as a fume hood) will be used when transferring chemicals.
  - If chemicals from commercial sources are repackaged into transfer vessels, the new containers should be labeled with all essential information on the original container.
- Outgoing chemical shipments must meet all applicable Department of Transportation (DOT) regulations and should be authorized and handled by the institutional shipper.





- Ensure the team takes appropriate personal protective equipment for each Team Member.
- Check the weather forecast.
- Be familiar with potentially poisonous animals and insects, hazardous terrain/site conditions, and weather.
- Ensure the team has necessary scientific and safety equipment and supplies to complete 17





			Are the contents of compressed gas cylinders listed on the chemical inventory?
			Are compressed gas cylinders secured to a rigid structure with chains?
			Are cylinder valves closed and valve caps in place when not in use?
			Are the contents of compressed gas cylinders clearly labeled?



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Code of Federal Regulations, Title 29 - Labor; Subtitle B - Regulations Related to Labor; Chapter XVII - OSHA Administration, Department of Labor; Part 1910 - Occupational Safety and Health Standards; Subpart Z - Toxic and Hazardous Substances; Section 1910.1450 - Occupational exposure to hazardous chemicals in laboratories; Appendix A, "NRC Guidelines Concerning Chemical Hygiene in Laboratories" ([https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10107](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10107)).

International Code Consortium, Inc. (2012). International Fire Code (IFC) and Commentary, International Code Consortium, Inc., Washington, D.C. (<http://publicecodes.cyberregs.com/icod/ifc/2012/>)

National Academy of Sciences (2011). "Prudent Practices in the Laboratory, Handling and Management of Chemical Hazards, Updated Version," the National Academies Press, Washington, D.C., 388. pp. ([http://www.nap.edu/catalog.php?record\\_id=12654](http://www.nap.edu/catalog.php?record_id=12654))



