

University of Washington
Facilities Services

Safe Procedures for Laboratory Plumbing and Repair

All employees who perform maintenance or repair on laboratory plumbing systems must follow approved safety procedures and receive safety training appropriate to anticipated hazards. A variety of hazardous materials may be associated with, or contaminate, plumbing systems in healthcare and laboratory facilities. When hazardous chemicals, lead, radioactive materials and/or asbestos are suspected regarding upcoming work on a plumbing system, coordination with other University personnel may be necessary

Procedures

1. Safety Hazard Review

Before scheduling a job or assigning work, Supervisors, Leads, Planner/Coordinators, or Maintenance Coordinators should review the job for potential hazards using the Safety Hazard Review Checklist, <http://www.washington.edu/admin/facserv/fsorgrel/hazcheck.pdf> and take the appropriate preventive and/or corrective action.

2. Training

Supervisors must assure that employees scheduled to work on laboratory plumbing systems have appropriate and up-to-date training in safe procedures, personal protective equipment, waste handling, and hazard communication.

3. Notification to Affected Departments

The responsible Supervisor or Maintenance Coordinator will notify the department that occupies the laboratory that the plumbing system will be worked on and may be shutdown. The laboratory personnel must remove any chemicals or hazardous materials and clean the area where work will occur, and fill out the Notice of Laboratory Equipment Decontamination Form UoW 1803.

4. Decontamination

Verify the area occupant has prepared the area where the work will take place. Look for the Notice of Laboratory Equipment Decontamination Form UoW 1803, <http://www.ehs.washington.edu/forms/fso/lab equip.pdf>. If the area has not been properly decontaminated or you have a concern about the decontamination, do not proceed. Contact your supervisor for assistance.

5. Personal Protective Equipment

Select and don PPE based on the level of hazard:

Potential Hazard	Recommended PPE
Eye injury from solid or liquid	Safety glasses or goggles
Splash to the face	Full Face shield
Liquid splash, sludge or power contact with clothing	Tyvek, or poly-coated Tyvek coveralls or PVC rain suits when corrosives are suspected
Air borne chemical hazard	Respirator
Liquid contact with shoes	Tyvek boot covers
Liquid contact with hands	Chemical resistant gloves (nitrile)
Cuts from sharp edges or tools	Outer sturdy work gloves
Overhead objects or pipe contents	Hardhat

6. Task Specific Work Practices

Plumbing Maintenance

- Prepare the work area; place a blue absorbent pad on the floor below the plumbing pipe, to prevent spilled material from spreading to the unprotected floor. Protect nearby equipment and fixtures by covering with polyethylene sheeting.
- Place necessary tools close to the work area. Place a labeled white bucket under areas where pipe is to be separated to collect any liquid, sludge, objects that may be in the pipe. (White buckets can be purchased from Uline, at uline.com or 1-800-295-5510, or Consolidated Plastics 1-800-362-1000.)
- Whenever plumbing parts are moved or cleaned, caution should be taken to avoid spilling the contents in case elemental mercury and mercury laden debris are present.
- Wash off tools and place them outside the work area when the repair work is complete.
- Carefully roll-up the absorbent pad and dispose of as solid waste if no mercury present. Treat as hazardous waste if mercury identified.
- If shop rags are used follow used shop towel management practices.
- Option 1 Place trap contents in a designated waste bucket. Seal the container. Leave the properly sealed and labeled container at a secure location at the job site. Complete a waste collection request form, fax the form to EH&S at 206-685-2915. EH&S will collect the waste, transfer the container contents and return the empty container to the original location.
- Option 2 Place trap contents in a designated waste bucket. Seal the container. Take the container back to the shop transfer the container contents to a waste drum provided by EH&S. Once the waste drum is approaching full request a waste pick-up from EH&S by submitting a completed collection request form.

Renovations

- Prepare the work area; place a blue absorbent pad on the floor below the plumbing pipe, to prevent spilled material from spreading to the unprotected floor. Protect nearby equipment and fixtures by covering with polyethylene sheeting.
- Place necessary tools close to the work area. Place a labeled white bucket directly under areas where pipe is to be separated to collect any liquid, sludge, objects that may be in the pipe.
- Whenever plumbing parts are moved or cleaned, caution should be taken to avoid spilling the contents in case elemental mercury and mercury laden debris are present.
- Carefully remove P-trap. Make sure that plumbing stubs are short enough to completely fit into the designated waste container with the lid secured.
- Place a 5-gallon pail under the area where the trap was removed.
- Leave the properly sealed and labeled P-trap container at a secure location at the job site.
- Submit a Hazardous Waste Collection Request Form to EH&S for non-routine waste. Forms can be mailed to box 354400 or faxed to 206-685-2915.

7. Mercury Spill

- It is recommended that a mercury spill kit be available in the job site tool kit.
- In the event of a spill involving elemental mercury, isolate the area. If the spill is small in size contained and easily cleaned-up use the spill kit in the job site tool kit and conduct the clean-up.
- Report the mercury spill to EH&S at 206-543-0467 and your immediate supervisor.
- In the event of a large spill or an uncontainable spill immediately contact EH&S at 206-543-0467. EH&S can provide experienced staff and equipment to aid FS personnel evaluate clean up requirements. If the spill is extensive EH&S can obtain additional assistance from a spill clean-up contractor.
- A spill kit designed for a small spill is available through South Campus Stores (#0020-225). The kit contains mercury absorbent sponges, mercury absorbent powder, syringe aspirator, chemical resistant gloves, waste collection materials, and hazardous waste labels.
- Additional mercury spill information is available from the EH&S website:
<http://www.ehs.washington.edu/epo/spills/hgspills.shtm>
- After cleaning up the spill, submit an Online Accident Reporting System (OARS) report describing the incident.

8. Personnel exposure

If any skin or eye contact occurs, flush with water. Contact Supervisor and report to Campus Health Services for further evaluation. Fill out all required accident forms. Call 911 should immediate medical assistance be required.

Contacts

Supervisor:	Contact immediate supervisor	
FS Hazard Assessment Coordinator:		206-616-0993
Asbestos Coordinator:		206-685-3357
Campus Health Services:	Main campus	206-685-1026
	UWMC	206-598-4848
EH&S Occupation Health & Safety:	OHS Manager	206-221-4247
EH&S Radiation Safety Office:		206-616-5575
EH&S Spills Consultation:	Staff on Call	206-543-0467
EH&S Waste Management:	Zone 1 Main Campus	206-616-0587
	Zone 2 UWMC	206-616-0586
	Zone 3 HSB/South Campus	206-616-3200
	Zone 4 HMC	206-543-2931