

UNH Department of Forensic Sciences

LABORATORY SAFETY RULES, PRACTICES AND AGREEMENT

(Professors, Graduate Students, Research Assistants, Teaching Assistants,
Students Working on Research Projects and Summer Research Students)

Read the following laboratory rules, safety precautions, and regulations carefully. After you have read the information, please sign the signature page and return it to your Lab Manager.

General Requirements:

1. All employees and students of UNH who will spend time in a Forensic Dept. laboratory or crime house are mandated to complete annual safety training before being allowed to start working within these environments.
2. Always set a good example of lab safety for students.
3. There will be no smoking, use of cell phones (unless otherwise directed by instructor), drinking, chewing gum, or eating in the laboratory.
4. Horseplay will not be tolerated. Avoid distracting others that are working.
5. Do not touch your face, handle contact lenses, apply cosmetics or put your fingers in your mouth. Do not store food or drink in lab refrigerators.
6. Always wash your hands after handling laboratory materials. You are required to wash your hands upon exiting the lab whether you were performing lab work or not.
7. Gloves are to be removed prior to leaving the laboratory and may not be worn in non-laboratory areas (offices, computer lab, etc.).
8. At the end of each lab session, make sure the lab benches have been cleaned, put away all equipment and materials and check that the lab is secure. Ensure that everything that should be turned off is off, all waste containers are closed, and doors are locked.
9. There must be at least two people on the 4th floor at any time lab work is being performed.
10. Always avoid working alone in a laboratory room if at all possible.
11. Be alert to unsafe conditions and students and call attention to them so that corrections can be made as soon as possible.
12. Additionally, all graduate TA's are required to complete annual Bloodborne Pathogen training.

Personal Protective Equipment (PPE):

1. Observe all laboratory signs and chemical labels for required protective equipment.
2. ANSI (American National Standards Institute) approved Visorgogs will be worn over your eyes at all times when performing laboratory work.
3. Face shields should be used when working with larger quantities of liquid chemicals.
4. Wearing contact lenses is discouraged.
5. Always wear gloves when handling any chemicals or biological samples. Never reuse gloves. Inspect your gloves for any tears or holes before using.
6. Your arms and legs must be covered. You are required to wear laboratory coats while working to prevent contaminating your clothes.
7. **NO** short skirts, capri length pants or shorts are to be worn on class days working in the laboratory.
8. **NO** sandals, or open shoes. Wear shoes that cover the entire foot (leather with rubber soles preferred).
9. Tie back shoulder length or longer hair and confine loose clothing to keep away from flames and chemicals.
10. If you are not wearing the proper/approved PPE you may be denied entrance into the lab.

Hazardous Material Safety:

1. Unauthorized experiments are prohibited. Perform the experiments as directed by your instructor.
2. Never take chemicals, supplies, or equipment out of the laboratory unless deemed necessary.

3. Acids, bases, etc. (any hazardous liquids) should always be transferred between rooms in an approved transfer carrier. Approved transfer carriers can be found in RM 412.
4. Know where the SDS (Safety Data Sheets) are found for your chemicals. The SDS sheets contain information that you will need in case there is an emergency. Know how to read them and get the necessary information from them.
5. Never taste or smell a chemical. Check odors only if instructed to do so, by gently wafting some of the vapor towards your nose with your hand.
6. Be sure your work area is adequately ventilated for your experiment. Be sure to use a chemical fume hood as necessary or as directed by your instructor. DO NOT use a Bio Safety Cabinet as a chemical fume hood. Ask your instructor if you aren't sure.
7. When working with chemical fume hoods, work with the sash at the lowest possible position, work within the hood at least eight inches back from the front opening, and close the fume hood sash when you're done working.
8. Read the chemical labels very carefully. Read them 3 times: when you pick it up, just before you use it, and after you are finished. Many mistakes – some dangerous - result from mixing the wrong chemicals. Always consult your instructor and review the SDS if you are unsure.
9. Never return unused chemicals/reagents to the original bottle, it will lead to contamination. Be careful to take only what you actually need.
10. Know your chemical basics, for example: combine reagents in appropriate order, avoid adding solids to hot liquids, never add water to acid, do not use an open flame near or to heat a flammable liquid.
11. All secondary containers shall be labeled with the chemical composition name (no formulas, spell out the whole name), name of the lab course/instructor, name of the individual who prepared the solution or mixture, and the date of preparation.

Spills and Other Lab Incidents:

1. **CAMPUS POLICE EMERGENCY NUMBER: 7070 (203-932-7070)**
2. Learn the locations and operation of emergency equipment. This includes eyewashes, fire extinguishers, fire alarms, fire blanket, sinks, first aid kits, emergency showers (in hallway between Rooms 408/409 and 411/412), and **red emergency phone (in the hallway between Rooms 408 and 409)**.
3. Know what to do in case of an emergency. Know how to exit the building in case of an emergency.
4. Report ALL accidents, injuries, and near misses (close-calls) to your instructor immediately. Be sure to fill out an accident/near miss form for your Safety Officer/Lab Manager so that we can prevent future incidents and keep the laboratories a safe place to learn.
5. Treat burns immediately by putting the burned area under cold water for at least 15 minutes. Notify professor. If the burn is mild, the student should report to Health Services for ice and further treatment. If the burn is moderate to severe, emergency services should be called to transport student for appropriate medical care. Have SDS ready to bring to medical facility. Be sure to document any incident with the accident/near-miss form.
6. Clean up all spills immediately. This includes water.
7. In the event that a chemical is spilled/splashed on your eyes, skin or body, IMMEDIATELY rinse the affected area for 15 minutes. Remove contaminated clothing immediately. Notify professor and refer to MSDS for instruction. Seek medical attention as necessary. Be sure to document any incident with the accident/near-miss form.
8. In case of accidental ingestion, notify instructor immediately and call **campus police 7070 (203-932-7070)** who will call and coordinate emergency medical services (9-911). Have the SDS ready for personnel to determine the necessary course of treatment.

Equipment:

1. Use equipment only for its designed purpose.
2. Turn off any heat source (hot plate, etc.) whenever you are not using it. Never let it operate unattended.
3. Do not use your mouth for pipetting or to start a siphon. Use electric or manual pipettes.

4. Be careful when handling glassware to avoid breakage. Do not use damaged glassware. Discard broken glass in designated broken glass boxes. Do not discard anything else except broken glass in these boxes. Hand protection should be used when picking up broken glass,

Chemical Waste:

1. Appropriate empty containers are available for disposal of chemicals in the Room 412
2. You may reuse an empty chemical stock bottle as a waste bottle:
 - a. If the original chemical was *non-hazardous*
 - i. Triple rinse the container
 - ii. Wait until completely dry
 - iii. Remove original label and replace with the appropriate waste label or write "Empty Bottle"
 - b. If the original chemical was *hazardous*
 - i. Do not rinse the container
 - ii. Fill only with waste that is compatible with the original chemical (ask if you are unsure)
 - iii. Remove original label and replace with the appropriate waste label, include the name of the original chemical on the label.
3. Containers for wastes should be visually inspected for cracks or chips. Be sure the cap fits properly and that the container is compatible with the waste to be stored.
4. Do not use laboratory bottles with ground glass stoppers.
5. Do not mix waste types.
6. Waste containers must always be closed during storage, except when waste is added or removed.
7. Label waste containers as such
 - a. Place either a **Red** "Hazardous Waste" or required appropriate label on the bottle– Ask me if you're unsure as to which one to use.
 - b. List all components of the waste including water and concentrations if known
 - c. Do not use chemical formulas or abbreviations. (Write "WATER" not "H₂O")
 - d. Name of lab course or research group
8. Waste should be stored in the laboratory Satellite Accumulation Area (SAA) in secondary containment until it is filled completely. The Forensic Dept. SAA is located in RM 412 chemical hood.
9. Do not overfill waste containers, only fill up to the "shoulder" of the bottle. Don't let it go up into the neck of the bottle; use an additional waste container if needed.

Chemical Storage:

Chemicals must be stored according to the requirements outlined in a SDS.

In addition:

1. Each container should be labeled as to the date it was received AND opened
2. Chemicals that are dispensed into secondary containers should be labeled with full chemical name, date chemical was dispensed, instructor name and course, manufacturer name, catalog number and safety data (PPE and hazards).
3. When preparing reagents/cleansers/disinfectants, label the bottles with solution name, date prepared and the person's initials.
4. Once a chemical container is empty, notify instructor since it may be used as a future waste container. If it will be used as waste, the original chemical must be rinsed out and dried thoroughly, the original label must be removed and the container must be placed with the other future waste containers.

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