UA LITTLE ROCK



UA LITTLE ROCK

Chemical Hygiene Plan

Table of Contents

PURPOSE 3
RESPONSIBILITIES 3
SAFE OPERATING PROCEDURES 3
EMPLOYER CRITERIA FOR CONTROL MEASURES 6
RESPIRATORY PROTECTION 7
FUME HOODS AND OTHER PROTECTIVE EQUIPMENT 7
EMPLOYEE INFORMATION AND TRAINING 8
APPROVAL OF HAZARDOUS OPERATIONS 9
MEDICAL CONSULTATIONS AND EXAMINATIONS 9
DESIGNATION OF RESPONSIBLE PERSONNEL 9
EMPLOYEE PROTECTION PROVISIONS 10
RECORD KEEPING 11
ANNUAL HYGIENE PLAN REVIEW 12
RESOURCES 12
APPENDIX A – CHO Appointment 13
APPENDIX B – Workplace Hazard Assessment Certification 14
APPENDIX C – Laboratory-Specific Safe Operating Procedures 15
APPENDIX D – UA Little Rock Laboratory Close-Out Checklist 16

PURPOSE

OSHA standard 29 CFR 1910.1450, the Occupational Exposure to Hazardous Chemicals in Laboratories standard, and the Arkansas Public Employees' Chemical Right to Know Act (Ark. Code Ann. § 8-7-1001 et seq.), enforced by Arkansas Occupational Safety and Health (AOSH), require a written Chemical Hygiene Plan (CHP). The implementation of this Chemical Hygiene Plan provides employees with the information and training necessary to improve workplace safety and health and to prevent chemical-related injuries and illnesses in our laboratories. This plan will act as a supplement to the UA Little Rock Hazard Communication Program and provide more detailed information regarding the methods and practices necessary from the hazards associated with using chemicals at UA Little Rock.

RESPONSIBILITIES

UA Little Rock's Chemical Hygiene Officer (CHO) (see Appendix A) has been assigned the responsibility for implementing the University's Chemical Hygiene Plan (CHP). The CHO and/or the University's Safety Committee will review the CHP annually and update it as necessary. It is the responsibility of Primary Investigators (PIs), lab managers, instructors, and supervisors to:

1. Perform hazard analyses and post a signed Workplace Hazard Assessment Certification (see Appendix B).
2. Develop and maintain Laboratory-Specific Safe Operating Procedures (SOPs) (see Appendix C).
3. Complete, provide, and document training as identified by the hazard analyses.
4. Comply with routine inspections, and make corrections of violations.

SAFE OPERATING PROCEDURES

Emergency Contacts

Emergency Type / Service	Contact Office	Phone / Action
Life-Threatening Injury, Fire, or Major Release	Emergency Services	Dial 911
Campus Security & Emergency Dispatch	UA Little Rock Department of Public Safety	(501) 916-3400
Chemical Spills, Hood Failures, & Safety Guidance	Environmental Health and Safety (EHS) / CHO	(501) 916-6351
Non-Emergency Occupational Medical Evaluations	UA Little Rock Health Services	(501) 916-3188
After-Hours Building Utility or Exhaust Failure	Facilities Management	(501) 916-3390

Uniformity of Practice

Uniformity of practice in the laboratory ensures safety and efficiency. SOPs create a standard of practice that is to be followed by ALL Faculty, Staff, and Students working in the laboratory, to ensure. The intent of SOPs is to assure that work practices and procedures are in place to protect employees and students from chemical hazards.

The following guidelines represent the MINIMUM safe practices for the handling of hazardous chemicals at UA Little Rock. Each laboratory MUST develop procedures specific to their situations. In ALL situations, individual faculty and staff supervisors are responsible for enforcing

safety measures in the laboratory. A template for the development of lab-specific SOPs and examples of SOPs for common laboratory practices are found in the Appendix C

Safe Operating Procedures for All Labs

Accidents & Spills:

1. *Eye Contact*: Promptly flush eyes with water for at least 15 minutes, and seek medical attention.
2. *Ingestion*: Follow Safety Data Sheet (SDS) recommendations, and seek medical attention.
3. *Skin Contact*: Promptly flush the affected area with water for at least 15 minutes, and remove any contaminated clothing. Follow SDS recommendations, and seek medical attention.
4. *Clean Up*: Promptly clean up minor spills using appropriate protective apparel, spill kits, and proper disposal procedures. Evacuate and contact EHS and Public Safety immediately for major spills or releases of highly toxic vapors.

Avoidance of "Routine" Exposure:

Develop and encourage safe habits. Avoid unnecessary exposure to chemicals. Do not smell or taste chemicals. Vent any apparatus (vacuum pumps, distillation columns, etc.) into local exhaust devices that might discharge toxic chemicals. Inspect gloves and test glove boxes before use. Do not allow release of toxic substances in cold rooms and warm rooms, since these have re-circulated atmospheres.

Choice of Chemicals:

Use only those chemicals for which the quality of the available ventilation system is appropriate. Whenever possible, substitute less toxic chemical options.

Chemical Inventory, Labeling, and Flammable Storage (OSHA 1910.106 & NFPA 45):

1. *Inventory & SDS Access*: Each laboratory must maintain an up-to-date chemical inventory and ensure all personnel have immediate physical or electronic access to Safety Data Sheets (SDSs) for every chemical present.
2. *Labeling*: Ensure all primary manufacturer labels remain intact and legible. Secondary containers (e.g., wash bottles, aliquot vials, waste containers) must be clearly labeled with the full chemical name (no abbreviations or formulas alone) and primary hazard warnings in accordance with GHS standards.
3. *Segregation & Compatibility*: Store chemicals according to hazard compatibility rather than alphabetically. Segregate acids from bases, flammables from oxidizers, and water-reactive chemicals from aqueous solutions.
4. *Flammable Liquid Limits & Refrigeration*: Store flammable liquids exceeding 10 gallons in UL-listed flammable liquid storage cabinets. Observe NFPA 45 maximum container sizes (e.g., Class IA flammables in glass must not exceed 1 pint; Class IB in glass must not exceed 1 quart; use approved safety cans for larger volumes). Never store flammable or volatile liquids inside standard domestic refrigerators or freezers; only UL-listed flammable-material or explosion-proof units may be used.

Compressed Gas Cylinders (OSHA 1910.101):

1. Securing & Transport: All compressed gas cylinders (full or empty) must be secured upright to a wall, bench, or fixed rack using two chains or non-combustible straps (one upper, one lower). Always install the protective valve cap before moving a cylinder and transport cylinders exclusively using a strapped cylinder hand truck.
2. Segregation & Regulators: Segregate oxidizing gases (e.g., oxygen) from flammable gases (e.g., hydrogen, acetylene) by at least 20 feet or a 5-foot-high non-combustible fire

barrier with a 30-minute fire-resistance rating. Use only regulators rated for the specific gas and CGA fitting; never use oil, grease, or Teflon tape on oxygen cylinder fittings.

Eating, Smoking, Etc.:
Eating, drinking, gum chewing, or application of cosmetics in areas where laboratory chemicals are present is prohibited. Wash hands before conducting these activities elsewhere. Do not store food or beverages in storage areas or refrigerators used for laboratory operations. Do not consume food or drink using glassware or utensils that have been used for laboratory operations.

Emergency Eyewashes & Safety Showers (OSHA 1910.151(c) & ANSI Z358.1):
Emergency eyewashes and safety showers must remain unobstructed and accessible within 10 seconds (approximately 55 feet) of any hazard area. Laboratory personnel must activate plumbed eyewash stations weekly for at least 30 seconds to flush stagnant water, verify tepid water flow, and keep dust covers intact, logging the check on the station tag. EHS/Facilities will perform annual comprehensive inspections.

Equipment & Glassware:
Use equipment only for its designed purpose. Handle and store laboratory glassware with care to avoid damage; do not use damaged glassware. Shield or wrap glassware to contain chemicals and fragments in procedures that have the potential for implosion or explosion.

Exiting:
Thoroughly wash areas of exposed skin before leaving the laboratory. do not wear lab coats out of the lab. Maintain them inside the affected work area.

Horseplay:
Practical jokes and horseplay can lead to severe accidents and are strictly prohibited in the laboratory.

Mouth Suction:
Never use mouth suction for pipetting or starting a siphon. Always use mechanical pipetting devices.

Personal Apparel:
Confine long hair and loose clothing to prevent contact with chemicals or moving equipment. Wear fully enclosed shoes at all times in the laboratory (no sandals or open-toed shoes). Wear long pants or a long skirt to cover legs, and wear long sleeves or a lab coat to cover arms. When possible, choose natural fabrics such as cotton and wool that are not easily ignited

Personal Housekeeping:
Keep work areas, aisles, and exits clean and uncluttered. Keep eyewashes, safety showers, electrical panels, and fire extinguishers unobstructed at all times. Clean up the work area upon completion of an operation or at the end of each day.

Personal Protection: Assure that all persons, including visitors, wear appropriate eye protection where chemicals are stored or handled. Wear appropriate chemically resistant gloves when the potential for contact with toxic materials exists; inspect gloves before each use, remove them safely without touching the exterior surface, and replace them periodically. Remove lab coats immediately upon significant contamination. Remove gloves before exiting the lab or touching common surfaces (e.g., door handles, computers, phones).

Planning: Seek information and advice about hazards, plan appropriate protective procedures and waste disposal, and plan positioning of equipment before beginning any new operation.

Unattended Operations:
Leave lights on, place an appropriate warning sign with emergency contact details on the door, and provide secondary containment and automatic shut-offs in the event of a utility failure (such as cooling water) during an unattended operation.

Use of Fume Hood:
Use a chemical fume hood for operations that might result in the release of toxic chemical vapors, gases, or dust. As a rule of thumb, use a fume hood or other local ventilation device when working with any appreciably volatile substance with a Threshold Limit Value (TLV) of less than 50 parts per million (ppm). Confirm adequate hood performance before use; keep the sash at or below the certified operating height and closed when not actively adjusting equipment; minimize storage inside hoods and never block rear baffles or airflow slots. Leave the hood "on" when not in active use if toxic substances are stored inside or if general lab ventilation is insufficient when turned off.

Use of Vacuum (House System):
Most labs are equipped with a house-vacuum system leading to a central collection tank exhausted outside. Any chemical or biological materials requiring vacuum processes must be filtered or trapped using cold-traps, kill-traps, or HEPA filters prior to entering the house vacuum system. PIs must develop SOPs for safe vacuum use, reviewed and approved by the EHS Committee.

Vigilance:
Be alert to unsafe conditions and report or correct them immediately when detected.

Hazardous Waste Management & Satellite Accumulation (EPA RCRA, 40 CFR Part 262):

Satellite Accumulation Area (SAA) Rules: All hazardous chemical waste must be managed at or near the point of generation under the control of the operator. Waste containers must be compatible with their contents, kept tightly closed at all times except when actively adding waste, and stored inside secondary containment trays capable of holding at least 110% of the largest container.

Waste Labeling & Segregation: Affix a completed UA Little Rock Hazardous Waste Tag immediately when the first drop of waste is added, listing full chemical names, percentages (totaling 100%), and hazard classes. Never mix incompatible waste streams (e.g., acids with cyanides/sulfides, or halogenated solvents with non-halogenated solvents). Never pour hazardous chemicals down the drain or evaporate waste in a fume hood. Submit a waste pickup request to EHS before containers reach capacity or exceed SAA volume limits.

Working Alone:
Avoid working alone in a laboratory building after hours. DO NOT work alone in a laboratory at any time if the procedures being conducted are hazardous. When handling compounds of high acute toxicity, select carcinogens, or substances of unknown toxicity, a strict buddy system requiring at least two people present in the lab at all times must be enforced.

EMPLOYER CRITERIA FOR CONTROL MEASURES

Criteria have been developed for determining and implementing control measures to reduce employee exposure to hazardous chemicals in the laboratory include:

1. The degree of toxicity of the substances to be used.
2. The exposure potential of the chemical procedures to be performed and the capacity of the engineering controls
3. Administrative/work practices or protective equipment to control exposure
4. Engineering controls: general ventilation, fume hoods, glove boxes, and local exhausts systems
5. Work practice: Restricting eating and drinking areas, prohibiting mouth pipetting, and performing work in a manner that minimizes exposure and maximizes engineering control effectiveness.
6. Personal protective equipment (PPE): Selection, fit, and proper use of PPE when engineering and work practice controls cannot fully eliminate exposure.

OSHA policy dictates that engineering and work practice controls be used to reduce employee exposure below the PEL (permissible exposure limit).

Initial & Periodic Exposure Monitoring Procedures (29 CFR 1910.1450(d))
The CHO will conduct initial exposure monitoring for any regulated substance if there is reason to believe that exposure levels routinely exceed the OSHA Action Level (or PEL in the absence of an Action Level). Periodic monitoring will continue as required by the specific substance standard if initial measurements exceed the Action Level. Any employee, student, or PI who suspects overexposure or wishes to request an air-monitoring assessment may contact EHS directly at (501) 916-6351 or submit an online exposure assessment request through the EHS email.

RESPIRATORY PROTECTION

Respiratory protection is to be used only as an interim measure or when engineering or work practice controls are not feasible. Use of respiratory equipment must comply with the requirements of Title 29 CFR 1910.134, which specifies factors such as selection, medical clearance, fit testing, use, and maintenance. Respirator criteria are based on substance toxicity, exposure potential, and engineering control capacity.

Each employee MUST be medically cleared by a physician or licensed healthcare professional (PLHCP) before being fit-tested or wearing a respirator. In accordance with 29 CFR 1910.134, clearance begins with a mandatory confidential medical questionnaire or initial medical examination; a Pulmonary Function Test (PFT) and chest X-ray will be performed if determined necessary by the examining physician. It is recommended that students also be medically cleared before wearing a respirator.

Control Measures:

1. Specific respiratory control measures must be determined by chemical use and cleared by the CHO.
2. Engineering and work practice controls must be prioritized to keep exposure below the PEL.
3. Respiratory protection is strictly an interim or supplemental measure when engineering/work controls are infeasible.

FUME HOODS AND OTHER PROTECTIVE EQUIPMENT

Fume hoods and other protective equipment must function properly. Each laboratory is responsible for developing an appropriate SOP. The following specific measures ensure adequate performance:

1. *Hoods*: A laboratory hood with at least 2.5 linear feet of hood space per person is required when handling hazardous chemicals.
2. *Monitoring*: If a fume hood lacks a continuous monitoring device to verify proper performance, substances of unknown toxicity must be avoided or alternative local ventilation provided.
3. *Other Local Ventilation Devices*: Ventilated storage cabinets, canopy hoods, and snorkels are provided as needed by each department. Each canopy hood or snorkel should have a separate exhaust duct unless an exception is cleared by EHS and/or the University's Safety Committee.
4. *Modifications*: Alteration of any ventilation system requires thorough testing by EHS/Facilities to verify adequate worker protection.
5. *Performance*: A rate of 4–12 room air changes per hour is adequate general ventilation when local exhaust systems (such as fume hoods) serve as the primary control method.
6. *Quality*: General airflow should be uniform throughout the laboratory without high-velocity drafts or dead zones. Hood face velocity should measure 80–120 linear feet per minute (fpm) at any point, with an average face velocity of 100 fpm.
7. *Evaluation*: Ventilation quality and quantity must be evaluated upon installation, monitored continuously by users before work, and reevaluated whenever changes occur.
8. *Certification*: EHS will ensure the fume hoods are inspected and certified at least annually.

EMPLOYEE INFORMATION AND TRAINING

UA Little Rock provides all persons affected by 29 CFR 1910.1450 with training on how to protect themselves when working with hazardous chemicals. Training is provided to new employees upon hire, prior to assignments involving a new hazard, and at least annually. The CHO coordinates institutional training, while PIs/Supervisors provide lab-specific training. Training includes:

1. The components of the Chemical Hygiene Plan and its location/availability in the workplace.
2. The physical and health hazards of chemicals in the work area, including OSHA PELs, TLVs, and how to read and access Safety Data Sheets (SDSs).
3. Specific protective measures implemented by the University, including engineering controls, work practices, emergency procedures, and PPE.
4. Methods and observations (e.g., continuous monitoring alarms, visual appearance, or odors) workers can use to detect the presence or release of hazardous chemicals.

Mandatory Reference Document Locations (29 CFR 1910.1450(f)(3))
In accordance with 29 CFR 1910.1450(f)(3), all laboratory personnel are informed that the following reference materials are maintained and accessible at all times in the EHS Office, online via the UA Little Rock EHS, and in each laboratory's physical or electronic safety binder:

OSHA Laboratory Standard: The full text of 29 CFR 1910.1450 and its Appendices (including Appendix A, National Research Council Recommendations Concerning Chemical Hygiene in Laboratories).

UA Little Rock Chemical Hygiene Plan: The current institutional CHP, Lab-Specific SOPs, and Workplace Hazard Assessment Certifications.

Exposure Limits & SDSs: OSHA Permissible Exposure Limits (PELs), ACGIH Threshold Limit Values (TLVs), and Safety Data Sheets (SDSs) for all hazardous chemicals stored or used in the work area.

APPROVAL OF HAZARDOUS OPERATIONS

Laboratory activities involving particularly hazardous materials (select carcinogens, reproductive toxins, substances with high acute toxicity) or equipment requiring specialized engineering controls (glove boxes, high-pressure systems, specialized ventilation) require prior written approval from the PI/Department Head and the CHO before work begins. Examples of particularly hazardous materials are listed in the Employee Protection Provisions section of this document and in Examples of Hazardous Chemicals.

MEDICAL CONSULTATIONS AND EXAMINATIONS

Availability

All employees who work with hazardous chemicals have the opportunity to receive confidential medical attention, including any follow-up examinations deemed necessary by the examining physician, at no cost to the employee under the following circumstances:

1. Whenever an employee develops signs or symptoms associated with a hazardous chemical to which they may have been exposed in the laboratory.
2. Where exposure monitoring reveals an exposure level above the action level (or PEL in the absence of an action level) for an OSHA-regulated substance.
3. Whenever a spill, leak, explosion, or other incident result in the likelihood of a hazardous exposure.

Voluntary Consultation for Pregnant & Nursing Workers

Employees and students who are pregnant, planning to become pregnant, or nursing are encouraged to contact EHS and UA Little Rock Health Services at any time for a voluntary, confidential workplace exposure review. EHS will evaluate chemical inventories, ventilation controls, and PPE in the individual's work area and recommend any appropriate protective accommodations or task modifications.

Arranging for Exams

All medical examinations and consultations shall be coordinated through UA Little Rock Health Services and EHS. In the event of a life-threatening illness or injury, dial 911 immediately and request an ambulance.

DESIGNATION OF RESPONSIBLE PERSONNEL

The *Chemical Hygiene Officer is responsible for*:

The CHO is qualified by training or experience to provide technical guidance in developing and implementing the Chemical Hygiene Plan required by OSHA 29 CFR 1910.1450. The CHO may assign specific responsibilities to departments, safety committees, and supervisors to execute the CHP, and oversees regular audits, exposure monitoring, and training coordination.

The *Departments are responsible for:*

1. Implementing and maintaining the CHP within their respective work areas.
2. Providing resources and administrative support so supervisors and employees comply with safety regulations.
3. Selecting one or more departmental safety coordinators or establishing a departmental safety committee to assist with CHP implementation.

For more efficient implementation of the CHP, department heads could select one or more individuals to serve as coordinators. Department safety and health committees can also assume these responsibilities.

Laboratory Supervisors & Principal Investigators are responsible for:

1. Ensuring workers know and follow the all chemical hygiene rules.

2. Conducting necessary Hazard Assessments have been conducted and posting a written hazard assessment certification in each work area (see Appendix B).
3. Ensuring PPE and protective equipment are available, properly maintained, and in working
4. Providing and documenting lab-specific hazard and PPE training Facilities and training are at all times appropriate and adequate.
5. Ensuring facilities and equipment remain safe and adequate for ongoing operations.
6. Promptly satisfying requests for information or corrective action from internal safety committees or EHS.
7. Providing access to regular, formal chemical hygiene inspections of their facilities and equipment.
8. Knowing current legal and University requirements concerning regulated substances.
9. Customizing their work area's Chemical Hygiene Plan with Lab-Specific SOPs and emergency protocols when hazards are not fully addressed by the general CHP. Note: Supervisors may add or clarify requirements and restrictions, but may never omit or relax minimum rules established in this manual.

Laboratory Closeout & Decommissioning:
Prior to vacating a laboratory space, retiring, transferring institutions, or renovating a lab, the PI and Department Chair must notify EHS at least 30 days in advance and complete the UA Little Rock Laboratory Close-Out Checklist (see Appendix D). All hazardous chemicals, unknown substances, radioactive/biological materials, and hazardous waste must be properly transferred, identified, or disposed of through EHS, and all work surfaces and fume hoods must be decontaminated prior to space reassignment.

Laboratory Workers are responsible for:
1. Planning and conducting each operation in accordance with University chemical hygiene procedures and maintaining good personal chemical hygiene habits
2. While students are not legally employees under the OSHA Laboratory Standard, UA Little Rock requires departments to provide students with equivalent safety training at the beginning of each laboratory course, specific safety instructions before each lab session, and necessary protective equipment.

EMPLOYEE PROTECTION PROVISIONS

Special provisions must be in place to protect personnel working with select carcinogens, reproductive toxins (teratogens/embryo toxins), or substances having a high degree of acute toxicity. These provisions include establishing designated work areas, containment devices, decontamination procedures, and waste removal protocols. Work with these materials requires prior approval from the CHO and Department Head.

Select Carcinogens:
1. Definition: Any substance regulated by OSHA as a carcinogen, listed as "known to be carcinogenic" by the National Toxicology Program (NTP), or listed under Group 1 (or Group 2A/2B where applicable) by the International Agency for Research on Cancer (IARC).
2. Containment & Access: Conduct all procedures involving select carcinogens inside a certified chemical fume hood, glove box, or equivalent containment device within a clearly posted Designated Area.
3. Decontamination & Waste: Cover work surfaces with disposable, absorbent, plastic-backed bench paper. Decontaminate equipment before removing it from the designated area, and dispose of all contaminated materials as hazardous waste.

Allergens & Sensitizers:

1. Examples: Diazomethane, isocyanates, bichromates.
2. Controls: Wear suitable, chemically compatible gloves and protective apparel to prevent skin contact with allergens or substances of unknown allergenic activity.

Embryotoxins / Reproductive Toxins:

1. Examples: Organomercurials, lead compounds, formamide.
2. Controls: Personnel of childbearing potential must handle these substances exclusively inside a certified fume hood with confirmed airflow and wear appropriate protective apparel (especially double gloves) to prevent skin absorption. Review procedures annually or whenever a procedural change is made.

Chemicals of Moderate, Chronic, or Highly Acute Toxicity:

1. *Definition*: Acutely toxic substances (e.g., hydrogen fluoride, sodium cyanide) cause severe adverse effects or fatality from small doses or short exposures. Where human toxicity data is limited, evaluate animal testing metrics such as oral/dermal LD50 or inhalation LC50.
2. *Access*: Use and store these substances only in restricted-access areas conspicuously marked with warning signs (e.g., "DANGER – HIGHLY TOXIC CHEMICALS – AUTHORIZED PERSONNEL ONLY"). Ensure all containers are clearly labeled.
3. *Location & Containment*: Always use a fume hood or glove box for procedures that generate aerosols, vapors, or dust. Trap released vapors to prevent discharge into the exhaust system. Use a wet mop or HEPA-filtered vacuum instead of dry sweeping for toxic powders.
4. *PPE*: Prevent skin contact using compatible gloves, long sleeves, lab coats, and eye/face protection. Wash hands and arms immediately after handling.
5. *Records*: Maintain an active usage log recording quantity on hand, quantities used, dates, and names of personnel involved.
6. *Medical Surveillance*: If using toxicologically significant quantities regularly (three or more times per week), consult EHS and a qualified physician regarding ongoing medical *surveillance.*
7. *Spills & Buddy System*: Maintain written contingency plans and chemical-specific spill kits (e.g., calcium gluconate gel for hydrofluoric acid). Ensure at least two people are present at all times when handling compounds of high acute toxicity or unknown toxicity. Store containers below eye level inside chemically resistant secondary containment trays. If a spill occurs outside a fume hood, evacuate immediately and contact EHS/Public Safety.
8. *Housekeeping*: Decontaminate or dispose of contaminated clothing/shoes as hazardous waste. Store contaminated waste in closed, impervious, labeled containers. Protect vacuum pumps with scrubbers or HEPA filters and vent them into a fume hood. Decontaminate all equipment inside the hood before removing it from the controlled area.
9. *Glove Boxes*: Negative-pressure glove boxes must maintain at least 2 volume changes per hour and a negative pressure of at least 0.5 inches of water gauge. Positive-pressure glove boxes must be thoroughly leak-tested before every use. Trap or HEPA-filter all exhaust gases before venting into an operating fume hood.

RECORD KEEPING

Exposure Assessment

The CHO maintains accurate records of all exposure monitoring measurements. Results are shared with affected employees in writing within 15 working days of receipt and managed in

accordance with OSHA standard 29 CFR 1910.1020 (Access to Employee Exposure and Medical Records).

Medical Consultation and Examination
Medical records are maintained confidentially by UA Little Rock Health Services for the duration of employment plus 30 years, as required by OSHA.

Training
PIs/Supervisors must keep outlines of lab-specific training topics and submit rosters of trained personnel to EHS for entry into the central EHS Assistant database. Training records are retained for at least 3 years after an employee or student leaves the University.

Fume Hood Monitoring
Annual fume hood certification data is maintained by EHS. Full data is kept for 1 year and summary data for 5 years.

Inspection & Eyewash Logs
Laboratory safety inspection records are maintained by EHS until corrective actions are verified and for institutional audit tracking. Weekly eyewash activation tags are maintained at each station for 1 year.

Laboratory-Specific Policies & Procedures
Copies of all Lab-Specific SOPs must be kept inside the laboratory (physically or digitally) and remain accessible to all lab personnel at all times.

ANNUAL HYGIENE PLAN REVIEW

The CHO and/or University's Safety Committee will review and evaluate the effectiveness of UA Little Rock's Chemical Hygiene Plan at least annually (or more frequently as needed), and update it to reflect regulatory or institutional changes.

RESOURCES

OSHA 29 CFR 1910.1450: Occupational exposure to hazardous chemicals in laboratories

Arkansas Code Ann. § 8-7-1001 et seq.: Arkansas Public Employees' Chemical Right to Know Act (AOSH)

OSHA 29 CFR 1910.134 & 1910.1020: Respiratory Protection & Access to Employee Exposure/Medical Records

OSHA 29 CFR 1910.101, 1910.106, & 1910.151(c): Compressed Gases, Flammable Liquids, and Medical Services/First Aid

NFPA 45 & ANSI/ISEA Z358.1: Fire Protection for Laboratories Using Chemicals & Emergency Eyewash/Shower Equipment

EPA 40 CFR Part 262: Standards Applicable to Generators of Hazardous Waste (RCRA)
National Research Council: Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards

Office of Research Services–National Institutes of Health: Lab Worker's Resources

APPENDIX A – CHO Appointment

Date: April 3, 2026
To: Shawn Bayouth, PhD
Subject: Appointment as Chemical Hygiene Officer (CHO)

Dear Shawn Bayouth,

In accordance with the OSHA Laboratory Standard (29 CFR 1910.1450), this letter confirms your appointment as the Chemical Hygiene Officer (CHO) for UA Little Rock, effective April 1, 2026.

As CHO, you are responsible for overseeing the implementation and day-to-day administration of our Chemical Hygiene Plan (CHP) to ensure employee protection from hazardous chemical exposures.

Your responsibilities include, but are not limited to:
1. Developing, maintaining, and updating the Chemical Hygiene Plan.
2. Conducting regular safety audits and inspections of laboratories and storage areas.
3. Ensuring proper safety procedures, PPE, and fume hood usage.
4. Providing technical guidance to employees regarding chemical hazards.
5. Organizing safety training sessions.

This designation recognizes that you are qualified by training or experience to perform these duties. Thank you for your commitment to safety.

Sincerely,

Christina Drale, PhD
Chancellor

Shawn Bayouth
Environmental Health and Safety Director

APPENDIX B – Workplace Hazard Assessment Certification

Instructions: Complete and post this certification inside each laboratory work area.

Department / Building / Room Number: _____
Principal Investigator / Lab Supervisor: _____
Assessment Date: _____

1. Identified Laboratory Hazard Categories (Check all that apply):

☐ Flammable / Combustible Liquids ☐ Corrosives (Strong Acids / Bases)
☐ Oxidizers / Reactives / Pyrophorics ☐ Select Carcinogens / Reproductive Toxins
☐ Acutely Toxic Chemicals / Compressed Gases ☐ Cryogens / Extreme Temperatures / Glassware

2. Required Engineering Controls & PPE for this Area:

Engineering Controls: ☐ Certified Chemical Fume Hood ☐ Glove Box ☐ Snorkel ☐ Eyewash/Shower
Eye/Face Protection: ☐ ANSI Z87.1 Safety Glasses ☐ Chemical Splash Goggles ☐ Face Shield
Body/Hand Protection: ☐ Lab Coat (Cotton/FR) ☐ Chemical Apron ☐ Nitrile Gloves ☐ Neoprene/Butyl Gloves

Certification Statement: I certify that I have performed a workplace hazard assessment for the laboratory listed above in accordance with OSHA 29 CFR 1910.132 and the UA Little Rock Chemical Hygiene Plan, and that all personnel have been trained on the required controls and PPE.

PI / Supervisor Signature: _____

Date: _____

APPENDIX C – Laboratory-Specific Safe Operating Procedures

Instructions: Complete for specific hazardous chemicals, chemical classes, or high-risk laboratory processes. Maintain a copy in the laboratory accessible to all personnel.

1. SOP Title & Process Description:

2. Primary Hazards & SDS Reference: (e.g., Flammable, Corrosive, Select Carcinogen, High Acute Toxicity)

3. Engineering Controls Required: (e.g., Chemical fume hood at 100 lfm, glove box, blast shield)

4. Required Personal Protective Equipment (PPE): (Specify glove polymer type, eye/face protection, lab coat/apron)

5. Designated Work Area & Storage Requirements: (Specify restricted access zones, secondary containment, segregation)

6. Step-by-Step Safe Operating Procedure: (Detail setup, handling, quantity limits, and buddy-system rules)

7. Decontamination & Hazardous Waste Disposal: (Specify surface cleaning agents, waste container labeling, EHS pickup)

8. Emergency & Spill Response: (Specify spill kit materials, neutralizers, first aid steps, and emergency contacts)

9. Prior Approval Required? ☐ Yes (Requires CHO & Department Head signature)
☐ No

PI / Supervisor Approval Signature:

_____ **Date:** _____

CHO Approval Signature (if applicable):

_____ **Date:** _____

APPENDIX D – UA Little Rock Laboratory Close-Out Checklist

Instructions: Submit this completed checklist to Environmental Health and Safety (EHS) at least 30 days prior to vacating, renovating, or reassigning a laboratory space. Final clearance requires signatures from the Principal Investigator (PI), Department Chair, and the Chemical Hygiene Officer (CHO).

Department / College: _____	Building & Room Number(s): _____
Departing / Relocating PI: _____	Target Vacate / Renovation Date: _____
Reason for Close-Out: ☐ Retirement ☐ Departure ☐ Lab Move ☐ Renovation	PI Forwarding Email / Phone: _____

Close-Out Requirement	Done	N/A
A. Chemical Inventory & Hazardous Materials		
All usable chemicals transferred to another authorized UA Little Rock PI with updated chemical inventory submitted to EHS, OR surrendered to EHS for surplus/disposal.	☐	☐
All unknown or unlabeled chemicals identified via testing or flagged for EHS hazardous waste characterization (no unmarked containers left behind).	☐	☐
All time-sensitive or peroxide-forming chemicals (e.g., ethers, picric acid) inspected and cleared prior to movement or disposal.	☐	☐
All regulated controlled substances (DEA) and select carcinogens/acutely toxic materials accounted for and transferred or disposed of per regulatory rules.	☐	☐
B. Hazardous Waste & Compressed Gas Cylinders		
All Satellite Accumulation Area (SAA) chemical waste containers properly labeled with 100% constituent percentages and collected by EHS.	☐	☐
All empty chemical containers triple-rinsed (if non-acutely toxic), labels defaced, caps removed, and discarded appropriately.	☐	☐
All rented or university-owned compressed gas cylinders disconnected, valve caps installed, and returned to vendor or transferred to an active PI.	☐	☐
C. Biological, Radioactive, & Radiation-Producing Equipment (If Applicable)		
All biohazardous materials, sharps, and infectious waste autoclaved or collected via EHS biological waste pickup; biosafety cabinets decontaminated and certified.	☐	☐
All radioactive materials, sealed sources, and scintillation vials transferred or cleared through the Radiation Safety Officer (RSO) with a final wipe-test survey.	☐	☐
All Class 3B/4 lasers and X-ray generating equipment unregistered or transferred with EHS approval.	☐	☐
D. Surface Decontamination & Facility Condition		
All benchtops, shelves, drawers, chemical storage cabinets, fume hood interiors, and sinks thoroughly washed and decontaminated.	☐	☐
All refrigerators, freezers, incubators, and cold rooms emptied, defrosted, cleaned, and wiped down with appropriate disinfectant/cleaner.	☐	☐
All lab-specific hazard postings, Designated Area signs, and outdated emergency contact cards removed from doors and hoods once hazards are cleared.	☐	☐

Principal Investigator Signature: _____ **Date:** _____

Department Chair Signature: _____ **Date:** _____

EHS / CHO Final Clearance Signature: _____ **Date:** _____