

DETAILED LAB SAFETY CHECKLIST



The Environmental, Health, Safety and Risk Management Office has developed this form to document audits of university labs. It will be used to identify non-compliant areas and inform faculty and staff of potential laboratory hazards and corrective measures.

Reviewed/Revised October 25, 2022

	Y	N	N/A Comments
SAFETY PROGRAM ADMINISTRATION			
Chemical Hygiene Plan			
<ul style="list-style-type: none"> Have all departments and research labs reviewed the Chemical hygiene plan? 			
<ul style="list-style-type: none"> Are there any operations that require prior approval before beginning? (ex., Radiation Safety, Bio-safety committee) 			
Standard Operating Procedures (SOP's)			
<ul style="list-style-type: none"> Are there written SOPs covering the basic laboratory safety and hygiene practices? Check last review date 			
<ul style="list-style-type: none"> Is there a procedure for identifying particularly hazardous substances used in the lab? Do they have a department specific written procedure? Check last review date. 			
<ul style="list-style-type: none"> Training of laboratory personnel documented. 			
<ul style="list-style-type: none"> Director/PI has written training plan for his/her lab 			
<ul style="list-style-type: none"> Training is current with Chemical Hygiene Plan & Hazard Communication Standard 			
<ul style="list-style-type: none"> Training is complete on Hazardous waste management (if applicable) 			
<ul style="list-style-type: none"> Training is complete on Blood borne Pathogen requirements (if applicable) 			
HAZARDOUS MATERIALS			
<ul style="list-style-type: none"> Laboratory doors are labeled with emergency contact notification names & numbers, hazards present & necessary precautions 			
<ul style="list-style-type: none"> Labels are clean and legible on all containers 			
<ul style="list-style-type: none"> Contents of stock solution buffer bottles are clearly identified (no laboratory abbreviations) 			
<ul style="list-style-type: none"> Synthesized, unnamed chemical compounds are labeled by their reactants and possible products or by a useful generic description (not by chemical structure only) 			
<ul style="list-style-type: none"> Containers with non-hazardous substances (i.e., water) clearly labeled to avoid confusion 			
Chemical Controls			
<ul style="list-style-type: none"> Chemicals are not stored on laboratory benches in excessive quantities 			
<ul style="list-style-type: none"> Expired or chemicals not used (for more than one year) are disposed of as hazardous waste 			

	Y	N	N/A Comments
<ul style="list-style-type: none"> Defined area for highly toxic or carcinogens clearly marked 			
<ul style="list-style-type: none"> Secondary containment is provided for liquid chemicals 			
<ul style="list-style-type: none"> No hazardous materials are stored in, around under or above sinks 			
<ul style="list-style-type: none"> Incompatible chemicals are segregated and stored in compatible hazard classes. 			
<ul style="list-style-type: none"> All chemical containers are closed, except when actively adding or removing materials from them (i.e., no open funnels left in container) 			
<ul style="list-style-type: none"> Containers of peroxide-forming chemicals are dated upon receipt and disposed of as hazardous waste (see Appendix B-Chemical Hygiene Plan) 			
<ul style="list-style-type: none"> Safety Data Sheets (SDSs) and laboratory chemical inventory are up-to-date and readily available 			
<ul style="list-style-type: none"> Chemicals (liquids) are stored below eye level and not directly on the floor 			
Flammable & Combustible Liquids			
<ul style="list-style-type: none"> Quantities of Class 1A liquids are stored in the lab? 			
<ul style="list-style-type: none"> If there are more than 10 gallons of flammable liquids, does the lab have the necessary fire protection systems available? 			
<ul style="list-style-type: none"> How many flammable liquid storage cabinets are in the room and what is the capacity of each? 			
<ul style="list-style-type: none"> Does the content of the storage cabinet exceed the maximum capacity of the cabinet? 			
<ul style="list-style-type: none"> Flammable liquids (including flammable liquid waste) stored outside of a storage cabinet does not exceed 10 gallons? 			
<ul style="list-style-type: none"> No flammable liquid storage cabinet are in the hallway 			
<ul style="list-style-type: none"> Flammables are not dispensed from gravity-fed or bottom dispensing containers—use lid mounted pumps (including 5% Ethanol solutions) 			
<ul style="list-style-type: none"> Flammables are not stored in combustible containers 			
<ul style="list-style-type: none"> Ether and other highly flammable liquids are used away from sources of heat and ignition (including Bunsen burners in hoods and gas water heaters) 			
<ul style="list-style-type: none"> Flammable storage cabinets vented at bottom and door locked when not being accessed 			

	Y	N	N/A Comments
Acutely Hazardous Substances			
• Have all acutely hazardous substances been identified?			
• Is a current inventory available with appropriate SDS information?			
• Are areas or hoods where these substances are in use posted with a designated hazard sign?			
• Have special procedures for these substances been identified?			
• Are special procedures in practice? Verify procedures.			
• Are all users adequately trained? Documentation available			
• All compressed gas cylinders secured with cap in place, if not in use. Eight tank limit for non-flammable gases & five tank limit for flammable gases.			
• All necessary PPE (personal protective equipment) available and used as needed.			
Radioactive Materials			
• Stock materials of radioactive materials are secured against unauthorized removal?			
• Do personnel wear lab coats, gloves and radiation dosimeters when handling materials?			
• Are all labs using radioactive materials registered with the Radiation Safety Officer?			
Chemical Waste Storage			
• Have all chemical waste streams been identified as non-hazardous or hazardous and constituents been completely identified?			
• Specific storage containers provided for: () chemical waste () recyclable solvents () radioactive waste () sharps			
• All hazardous chemical waste is arranged to be picked up by Environmental Health & Safety - not drain disposed or evaporated			
• All hazardous chemical waste is secondary contained.			
• Solutions with heavy metals are collected separately and disposed of as hazardous waste			
• The satellite hazardous waste accumulation storage area is clearly labeled			
• Hazardous waste handling training is documented?			

	Y	N	N/A Comments
<ul style="list-style-type: none"> The Safety & Environmental Compliance Department is called for waste pick up when jugs are ¾ full 			
<ul style="list-style-type: none"> Waste containers sturdy, compatible with the waste, routinely checked for leaks and kept closed when not be filled. 			
<ul style="list-style-type: none"> Waste is segregated by compatible storage groups 			
<ul style="list-style-type: none"> Are there any non-hazardous chemicals that are drain disposed? If so, what are they? 			
Labeling			
<ul style="list-style-type: none"> All hazardous waste containers have the proper labels with the full chemical name or a list of full name and a percentage of each when waste mixtures are involved. 			
<ul style="list-style-type: none"> The satellite accumulation area is clean with waste containers clearly marked, secondary contained and safety stored 			
<ul style="list-style-type: none"> Synthesized, unnamed chemicals (including experimental drugs and chemicals) are labeled by their reactants and possible products or a useful generic description and possible hazardous. Do not label with chemical formulas only. 			
BIOHAZARDOUS WASTE			
Storage			
<ul style="list-style-type: none"> Solid biohazardous waste is bagged in 2 mil polyethylene bags as per the Biological Safety Plan 			
<ul style="list-style-type: none"> Biohazardous liquid waste is either chemically treated with disinfectant, when generated, or directly afterwards or autoclaved. 			
<ul style="list-style-type: none"> All waste is properly segregated as per the Biological Safety Plan 			
Labeling			
<ul style="list-style-type: none"> Transport container labels are filled out with the date, name of the generator and the name of the waste processor 			
<ul style="list-style-type: none"> Do the containers meet DOT and ADEM standards? 			
Treatment			
<ul style="list-style-type: none"> Written notebook log kept for autoclaved materials 			
<ul style="list-style-type: none"> Log of autoclave validation runs includes: date, time, duration of run, pressure, temperature and number of ampoules included in waste treatment validation run 			

	Y	N	N/A Comments
<ul style="list-style-type: none"> Animal carcasses are properly bagged and labeled before being placed in designated freezers. Freezers are labeled? 			
<ul style="list-style-type: none"> Non-hazardous animal bedding is double bagged and disposed of properly 			
<ul style="list-style-type: none"> Bio-hazardous animal bedding is bagged, autoclaved (when necessary) and transported to the incinerator 			
<ul style="list-style-type: none"> All potentially infectious/contaminated sharps are placed in red, rigid plastic sharps containers 			
<ul style="list-style-type: none"> When the sharps container is $\frac{3}{4}$ full it is sealed and placed in container for transport to disposal facility. Container must have appropriate packing and labeling 			
<ul style="list-style-type: none"> All work surfaces are cleaned with a disinfectant solution that is active against the organisms in use. Clean and soiled storage areas must be separate. Procedures for cleaning and frequency must be defined. Verify procedure against practice 			
PERSONAL HEALTH AND SAFETY			
Food and Drink			
<ul style="list-style-type: none"> Food and drink is not permitted in laboratories 			
<ul style="list-style-type: none"> Food and drink is stored only in refrigerators/freezers dedicated and labeled "for food only" 			
Standard Practices			
<ul style="list-style-type: none"> Employees wash areas of exposed skin prior to leaving the laboratory 			
<ul style="list-style-type: none"> Hands must be washed after removing gloves and before leaving laboratory 			
<ul style="list-style-type: none"> Hands must be kept away from face while working in the laboratory area. No cosmetic applications, taking medication, touching eyes, nose or mouth 			
HEALTH AND SAFETY EQUIPMENT			
Safety Showers and Eye Washes			
<ul style="list-style-type: none"> Approved safety showers and eye washes provided within 10 seconds travel time from the work area for immediate use. 			
<ul style="list-style-type: none"> All eye washes and showers have unobstructed access 			
<ul style="list-style-type: none"> Units inspected monthly by the department and annually by Maintenance for proper functioning. 			
<ul style="list-style-type: none"> Sign indicating location of safety shower and eye wash unobstructed. 			

	Y	N	N/A Comments
Personal Protective Equipment			
<ul style="list-style-type: none"> Has the correct PPE been selected based on a hazard analysis or manufacturer's recommendation? 			
<ul style="list-style-type: none"> PPE required for lab work: () Hearing protection, () Safety glasses with side shields/goggles, () Lab Coats, () Face Shield, () Proper foot-wear, () Gloves, () PPE for Radiological work, () Aprons 			
<ul style="list-style-type: none"> All necessary equipment is available, in good condition, and properly used. 			
Laboratory Fume Hoods			
<ul style="list-style-type: none"> Storage inside of hood is kept to a minimum 			
<ul style="list-style-type: none"> Equipment in use does not interfere with proper functioning of the hood 			
<ul style="list-style-type: none"> All work is done at least 6 inches inside hood 			
<ul style="list-style-type: none"> Front sash is lowered below chin level when hood is in use 			
<ul style="list-style-type: none"> Certified within the last year (check certification located on front or side of hood) 			
<ul style="list-style-type: none"> Hood has continuous flow monitor 			
<ul style="list-style-type: none"> The back ventilation slot is open at least 2 inches 			
<ul style="list-style-type: none"> Drains are protected from hazardous materials entering 			
Biological Safety Cabinet (i.e., Laminar flow hoods)			
<ul style="list-style-type: none"> Certified within the last year (check certification located on front or side of hood) 			
<ul style="list-style-type: none"> Proper type of hood for work being conducted 			
<ul style="list-style-type: none"> Equipment is properly labeled for the hazard present (radiation, UV,,) Manufacturer approved for hazard. 			
<ul style="list-style-type: none"> Hood ducted per manufacturers and ASHRA requirements and meet the CDC/NIH bio-safety specifications 			
Compressed Gas Cylinders			
<ul style="list-style-type: none"> Cylinders stored in well protected, well vented and dry locations away from combustible materials 			
<ul style="list-style-type: none"> Storage space is secured from damage either by passing or falling objects or subject to tampering by unauthorized persons. 			
<ul style="list-style-type: none"> Cylinders are secured to a rigid structural component of the building with chains located 2/3 the height of the cylinder 			

	Y	N	N/A Comments
<ul style="list-style-type: none"> Protective caps in place while cylinders are in storage 			
<ul style="list-style-type: none"> Proper regulators are being used and closed when cylinders are not in use 			
Air Pollution Control Equipment			
<ul style="list-style-type: none"> Are there any sources of air emissions other than chemicals being used in the hood? 			
<ul style="list-style-type: none"> Is there any air pollution control equipment (vapor recovery systems, cyclones, scrubbers, bag houses, electrostatic precipitators) in use? 			
<ul style="list-style-type: none"> If so, are they maintained and maintenance records kept? 			
Housekeeping & Miscellaneous Laboratory Safety			
<ul style="list-style-type: none"> Bench tops clean, organized and environs maintained to eliminate harmful exposures or unsafe conditions 			
<ul style="list-style-type: none"> Areas under sinks, window ledges, walls and floors kept orderly, Supplies stored at minimum 6 inches off floor or 18 inches from ceiling 			
<ul style="list-style-type: none"> Vacuum lines equipped with traps designed specifically to accumulate/filter the hazardous materials being evacuated. If lab BL-3 or higher, does affluent receive heat or chemical treatment prior to disposal 			
<ul style="list-style-type: none"> All moving machinery (i.e., vacuum pumps) belts adequately protected by a rigid belt guard or housing 			
<ul style="list-style-type: none"> All sharps disposed properly 			
<ul style="list-style-type: none"> The condition of the broken glass box is adequate and placed out of harms way. Box identified as to contents? 			
Electrical Safety			
<ul style="list-style-type: none"> High voltage equipment (>600V) labeled, grounded and insulated 			
<ul style="list-style-type: none"> No equipment has damaged or frayed cords 			
<ul style="list-style-type: none"> Extension cords and power are not chained together 			
<ul style="list-style-type: none"> Multiple adaptors used only if they are equipped with circuit breakers 			
<ul style="list-style-type: none"> All equipment is grounded via 3-prong plugs 			
<ul style="list-style-type: none"> Plug covers are intact and secure 			
<ul style="list-style-type: none"> Hot plates and heaters are out of harm's way and monitored 			
<ul style="list-style-type: none"> Space heaters are not permitted in laboratory. 			

	Y	N	N/A Comments
Basic Safety			
<ul style="list-style-type: none"> • Chemical shelves have lips or other type of restraint. Oxidizers are stored on wooden shelves and separated from other chemicals 			
<ul style="list-style-type: none"> • Cabinets and bookshelves are secured to the wall 			
<ul style="list-style-type: none"> • Overhead storage is minimized and restrained from falling 			
<ul style="list-style-type: none"> • Heavy equipment is secured or braced from falling 			
Respiratory Protection			
<ul style="list-style-type: none"> • Use of respiratory protection conforms to USA guidelines 			
<ul style="list-style-type: none"> • Respirators are inspected monthly and before any use 			
<ul style="list-style-type: none"> • The user has been fit tested by the EHSRM representative (i.e., W. Texas Rehab) 			
<ul style="list-style-type: none"> • Cartridges are changed on designated schedule and are the appropriate cartridge for the hazard 			
Laser Safety			
<ul style="list-style-type: none"> • Does the lab use any Class 3b or 4 lasers? 			
<ul style="list-style-type: none"> • Are the lasers registered with the Radiation Safety Officer? 			
<ul style="list-style-type: none"> • Are the Standard Precautions for lasers prominently posted for each laser? 			
<ul style="list-style-type: none"> • Are appropriate warning signs and labels posted? 			
<ul style="list-style-type: none"> • Does the lab entrance have a warning light or lighted sign showing when the laser is in use? 			
<ul style="list-style-type: none"> • Have all workers been trained by the Laser Safety Officer? 			
<ul style="list-style-type: none"> • Does the lab have appropriate laser eyewear and has this been verified by the Radiation Safety Officer 			
Non-Ionizing Radiation (NIR) Source			
<ul style="list-style-type: none"> • Have proper warning signs been posted? 			
Emergency Planning & Procedures			
<ul style="list-style-type: none"> • "In Case of Emergency" or "Emergency Instructions" visibly posted and current 			
<ul style="list-style-type: none"> • Chemical spill kit/cleanup materials provided (if required by departmental plan) 			
<ul style="list-style-type: none"> • Training in spill clean-up procedures provided and documented (only if spill clean-up materials are provided) 			

	Y	N	N/A Comments
<ul style="list-style-type: none"> • First aid materials kept in adequate supply (in a sanitary and usable condition) and made readily available (if applicable) 			
Fire Prevention			
<ul style="list-style-type: none"> • Appropriate fire extinguisher mounted, unobstructed, available with 75 feet, in working order and inspected within the last year—check tag on extinguisher 			
<ul style="list-style-type: none"> • Fire extinguisher sign is clearly visible 			
<ul style="list-style-type: none"> • Fire blankets, labeled and unobstructed, if available 			
<ul style="list-style-type: none"> • 18-inch vertical clearance maintained from sprinkler head (i.e., over shelving) 			
<ul style="list-style-type: none"> • Are all lab doors kept closed? Closure devices in place? 			
<ul style="list-style-type: none"> • Storage of combustible material is minimized 			
Exits & Width of Exits			
<ul style="list-style-type: none"> • Exits and aisles are clear and free of obstructions in case of emergency 			
<ul style="list-style-type: none"> • Exit signs clearly visible 			
<ul style="list-style-type: none"> • Width of exit aisles and pathways within laboratory no less than 44 inches 			