



Hazard Communication, Safety and Security Plan

The Department of Environmental Toxicology and The Institute of Environmental and Human Health (TIEHH), is committed to supporting the safety, health and welfare of the campus community. Our dedication to meet federal, state and local regulations relating to institutional health and safety is intended to foster a strong value for the prevention of incidents and injuries while promoting a safe and secure environment for students, faculty, and staff. Our effectiveness in providing this environment depends on the plans and programs designed to minimize or eliminate risk. This policy is in accordance with Texas Tech University Operating Procedures (OPs) and in conjunction with TIEHH Standard Operating Procedures (SOPs). This policy will be reviewed and changes implemented, if necessary, in December of even number years.

To create a safe environment we believe the following guiding principles are essential:

- Proactive personnel—this would encompass safety training necessary to provide the skills related to risk identification, assessment and management, as well as risk elimination, reduction, avoidance, and mitigation.
- Commitment to Planning—this would involve the incorporation of safety into all aspects of our program through various methods of communication.
- Response—the effective and timely response of all personnel to safety related issues is essential.

The information in this document is intended to give detailed information about the hazards present within TIEHH and the precautions necessary to control these hazards. These supplements may be in the form of written procedures, literature libraries, video presentations, and/or group or individual training. The responsibility for managing this program is held by the department Safety Coordinator. However, all department employees (faculty, staff, research assistants, students, and student assistants) have the responsibility to prevent, and control, the impact of accidents and incidents.

TIEHH will continue to be a leader in research due to the commitment and full cooperation at every level in the pursuit of safety. We expect each person to accept the responsibility for their own personal safety and the safety of those around them by being aware of and following appropriate codes, regulations and procedures for injury prevention.

Professor and Chair
Institute Director
The Institute of Environmental and Human Health
Texas Tech University



Duties and Responsibilities

In an effort to provide a safe workplace, TIEHH has put together this manual to offer guidance on safety which will apply equally to academic faculty, staff, students, and to those who are present with permission in the rooms or laboratories within our facilities. This policy will outline reasonably practical plans to allow the management and oversight for the following:

(Responsibilities of Department Management)

- Ensure the health and safety of all employees about the use, handling, storage and transport of chemicals, test substances, animals, and equipment.
- Ensure that training, instructions, information, and supervision is made available.
- Promote personal responsibility by all employees to avoid and prevent health hazards and injuries through awareness and communication.
- Ensure that work is carried out under relevant legislation and University policy.
- Ensure that Personal Protective Equipment (PPE) is available and used when required.
- Ensure facilities are inspected regularly.
- Ensure that all personnel are aware of their obligation to cooperate with department and university policies.
- Uphold the procedures, requirements and strategies of the TIEHH Hazard Communication Program

(Responsibilities of Department Safety Officer)

- Maintain communication link between the department and TTU's Environmental, Safety, and Health (EH&S) office
- Inspect the workplace
- Circulate material received from EH&S
- Respond to reports of unsafe conditions
- Ensure deficiencies are corrected
- Accompany staff from EH&S during their site visits
- Keep Department Chair informed of all issues involving safety
- File Workers Compensation Accident Information with EH&S and the Office of Risk Management
- Ensure departmental personnel receive any needed information about:
 - Fire Safety
 - Chemical Safety



- Mandatory Training
 - Biohazard Safety
 - Radiation Safety
 - Animal Care and Use Training
 - Laboratory Safety
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- Manage all documentation related to environmental, safety and health issues
 - Uphold, update, and understand the TIEHH Hazard Communication Program.

(Responsibilities of Lab Managers)

- Enforce safe practices and safety regulations within their area.
- Consider safe procedures when making operational, research, academic, or management decisions.
- Communicate to all subordinates and students under their direction all potential hazards within their area.
- Provide safety training for specific jobs or tasks within their area.
- Uphold and enforce the TIEHH Hazard Communication Program.

(Responsibilities of Staff, Student, and guest researchers)

- Watch for hazards, reporting them to designated responsible person.
- Personally taking action to avoid, eliminate, or minimize risks.
- Follow safe work methods and using PPE as required.
- Communicate potential hazards associated with your work.
- Seek information or advice as necessary, particularly before carrying out new or unfamiliar tasks.
- Uphold, understand and adhere to the TIEHH Hazard Communication Program.



Laboratory Safety and Regulations Policy

General Personal Safety

The following policies and regulations apply to all students (graduate and undergraduate), faculty, staff, post docs, and guest researchers working in TIEHH labs, research facilities and field locations. Violation of these policies could result in suspension of lab and research privileges. TIEHH SOP IN-6-05, *Laboratory Safety Inspection Procedure*, outlines the guidelines for meeting necessary safety requirements.

1. No person should work in TIEHH laboratories without prior approval from the supervisor
2. All personnel working in labs must complete appropriate safety training and provide signed documentation to departmental safety officer. There are 3 ways to achieve this:
 - a. Online safety training through Environmental Health and Safety (will need eraidr account to access training material)
 - b. Specific lab safety training given by supervisor
 - c. Departmental safety training

****Note: BEFORE ACCESS IS GRANTED** to TIEHH labs, training documentation must be on file with departmental safety officer.

3. Refer to TIEHH SOP IN-6-03, *Building Security Procedures* for specifics on the security badge, approval, access, and use.
4. After Hours: All personnel working outside “Normal Business Hours” Monday through Friday from 8:00 am until 5:00 pm are to get appropriate supervisory approval and must sign the after hours log located at the receptionists desk. Refer to TIEHH SOP IN-6-03.
5. The following are NOT permissible in TIEHH labs: eating, drinking, smoking, using cosmetics, horseplay.
6. Lab coats and safety glasses are required PPE while in TIEHH labs.
7. Gloves are to be worn when working with toxic chemicals and/or hazardous material. Avoid touching anything other than that which you are working with (i.e. face, hair, keyboards, mouse, pens, etc.) Dispose of gloves after work is finished. Do not leave lab or enter community locations within the building while wearing lab coat or gloves.
8. NO open toed shoes are to be worn in labs. Closed toed shoes, preferably leather, are to be worn while in the lab.
9. Long hair must be kept tied back and out of the way.



10. Housekeeping (i.e. clean, uncluttered benchtops, clutter free sink areas, clear and unobstructed floorways, and an overall tidy lab) is required and is the responsibility of all who are working in the lab.
11. Things to know: location of fire alarm and extinguisher, exits and routes, and emergency phone #'s, location of MSDS.
12. All emergency showers, eyewashes, and exits must be unobstructed at all times.

Handling of Chemicals

1. Treat chemicals and all test materials as extremely toxic. Carelessness will result in the removal of lab and research privileges.
2. Work within the protocol. No substance formulation without the supervisor's approval.
3. Hazard communication and awareness must be promoted for everyone within the lab group.
4. Label all containers for use with the following: TIEHH SOP IN-3-06, *Reagent and Glassware Labeling*
 - a. Chemical and vehicle
 - b. Concentration
 - c. Date of formulation
 - d. Name of person or group
5. Transfer samples in closed containers within the lab. When transferring samples or solutions outside of the lab, place them in a secondary container.
6. No chemical, animal, or instrument is to be removed without permission from supervisor or management.
7. Refrigerator storage is for chemicals, extracts, and laboratory supplies ONLY.
8. Dispose of all sharps in the appropriate sharps container (i.e. needles, razors, cutting tools)

Personnel Conduct

1. All lab personnel are responsible for maintaining a clean work area. Glassware should be washed after use and/or before leaving the laboratory and DO NOT wash chemicals known to be persistent or potentially toxic or carcinogenic in public water-sewage system.
2. Follow all TTU policies and procedures regarding waste handling and disposal.
3. Laboratory supervisor is to be fully aware of all after-hours work. Avoid working alone in the laboratory after hours.
4. No guests are to be brought into labs without permission of lab supervisor or management. No children allowed in TIEHH labs unless a scheduled field trip has been approved by lab supervisor and management.
5. The lab equipment is expensive and sensitive. Carelessness towards and disregard for equipment and supplies will not be tolerated.
6. A disregard towards or lack of concern for potential contamination will not be tolerated.



TIEHH labs are shared labs. Respect for other's equipment and materials is demanded.

New Employee Orientation Briefing

The department safety coordinator will brief all new employees on:

1. laboratory safety
2. departmental policies
3. QA/QC guidelines
4. emergency evacuation routes
5. security issues
6. chemical handling
7. SOPs
8. use of equipment (use and maintenance of equipment logs)

Accident Reporting

Purpose

The purpose of reporting accidents is to collect data about all occupational accidents, injuries, and illnesses, to assist in investigations, and to reduce the number and severity of such accidents in the future. Reduction of injury is the goal as well as reducing the likelihood of them being repeated. Many times a bad situation that causes a near-miss or minor accident is not corrected and results in a much more serious accident. The department will train employees to report all accidents.

Procedure

Report all accidents immediately to a responsible supervisor or member of management.

1. Notification of incident/care for injured person(s)
2. Control hazards/secure accident site
3. Investigate promptly
6. Interview employee and witnesses
7. Implement corrective action
8. Prepare incident form(s)
9. Report the incident to EH&S and the Office of Risk Management

****NOTE:** It is important to answer all questions on incident form(s).



The department Safety Officer has copies of accident reporting forms and can assist in filling them out. All of the necessary forms can also be found as attachments to Texas Tech University Operating Procedure 70.13, **Workers' Compensation Insurance**, TTU OP 70.13.

Hazard Communication Program

The Environmental Toxicology Department and The Institute of Environmental and Human Health (TIEHH) has developed a Hazard Communication Program (HCP) to enhance employee health and safety.

The intent is to provide information about chemical hazards and other hazardous substances through our comprehensive HCP. The HCP will include:

Workplace Chemical List

Material Safety Data Sheets

Container Labeling

Reporting Requirements

Workplace Chemical List

Laboratory chemical lists are maintained in the laboratory and chemicals are logged in upon arrival. Chemical inventories are maintained by individual lab rooms and segregated according to principal investigator, PI. Every 6 months, a copy of the updated chemical list is sent to the Department Safety Officer and kept on file. The safety officer will then update the chemical inventory database administered by the Texas Tech University Environmental Health and Safety Department.

Material Safety Data Sheets

Hard copies of Material Safety Data Sheets, MSDS, are kept on file in the TIEHH library. Each lab is also encouraged to keep MSDS within their work area. We also consider accessibility of electronic copies of MSDS to be an adequate, but not an exclusive, form of notification and provision of chemical information.

Container Labeling

Labeling of containers, samples, glassware, test materials, etc..is where *the rubber meets the road* when it comes to hazard communication. The following SOPs are required training for all new laboratory personnel:



IN-3-02 *Sample Labeling/Logging Procedure*

IN-3-04 *Laboratory Receipt, Storage, and Disposition of Test, Control, and Reference Substances*

IN-3-06 *Reagent and Glassware Labeling*

Employee Training

Personnel at TIEHH are trained in the following areas:

- **General Laboratory Safety:** This training will cover much of the material required by the “Right-to-Know Law”. Labeling, MSDS information, safe handling, acute and chronic effects, PPE, and housekeeping. Required of all personnel who plan to work in TIEHH labs. Administered by TTU EH&S.
- **Biosafety:** This training will cover exposure awareness, PPE, use of biosafety cabinets, and government regulations. Required of all personnel who plan to work in TIEHH labs. Administered by TTU EH&S.
- **Good Laboratory Practices:** This training will cover the necessary skills to plan, conduct, document and report a study effectively within government requirements. Required of all personnel who plan to work in TIEHH labs. Administered by TIEHH QAU.

And when necessary,

- **Radiation Safety:** This training will cover information on and the safe handling practices of radioactive materials. Required of those who plan to work with radioactive substances or for access to laboratories currently licensed to work with and store radioactive substances. Administered by TTU EH&S.
- **Animal Care and Use:** This training will cover the requirements necessary for the care and handling of laboratory animals. Required of all personnel working with live vertebrates. Administered by TTU Animal Care and Use Committee, (ACUC).
- **Specific Safe Handling of specific agents associated with BSL2 laboratories.** This training will be for those who plan to work with a select agent which will require specific safe handling requirements. Approval from the TTU Institutional Biosafety Committee is required. This training is administered by the PI for the study.

Records of each of the training above shall be maintained by the trainee, the employee supervisor, and it is a good idea to give a copy of any training to the QAU. The QAU maintains personnel and training records for the department. These records are maintained for a minimum of 5 years.



This document is not all encompassing due to the intricate individual entities contributing to the whole program. The safety and security of these particular areas are covered with specific SOPs and protocols unique to the work involved.

Maintaining a safe work environment is an ongoing, dynamic process for TIEHH. The diversity of our workforce is a hefty consideration when addressing safety and security issues. The nature of our work is another large component to safety and security. These elements along with many other factors are examined when reviewing our safety and security protocols. Monitoring is continuous as is the effort to promote safe attitudes throughout the department.