

	Texas Chiropractic College Policies and Procedures	Author: Eddie Crabb Approved by: President's Cabinet	Reviewed: 11/06/07 Revised:
	Title: CHEMICAL SPILL POLICY		Page: 1 of 5
			Policy No. ESS.05

1.0 PURPOSE

- 1.1 To ensure that employees and students who work with chemicals are aware of the appropriate procedures to implement in the event of a spill.

2.0 SCOPE

- 2.1 All employees and students using chemicals at TCC, and to all departments using, handling, storing, or disposing of chemicals.

3.0 POLICY

- 3.1 The range and quantity of hazardous substances used in laboratories require preplanning to respond safely to chemical spills. Only knowledgeable and experienced personnel should do the cleanup of a chemical spill.
- 3.2 Spill kits with instructions, absorbents, reactants, and protective equipment (PPE) will be available to clean up minor spills.
- 3.2.1 A minor chemical spill is one that the laboratory / work area staff is capable of handling safely without the immediate assistance of safety and emergency personnel. All other chemical spills are considered major.
- 3.3 All bottles containing reagents and chemicals will be properly labeled. The label will include: the name of the reagent; the date it was prepared, and the initials of the person preparing the reagent.
- 3.4 All purchased reagents will bear the date received and the date opened. If appropriate, the expiration dates and any special precaution should be included.
- 3.5 The Material Safety Data Sheet (MSDS) should be read and the precautions for safe handling observed prior to working with new chemicals.
- 3.6 The Hazard Identification Labeling (diamond-shaped diagrams) shown for each chemical gives at a glance a general idea of the inherent hazards of the chemical, and the order of severity of these hazards under emergency conditions such as spills, leaks, and fires. The Hazard Identification Labeling System is not intended to identify the non-emergency health hazards of chemicals. Substances of no known significant hazard shall not be underestimated:
- 3.6.1 It will be assumed that any mixture of hazardous chemicals is more toxic than the most toxic component.
- 3.6.2 Employees / students should take care to avoid spillage; handling should be done in containers.
- 3.6.3 Proper containers for transporting should be used to avoid contact with skin or ingestion.

- 3.7 Training will be performed at the time of initial assignment to a work area where hazardous chemicals are present and before assignments involving new exposure situations. Refresher information and retraining sessions will be held at least annually. Training will be conducted under the supervision of the TCC Faculty. This may include instructors who are recognized as in-house experts on the specific areas being taught.
- 3.8 Upon completion of chemical hygiene training, the employee / student should be able to:
 - 3.8.1 Locate the potentially hazardous chemicals in the workplace.
 - 3.8.2 Recognize the chemical labeling and its meaning.
 - 3.8.3 Locate the MSDS books in the workplace.
 - 3.8.4 Locate the health hazard, physical hazard, environmental protection, and special protection sections of the MSDS and explain their use.
 - 3.8.4 Identify the major components of the facility's standard labeling system.
 - 3.8.5 Identify the appropriate protective clothing for the area and demonstrate its use.
 - 3.8.6 Demonstrate emergency procedures in the vent of a hazardous chemical spill.
 - 3.8.7 Describe the environmental monitoring protocol.
 - 3.8.8 Identify local safety authorities for the area.
 - 3.8.9 Follow appropriate actions for the type of emergency involved, including medical emergency, fire, chemical, radiation, and biological materials spill.

3.9 Biological Material Spills

- 3.9.1 No TCC lab is qualified for handling any organism at Biosafety Level 3 or 4. All known and allowed biological hazards in TCC laboratories are Biohazard Level 1 or 2.
- 3.9.2 Biohazards with an unknown safety level should not be taken for granted and must not be cultured or handled until a determination is made as aerosols containing Biosafety Level 3 or 4 agent(s) are very serious. Biological spills outside biological safety cabinets may generate aerosols that can be dispersed in the air throughout the laboratory, and via an air conditioning system throughout the building.
- 3.9.3 Only appropriately trained personnel will handle blood spills and other material with a high organic content and low concentration of infectious microorganisms.

4.0 RESPONSIBILITIES

- 4.1 TCC Faculty appropriately trained in handling hazardous chemicals
- 4.2 Laboratory Coordinator
- 4.3 TCC Designated First Responder
- 4.4 Employees
- 4.5 Students

5.0 PROCEDURES

5.1 MINOR CHEMICAL SPILL

- 5.1.1 Alert people in immediate area of spill.
- 5.1.2 Wear protective equipment, including safety goggles, gloves, gas filtration mask (if needed), and a long-sleeve lab coat.
- 5.1.3 Avoid breathing vapors from the spill.

- 5.1.4 Confine the spill to a small area.
- 5.1.5 Use appropriate kit to neutralize and absorb inorganic acids and bases. Collect residue, place in approved disposal container, and dispose of as chemical waste.
- 5.1.6 For other chemicals, use appropriate kit or absorb spill with approved absorbents, such as vermiculite, dry sand, diatomaceous earth, or suitable commercial pads. Collect residue, place in an approved disposal container, and dispose of as chemical waste.
- 5.1.7 Clean spill area with water.

5.2 MAJOR CHEMICAL SPILL

- 5.2.1 Attend to injured or contaminated persons and remove them from exposure. Assist them to an eye wash and /or shower stations, as appropriate.
 - Exposed area(s) should be flooded with running water for at least five minutes.
 - Remove contaminated clothing at once.
 - Make sure chemical has not accumulated in or on shoes or other clothing.
- 5.2.2 Alert people in the laboratory / work area to evacuate.
- 5.2.3 If spilled material is flammable, turn off ignition and heat sources.
- 5.2.4 Close doors to affected area, and get additional help.

5.3 BIOHAZARD SPILLS

5.3.1 Biosafety Level 1 Spill (BL1)

- Notify others in the area (to prevent contamination of additional personnel and environment).
- Remove any contaminated clothing and wash exposed skin with disinfectant.
- Wearing gloves, lab coat, and face protection, cover spill with paper towels, pour concentrated disinfectant around the spill allowing it to mix with spilled material. Allow at least 15 minutes contact time.
- Discard all disposable materials used to clean up the spill into a biohazard bag.
- Pick up any pieces of broken glass with forceps and put them in a sharps container.
- Wash hands with soap and / or suitable handwashing disinfectant.

5.3.2 Biosafety Level 2 Spill (BL2)

- Hold breath and immediately leave the room. Notify others to leave. Close door and post a warning sign.
- Remove contaminated clothing turning exposed areas inward and place them in a biohazard bag.
- Wash all exposed skin with a disinfectant.
- Inform instructor, Lab Coordinator or knowledgeable faculty member.

5.3.3 Aerosol Exposure

- Hold breath and immediately leave the room.
- Remove PPE by carefully turning exposed areas inward.
- Wash hands well with soap and water.
- Seek medical assistance immediately.
- Have someone post a spill sign. Lab should be evacuated for at least 30 minutes.
- Assemble clean-up materials (disinfectant, paper towels, biohazard bags, and forceps).
- Put on protective clothing (lab coat or tyvek, face protection, utility gloves, gas filtration mask, and booties if necessary). Cover the area with disinfectant-soaked towels, and then carefully pour disinfectant around the spill. Avoid enlarging the contaminated area. Use more concentrated disinfectant as it is diluted by the spill. Allow at least a 20-minute contact time.
- Handle any sharp objects with forceps and discard in a sharps container. Wipe surrounding areas (where the spill may have splashed) with disinfectant. Soak up the disinfectant and spill; then place the materials into a biohazard bag.
- Spray the area with a 10% household bleach solution and allow it to air-dry (or wipe it down with disinfectant-soaked towels after a 10 minute contact time). Place all contaminated towels and contaminated protective clothing into a biohazard bag and autoclave. Place autoclaved waste in biohazard disposal containers.
- Wash hands and exposed skin areas with disinfectant or antiseptic soap and water.
- Notify the instructor or Lab Coordinator to initiate an incident report.

5.3.4 Blood Spills

- Wear gloves, eye protection, and a lab coat.
- Absorb blood with paper towels and place it in a biohazard bag.
- Using a detergent solution, clean the spill site of all visible blood.
- Spray the spill site with 10% household bleach and allow it to air-dry for 15 minutes.
- After 15 minutes of contact time, wipe the area down with disinfectant-soaked paper towels. Discard all disposable materials used to decontaminate the spill and any contaminated PPE into a biohazard bag.
- Wash hands with soap or disinfectant.

5.3.5 Fires

- See Fire Safety Quick Reference in Emergency Preparedness Plan and the Fire Safety Policy for detailed information.

5.3.6 If any person has been contaminated by a spill, especially of the eyes and skin, ask for a TCC Designated Emergency Responder.

- Assist contaminated person(s) to an emergency eye wash / shower station.
- Call **Designated First Responders** (all Attending Clinicians at Moody Health Center), X6042. Request medical assistance for a chemical spill injury and provide the name of the chemical, if known.
- Wait for Designated First Responder and provide appropriate MSDS.

5.3.7 Instructor or Laboratory Coordinator will complete an *Incident Report Form* for department records and a copy will be provided to the Vice President of Student Affairs (Incident Commander) for the Environmental Safety and Security Committee's review.

5.4 Name and location of laboratories:

- Anatomy Lab, Turley Building
- Physiology/Microbiology Lab, Learning Resource Center
- New Chemistry Lab, Auditorium Building

5.5 Location of containment and security equipment, personal protective equipment, MSDS, eye wash stations, shower stations are listed below:

Chemical Spill Response Items :	Location
Spill containment and security equipment	Appropriate equipment and supplies are located in each lab.
Personal Protective Equipment (PPE)	Appropriate PPE located in each lab.
MSDS	In each lab and in the Vice President of Student Affairs' office.
Eye wash Stations (4)	All three labs and the Moody Health Center next to Blood Lab.
Shower Stations	Two labs - new Chemistry Lab and Physiology Lab.

NOTE: A list of emergency names and phone numbers, responsible persons, and Incident Report Form are located in the Emergency Preparedness Plan.