

Hourly/Work-Study Safety Training

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I. Introduction

A. ACC's Responsibilities

- Identify and list all workplace hazardous chemicals
- Maintains MSDS and label on all hazardous chemicals
- Train employees within 30 days of employment, and annually thereafter

The ACC Science Departments (Chemistry, Biology, and the Physical Sciences) maintains a website with the latest safety updates, information, and training schedule at: http://www2.austincc.edu/sci_safe/

B. Employee Responsibilities (this means YOU!)

ASK!!!

- What chemical(s) could cause exposure
- Could it cause physical damage (physical hazard)
- How does it affect your health (health hazard)
- How does it enter your body (routes of entry)
- What internal harm could it cause (target organs)
- How to detect over exposure (symptoms of overexposure)
- How to protect from exposure (PPE)
- What to do if a spill occurs
- Spill and disposal procedures
- First aid for victims
- Clean up or evacuate
- How to properly dispose of the chemical

DO!!!

- Attend required training
- Use prudent practices and good judgment
- Assume responsibility for yourself, those around you and the environment
- Follow established ACC policies and procedures regarding safety
- Immediately report incidents involving chemicals following established procedures

C. Employee Rights

- The Worker's Right-to-Know Act requires ACC to inform you, the employee, of:
 - Operations and locations of hazardous chemicals
 - Location and how to access:
 - Written ACC HazCom Program
 - Workplace Chemical List
 - MSDSs
- The Right-to-Know Act also requires that you be trained prior to initial assignment and when changes occur
- An employee shall not be disciplined, harassed, or discriminated against by the employer for reporting unsafe work conditions.

II. Chemical Hazards

General Hazard categories include:

- Carcinogen (cancer-causing)
- Corrosive/Caustic (will cause burns)
- Toxic (will kill you fast)
- Highly toxic (will kill you faster)
- Irritant (causes a burning/itching sensation)
- Sensitizer (makes you acutely sensitive to certain chemicals)
- Target organ effects (may be especially harmful to, say, the liver)
- Reproductive toxins (will have adverse effect to reproductive functions)

Physical Hazard Categories of Chemicals

Physical Hazards - produce dangerous situations

- Combustible liquids
- Compressed gases
- Explosives
- Flammables

Health Hazards

Acute - *Immediately* affects health

Chronic - Affects health *over time*

Chemical Access Routes into the Body

- Mouth/nose - Breathe it in
- Skin - Touch the skin
- Mouth - Eat or drink
- Puncture

III. Where to Obtain Chemical Information

- Work area chemical inventory
- Material safety data sheets
- Labels
- Signage

A. Work Area Chemical Inventory (WACI)

Includes

- Identity of product and its location
- Date and signature of the person responsible for compiling list

The WACI is located: _____

B. Material Safety Data Sheet (MSDS)

Provided by the chemical manufacturers who supply hazardous chemicals

Includes

- Company Information
- Hazardous Ingredients
- Physical Data
- Fire and Explosion Data
- Health Hazard Data
- Reactivity Data
- Spill & Leak Procedures
- Special Protection Information
- Special Precautions

MSDS's are located: _____

C. Labels

- Primary container (from manufacturer) - labels should contain:
 - Identity
 - Physical and health hazards, including target organs
 - Manufacturer's name and address
- Secondary containers (prepared by ACC) - labels must contain:
 - Identity
 - Physical and health hazards, including target organs

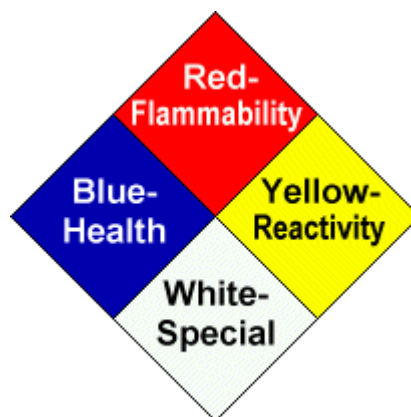
D. Hazard Label and Marking Systems

- NFPA Diamonds
- HMIS Labels
- Uniform Laboratory Hazard Signage

NFPA Diamonds

- Blue = Health
- Red = Flammability
- Yellow = Reactivity
- White = Special hazard information

- 4= Deadly Hazard
- 3= Severe Hazard
- 2= Moderate Hazard
- 1= Slight Hazard
- 0= No Hazard

**HMIS Labels**

- Blue = Health
- Red = Flammability
- Yellow = Reactivity
- White = Personal Protective Equipment or special protection information

- 4= Deadly Hazard
- 3= Severe Hazard
- 2= Moderate Hazard
- 1= Slight Hazard
- 0= No Hazard



You should never have any unattended, unlabeled containers in your work area!

DO NOT work with chemicals that have a hazard rating greater than 1 (one) in any category if there is not a faculty member or Lab Assistant on hand.

E. Signage

- Located on laboratory and chemical storage area doors
- Signs depict worst hazards present in area

III. Protective Equipment

A. Personal Protective Equipment (PPE)

- Eye protection
 - Goggles that have indirect vents or are non-ventilated provide the best overall protection against splashes, vapors, dust and mists.
 - Standard safety glasses provide protection against impact.
 - Prescription glasses do not provide adequate protection when working with chemicals.
 - Contact lenses should not be worn in the laboratory because they can trap contaminants under them and reduce or eliminate the effectiveness of flushing with water. Contact lenses may also increase the amount of chemicals trapped on the surface of the eye and decrease removal of the chemical by flushing with tears.
 - If you wear contact lenses or prescription glasses, you must wear safety goggles when working with, or are in the lab with chemicals.
 - Acceptable safety goggles/glasses are stamped with Z87.
- Gloves
 - Nitrile gloves offer the best overall protection against chemicals.
 - Latex gloves provide protection against some chemicals, most aqueous solutions, and microorganisms.
 - Consult with the person in charge, when choosing gloves for new tasks.
 - Let your supervisor know immediately if you have an allergy to latex or powders used in gloves. Alternative protection will be provided.
 - Remove gloves whenever answering the phone or opening doors to prevent the spread of contamination.
 - Wash your hands frequently.

At this point you will be shown how to properly remove gloves.

- Feet
 - Closed-toed shoes are to be worn at all times when working in the lab.
- Aprons/lab coats
 - You will be provided with a lab coat or apron, if required by your job. Wear this garment when working with chemicals.
- Specialized PPE
 - Equipment such as impact-resistant goggles and heat-resistant gloves will be issued to you depending on hazard assessment and need.

B. Safety Equipment

- Eyewash - used to rinse chemicals from your eyes.
 - The eyewashes are located: _____

 - If you get any chemical in your eye, wash your eyes for 20 minutes. If at all possible, call for assistance.

- Safety shower - used to wash away chemicals that pose an immediate health/physical hazard, that have been spilled on your skin or clothing.
 - The safety showers are located: _____

 - If use of the safety shower is required, the room will be evacuated, and you will remove your clothing while in the shower. You will remain in the shower for at least 15 minutes. Replacement clothing will be provided.

- Fire extinguishers - used to put out any small fire.
 - The fire extinguishers are located: _____

 - If you need to use the fire extinguisher, (a) remove it from its wall mount, (b) pull the pin, (c) point the nozzle at the base of the fire, and (d) squeeze the handle. If the situation is not brought into control immediately, follow the emergency procedures posted in the lab, located at:

- Fire blanket - used to extinguish flames on a person.
 - The fire blankets are located: _____

 - If you catch on fire, immediately STOP, DROP, and ROLL. If another person is on fire, wrap them in the fire blanket immediately.

- First aid kits - used to treat minor cuts and burns.
 - The first aid kits are located: _____

IV. Hazardous Waste

- Always dispose of wastes as directed by the Lab Coordinator, Lab Assistant, or faculty member to whom you report.
- On the waste log sheet enter:
 - Name/identity of the waste
 - Quantity
 - Date

Waste disposal is regulated by the EPA through the Texas Commission on Environmental Quality, TCEQ (formerly TNRCC). There are personal penalties, including jail time and fines, associated with *intentional* disregard of waste disposal procedures. Keep in mind, this does not include accidental mistakes - be careful, but do not panic.

V. Electrical Hazards

A. Electrical Equipment

- Minimize the potential for water or chemical spills on or near electrical equipment, including computers and keypads.
- Do not operate electrical equipment with wet hands or wet clothing.
- Keep one hand in a pocket or behind your back when working with live electrical circuits or with circuits that have capacitors or batteries.

B. Power Cords

- Do not use damaged or frayed power cords or damaged electrical outlets.
- Place power cords so that people will not trip over them.
- Do not step on or set equipment on power cords.
- Disconnect power cords by pulling on the plug, not on the cord.
- Report defective power cords, plugs or outlets to your supervisor.

C. Electrical Shock

- If someone comes in contact with a live electrical conductor, do not touch the equipment, cord or person. Disconnect the power source from the circuit breaker or pull the individual away from the source of the electricity with non-conducting material, such as a belt.

VI. Blood-Borne Pathogens (BBP)

Blood-borne diseases such as HIV and hepatitis can be transmitted from person to person through contact with human blood. Follow the Universal Precautions whenever exposure to human body fluids is possible:

- Consider all body fluids (saliva, blood, etc.) as potentially infected.
- Do not touch or come into contact with anyone else's body fluids.

VII. Reporting Structure and Procedures

A. Reporting structure

- Dean of Math and Science (_____) is responsible for overseeing implementation of all Environmental Health and Safety (EHS) measures for the Biology, Chemistry, and Physical Sciences departments.
- Department Chair (_____) is responsible for implementation of all EHS measures for the _____ department.
- Your immediate supervisor is the Lab Coordinator (_____) for the _____ department. The Lab Coordinator may direct a Science Lab Assistant to oversee your daily chores and activities.
- The Science Safety Coordinators (Debbie Sackett - Chemistry, Sarah Strong - Biology, and Bob Blodgett - Physical Sciences) and the Science Safety Committee serve as the recommending body to the Dean on how to best implement required Environmental Health and Safety measures. You may consult with any of the members of the Science Safety Committee about any concerns or questions you have.
- The EHS and Insurance Manager (Becky Cole, 223-1015) is the college authority responsible for generating EHS procedures.

As an employee of ACC, you have the right and responsibility to report unsafe conditions or activities, without fear of reprisal.

B. Other Considerations

- Report spills, accidents or injuries to a Lab Assistant, the Lab Coordinator or another faculty member immediately.
- DO NOT work with chemicals that have a hazard rating greater than 1 (one) in any category if there is not a faculty member or Lab Assistant on hand.

C. Evacuation Procedures

- Follow the Emergency Evacuation procedures posted in the lab. Review the procedures now.

Glossary of Acronyms

ACC – Austin Community College
ASTR – Astronomy Program in the Department of Physical Sciences
BBP – Blood-Borne Pathogens (disease-causing organisms)
BIOL – Department of Biology
CYP – Cypress Creek Campus of Austin Community College
DEMS – Dean of Mathematics and Science
EHS – Environmental Health and Safety
ENGI – Engineering Program in the Department of Physical Sciences
EPA – United States Environmental Protection Agency
ESTE – Department of Environmental Science & Technology
CHEM – Department of Chemistry
EVS – Eastview Campus of Austin Community College
GEOL – Geology Program in the Department of Physical Sciences
HazCom – Hazard Communication
HazWaste – Hazardous Waste
HBC – Highland Business Center (Austin Community College's main administrative offices)
HMIS – Hazardous Materials Identification System (a labeling system for chemicals)
MSDS – Material Safety Data Sheet (document containing information about a chemical)
NFPA – National Fire Protection Association (a labeling system for chemicals)
NRG – Northridge Campus of Austin Community College
PHYS – Physics Program in the Department of Physical Sciences
PIN – Pinnacle Campus of Austin Community College
PPE – Personal Protective Equipment (safety equipment and clothing)
RGC – Rio Grande Campus of Austin Community College
RVS – Riverside Campus of Austin Community College
SVC – Austin Community College Service Center
TCEQ – Texas Commission on Environmental Quality
TDH – Texas Department of Health
TNRCC – Texas Natural Resource Conservation Commission (now called the TCEQ)
WACI – Work Area Chemical Inventory (list of chemicals in lab, preparation, or storage area)

Hourly and Work-Study Safety Training Contract

I, _____, have been trained in the necessary safety information as required by ACC. This includes:

- _____ (name), _____ (title or position) has reviewed with me, in person, the 8 pages of information outlined in the Hourly/Work-Study Safety Training handout.

- I have viewed and noted the locations of: (check if applicable)
 - _____ the Work Area Chemical Inventory (WACI)
 - _____ the Material Data Safety Sheets (MSDS)
 - _____ my Personal Protective Equipment (PPE)
 - _____ the eyewashes
 - _____ the safety showers
 - _____ the fire extinguishers
 - _____ the fire blankets
 - _____ the first aid kits
 - _____ the chemical waste jugs and waste inventory forms

- I have been shown how to properly remove gloves.

 (signature of employee)

 (date)

 (signature of Lab Coordinator)

 (date)

 (signature of additional/other trainer,
 if different than above)

 (date)

Upon completion of the training and this form, send the original of this form to the appropriate Science Safety Coordinator, and keep a copy on the appropriate campus. If the trainee so desires, they may also be given a copy.