Art & Architecture School Safety Guide

Important Information for Students, Faculty, and Staff in the Tyler School of Art & Architecture

CREATED BY

TEMPLE'S ENVIRONMENTAL HEALTH AND RADIATION SAFETY DEPARTMENT

Temple University
Environmental Health and Radiation Safety

A note from EHRS….

This guide provides a general framework for identifying hazards that students, faculty, and staff may encounter while working in the Tyler School of Art & Architecture. While not an exhaustive list, it serves as an overview of common hazards we expect individuals to be exposed to. We encourage Program Heads, Faculty, Studio Managers, and Studio Technicians to expand upon this content, particularly when addressing unique hazards not covered here. If you have any questions, comments, concerns, or suggestions for improvement, please reach out so we can better tailor this guide to your needs.

Please note: **This guide can quickly be navigated through the hyperlinks in the table of contents. Not all sections may apply to individual studios.**

To Contact Us…

Our hours are:

Monday through Friday 8 AM - 5 PM

Main Phone: 215-707-2520

Fax: 215-707-1600

After-Hours, Weekends, & Holidays

Emergency Contact: 215-204-1234

Public Safety Dispatch (above)

Website / Email

www.temple.edu/ehrs / ehrs@temple.edu

Address

3307 N. Broad Street, Room B-49

Pharmacy-Allied Health Building

Philadelphia, PA 19140

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Part 1: Introduction & Responsibilities

Introduction

Many of the methods and techniques used in art creation expose artists to hazardous materials and processes. Additionally, tools and equipment often require specific procedures and knowledge to ensure safe operation. Awareness of potential hazards and adherence to safe work practices significantly reduce the risk of accidents or unnecessary exposure to hazardous substances.

The information in this Art Safety Guide is not intended to discourage or alarm you but to keep you informed. By understanding the hazards present in art studios, receiving training from appropriate supervisors, attending required orientations, gaining hands-on training with studio equipment, and wearing necessary personal protective equipment, you will develop a strong foundation for creating art safely.

This guide is a resource provided by the Tyler School of Art & Architecture in collaboration with Temple's Environmental Health and Radiation Safety (EHRS) and is designed to complement studio-specific policies and procedures, which you will learn as you engage with Tyler's studios.

Roles and Responsibilities

Creating and maintaining a safe working environment is a collaborative effort that requires teamwork, commitment, and accountability. Fostering a strong safety culture is the ultimate goal, ensuring that everyone—students, faculty, and staff—

works, teaches, and learns safely. This responsibility extends beyond personal well-being to include the safety of those around us.

At EHRS, our role is to support the University community by providing technical expertise, information, training, consultation, and periodic audits to uphold safety practices and regulatory compliance. The next section outlines the responsibilities expected of Tyler's Appropriate Supervisors in maintaining a safe and compliant working environment.

Supervisors

At Tyler, an **Appropriate Supervisor** is anyone in a position of oversight, including Studio Technicians, Faculty, Instructors, Teaching Assistants, Program Heads, and other leadership roles. These individuals are responsible for ensuring that those they supervise—such as students—receive and understand proper safety training, recognize potential hazards, demonstrate safe work practices, and follow the hazard control measures outlined in this Safety Guide.

Additionally, Appropriate Supervisors play a key role in maintaining a safe environment by communicating health and safety concerns, incidents, and issues to EHRS. The specific responsibilities of these individuals are detailed in the following section.

To promote and ensure a safe environment, Appropriate Supervisors must:

- Provide initial training and again provide training each time new procedures or hazards are introduced.

- Ensure all reporting individuals comply with all applicable regulations and university policies and procedures.
- Create and/or maintain the following documents:
    - Tyler Safety Checklists for each area personnel and student in the space they oversee.
    - PPE hazard Assessment for the space they oversee
    - An up-to-date copy of this guide
    - Area-specific Standard Operating Procedures (SOP)
    - Safety Data Sheets (SDS) and other relevant safety reference materials
- Implement and enforce the use of safety procedures, including necessary personal protective equipment, engineering controls or work practices.
- Maintain an up-to-date chemical inventory for all chemicals in their space through the Temple University Chemical Inventory System as well as:
    - Secure any area where hazardous chemicals are used or stored when not in use.
    - Properly label and store hazardous chemicals (ex: storing flammables in a yellow flammable cabinet).
    - Ensure all chemical entries have the chemical, or mixture's, correct CAS number, catalog number and SDS.
    - Ensure chemicals in their inventory are not expired.
    - Update and verify their chemical inventory at least annually.

- Ensure compliance with satellite accumulation areas, SAA, for hazardous waste.

- Ensure all engineering controls are maintained and functioning properly.
- Ensure that all chemical waste is disposed of properly through EHRS.
- Report any unsafe acts, condition, or inadequate facilities to the Department Chair, Director and/or EHRS.

These responsibilities may not be shifted to inexperienced or untrained personnel.

Studio Personnel and Students

Area Personnel and Students are individuals who report to an Appropriate Supervisor and do not have others reporting to them. This includes students, visiting artists, temporary or full-time employees, and others who fit this description.

These individuals are responsible for obtaining required safety training and adhering to both general and studio-specific safety protocols outlined in this guide. Additionally, they must promptly report injuries, hazardous material spills, unsafe conditions, or unsafe work practices to an Appropriate Supervisor.

Willful disregard of safety protocols may result in disciplinary action, including expulsion from the studio. Environmental health and safety compliance for Tyler is overseen by the Dean's Office in collaboration with EHRS.

Area Personnel and Students must:

- Comply with all applicable regulations and university policies and procedures, including necessary personal protective equipment, engineering controls, and work practices.
- Read, attend, and/ or follow:
    - The guidelines listed in this document.
    - Studio safety orientation.
    - Any specific Standard Operating Procedures (SOP) provided in the studio or Appropriate Supervisor.
    - The Safety Data Sheet (SDS) for any chemical prior to usage
- Perform only authorized work, preparations, and experiments.
    - Attend any required training initially and each time new procedures or hazards are introduced.
    - Request information or training when unsure about how to handle a hazardous chemical or procedure.
    - Request information on special or unusual hazards in non–routine work
- Only use and/or bring into Tyler chemicals, supplies, and equipment that is approved by an Appropriate Supervisor.

Report any unsafe acts, conditions, injuries, potential exposures, or inadequate facilities to an Appropriate Supervisor and EHRS.

Part 2: Emergency Procedures

In the event of an emergency, assistance is available 24 hours a day, seven days a week.

Key Contacts:

Environmental Health and Radiation Safety: 215-707-2520

Public Safety: 215-204-1234

Employee Health Services: 215-204-2679

Student Health Services: 215-204-7500

Office of the Fire Marshal: 215-204-8687

Fire Safety & Fire Emergency Planning

If you discover a fire, immediately call Public Safety 215-204-1234 **or 1-1234 from a campus phone**. You may also prepare yourself for the event by knowing and follow the acronym **A.C.E.**

A: Stands for **alarm**, activate the nearest fire alarm pull station and call Public Safety

C: Stands for **confined**, close the doors to contain the fire, if possible

E: Stands for **evacuate** the building

If the fire is contained in a small vessel, such as a wastebasket, it can usually be suffocated by covering the vessel with a lid of some sort. If you have been trained in the proper use of a fire extinguisher, you may put out small fires, no bigger than a wastepaper basket. Be sure to fight the fire from a position where you can escape and

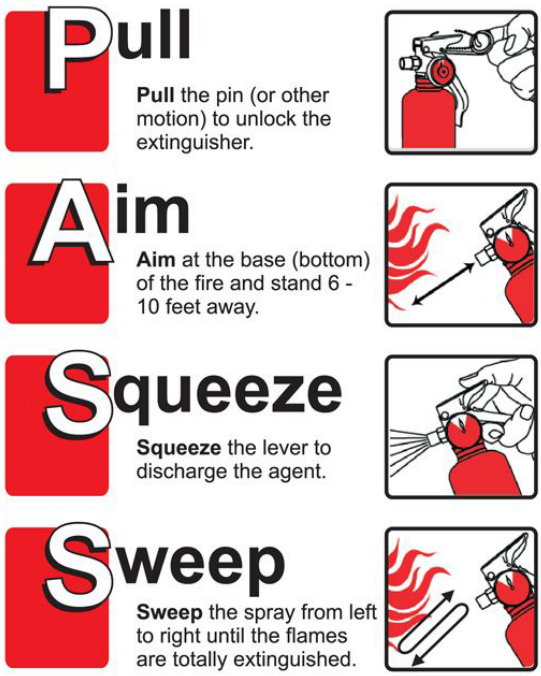
only if you are confident that you will be successful. A helpful acronym for fire extinguisher use is **P.A.S.S.**

P: **Pull** the pin in the handle of the fire extinguisher

A: Aim the fire extinguisher at the base of the fire

S: Squeeze the handle on the fire extinguisher

S: Sweep side to side while discharging the contents of the fire extinguisher



Evacuation Procedures

If you discover a fire or smell smoke, immediately call Public Safety 215-204-1234 or 1-1234 from a campus phone. Following Temple's emergency evacuation procedure do the following:

- Sound the building fire alarm. Know the location of nearby alarm signal stations and how they operate.

- When the fire alarm sounds, leave at once. Close all doors behind you, proceed to the closest fire exit and leave the building. After leaving the building, do not reenter until given permission by Public Safety or the Fire Department.
- ***Do not*** use the elevator. They will stop if the power fails, causing occupants to become trapped. Smoke could also enter the elevator shaft and asphyxiate the occupants trapped inside.
- If caught in smoke or heat, stay low where air is clearer. Take short breaths, through your nose, until you reach an area of refuge.
- **If your clothing catches fire; Stop, Drop and Roll. Drop to the floor and roll to smother the fire until the fire is extinguished.**

If you are in an office or closed room and smell smoke or hear the fire alarm:

- Feel the door that leads from your location to the next before opening it.
    - If it is hot or smoke is seeping in, do not open it.
    - If you become trapped and cannot reach the fire exit, keep the door closed and seal off any cracks.
    - Call the Fire Department by dialing Public Safety at 215-204-1234, or 1-1234 from a campus phone, and give the location of your building, the floor you are on and the office number (or name if number does not apply).
- If the door feels cool, open cautiously. Be prepared to quickly shut it again if the area outside is full of smoke or if you feel heat pressure against door. If the area ahead is clear, proceed with normal the escape plan.

Persons with Disabilities: An individual working in the same area as a person with disabilities should be assigned to assist in the event of a fire. Individuals with

disabilities should be escorted to a fire exit landing and remain there until the fire department arrives to provide further assistance. The assigned individual must inform firefighters of the person's location to facilitate a safe evacuation.

Important: Always keep fire exit and corridor doors closed. These doors are fire-rated to prevent smoke and heat from spreading into stairways and adjoining corridors. If you notice any of these doors propped or tied open, close them immediately and report the location to the University Fire Marshal at 215-204-8687.

Pre-Plan for a Fire Emergency

Preplan your response to a fire emergency by reviewing the Fire Safety & Emergency Management Policy. Familiarize yourself with the nearest fire alarm pull station, exits, and designated assembly area outside the building. In the event of a fire, remember that elevators cannot be used. When the fire alarm sounds, evacuate the building immediately and do not return until Temple Police or Fire Department officials have declared it safe to do so.

In addition to knowing what to do in the event of a fire, it is important to take the following precautions to keep the building safe and to avoid causing a fire:

- Never block access to emergency equipment like fire extinguishers and fire alarm pull stations.
- Always keep exit routes, aisles, stairwells and exit doors clear of obstructions.
- Never store materials within 18 inches of an overhead sprinkler.
- Always keep containers of flammable/combustible liquids capped when not in use.

- Always use flammable/combustible materials in a well-ventilated area and keep them away from sources of heat and ignition.
    - Note: always remove lighters from pockets, or on person, before working around hot processes such as foundry work and welding.
- Always store flammable/combustible liquids in a flammable liquid storage cabinet.

Emergency Procedures

Appropriate Supervisors are responsible for maintaining an up-to-date version of the studio's **emergency response procedures** and ensuring it is readily accessible to all individuals in the space without restriction.

This document must outline **Standard Operating Procedures (SOPs)** for handling common emergencies, including at a minimum:

- **Fire response procedures**
- **Injury response protocols**
- **Chemical spill procedures**

The purpose of formalizing these procedures is to ensure that all individuals clearly understand the necessary actions during an emergency. By establishing a standardized response, this document helps mitigate confusion and panic in high-stress situations.

The **contents, location, and access methods** for these emergency procedures must be reviewed during orientation or onboarding to the space.

Injury and Illness Response & Reporting

Handling and Reporting Employees, Including Student Employees, Injuries

1. If non-emergency medical attention is required, have the injured person go to the Employee Health office located at 1700 N. Broad St. (open 8 AM – 4:30 PM Monday-Friday)
    a. Go to the TUH Emergency Room if Employee Health is closed.
2. Call Public Safety (215-204-1234) if transportation assistance is needed. Do not attempt to transport the injured person yourself.
3. Notify an Appropriate Supervisor and fill out an incident report.
4. Contact EHRS to report the injury regardless of severity.

Handling and Reporting Student Injuries

1. Encourage the injured person to seek medical treatment if appropriate. Students should contact Student Health located on 1700 N. Broad St. (open 8 AM – 4:30 PM Monday-Friday) for assistance.
    a. Go to the TUH Emergency Room if Student Health is closed.
2. If the injured person is unable to transport him or herself for treatment, call Public Safety (215-204-1234) for assistance. Faculty or staff members should **not** attempt to transport the injured person themselves.
3. Contact EHRS to report the injury regardless of severity.

Handling and Reporting All Visitor (including students from other Universities) or Vendor Injuries

1. If appropriate, encourage the injured person to seek medical treatment with any off-campus medical provider.

2. If the injured person is unable to transport themself for treatment, call Public Safety (215-204-1234) for assistance. Do not attempt to transport the injured person yourself.
3. Contact EHRS to report the injury regardless of severity.

Pictured here is Student and Employee Health at 1700 N. Broad St. on the block where Broad meets Cecil B Moore.

AED Program

Temple University, through EHRS, has established an **Automatic Emergency Defibrillator (AED) program** to provide life-saving assistance in medical emergencies. These AED devices are located in the **main entrance lobby of Tyler** and in most main lobbies of Temple buildings.

AEDs are designed to assist in situations where immediate medical intervention is needed while Public Safety is en route. They are **user-friendly** and activate when their **white safety cabinet is opened**. Once powered on by pressing the **power button**, the AED provides **step-by-step verbal instructions** to guide the user through the process.

Temple offers **training on AED use**, but even without prior instruction, anyone can operate the device. To familiarize yourself further, you can also watch a manufacturer-provided instructional video on YouTube.

Below is a picture of the AED located in Tyler's main lobby.

As you walk through Tyler, and other buildings across Temple, keep an eye out for AED locations so you know their location in the event of an emergency.

Chemical Spills & Exposure

In the event of a **chemical spill**, it is crucial to have a **chemical spill kit** readily accessible. These kits contain essential supplies for safely managing spills and minimizing risk.

A typical **chemical spill kit** includes:

- **Personal Protective Equipment (PPE):** Disposable gloves, safety goggles
- **Leak repair materials**
- **Absorbent pads and socks**
- **Neutralizing agents** (for known hazards like acids or strong bases)
- **Disposable bags with ties** for proper waste disposal
- **An instruction sheet and Safety Data Sheets (SDS)**

Take a moment to **locate the chemical spill kit** in your studio or workspace and familiarize yourself with its contents. **Pre-planning** is key to preventing panic and ensuring a swift, effective response in an emergency.

In the event of a minor chemical spill that can be controlled and cleaned by trained individuals, follow these steps:

1. Alert anyone in the immediate area of the spill.
2. In case of injury, seek medical attention for those affected by calling Public Safety 215-204-1234 or 1-1234 from a campus phone.
    a. If needed, assist contaminated persons to a safety shower or eyewash station.
3. Identify the material spilled and review its SDS for control measures.
4. Wear personal protective equipment according to the SDS recommendations.
5. Confine the spill to a small area with absorbent materials.
6. Increase ventilation in the area of the spill and avoid breathing in any vapors it may be emitting.
7. If it is safe to do so, use the available spill kit to neutralize or absorb the spill.
8. Collect any residue, place it in a container, and label the container with a Hazardous Waste Tag.
9. Clean the spill area with soap and water.
10. Report the spill to an Appropriate Supervisor, if not already done.
11. Submit a waste pickup request online though EHRS hazardous waste collection.

For large hazardous materials spills, alert people in the immediate area of the spill, secure the location by closing access doors and evacuate the area immediately. Then immediately contact Public Safety at 215-204-1234.

- Include the following details if known:
    - Location of the spill.
    - Chemical or product name.
    - Is the spill a solid, liquid or gas.
    - The approximate quantity spilled.
    - If there has been a release to the environment.
    - Other pertinent information.
- Immediately activate the fire alarm system under the following circumstances:
    - The chemical released or spilled requires immediate attention because of imminent danger.
    - The chemical released or spilled requires evacuation/control of employees beyond the immediate spill area (e.g., any toxic material spilled in a hallway or other public area).
    - The chemical released or spilled poses a serious threat of fire or explosion.
    - The chemical released or spilled may cause a high level of exposure to toxic substances that are uncontained.
    - The situation is unclear or vital information is missing.
- As with a small spill, be sure to still do the following:
    - In case of injury to any personnel, seek medical attention.
    - If needed, assist contaminated persons to a safety shower or eyewash station.
    - Report the spill immediately to your supervisor.
    - Do not re-enter the area until it has been cleared by appropriate emergency response personnel.

Chemical Exposure

Drench Shower

Eyewash drench hose

Eyewash

In the event of chemical exposure, follow these procedures:

- If medical attention is required, immediately report the incident to Public Safety.
- Regardless of severity, notify an Appropriate Supervisor and EHRS after addressing the immediate situation.

These general procedures provide initial response measures but do not replace professional medical care. They should only be used while waiting for Public Safety to arrive.

To the eyes:

- Immediately flush eyes in the nearest eyewash station for 15 minutes.
  - Keep your eyes open while flushing, if you are unable, use your fingers to separate your eyelids.
  - If you wear contacts, wash your hands and remove them before flushing.

- Refer to the Safety Data Sheet (SDS) for recommended first aid.
- Immediately seek medical attention.

To the skin:

- Flush the area with cool water for 15 minutes and remove contaminated clothing.
- If large areas of the body were exposed, go to the emergency shower, and begin flushing with water at once while removing clothes in the shower. Continue flushing with water for 15 minutes.
- Refer to the Safety Data Sheet (SDS) for recommended first aid.
- Immediately seek medical attention.

If you inhale a chemical:

- Immediately move to fresh air.
- Refer to the Safety Data Sheet (SDS) for recommended first aid.
- Immediately seek medical attention.

If you ingest a chemical:

- Refer to the Safety Data Sheet (SDS) for recommended first aid. Never induce vomiting when corrosives are ingested or if cautioned against in the SDS.
- Immediately seek medical attention.

Emergency Shower in Use

Eyewash Station in Use

Biological Spills & Exposure

For a biological spill, call Housekeeping for cleanup assistance. ***Never*** **clean up large spills of blood or fluids containing blood by yourself.** As part of Temple's bloodborne pathogen program, all bodily fluids should be handled assuming they contain an infectious pathogen. As such, bodily fluid, or biological spills, should not be cleaned without training and specific PPE. For this reason, call the professionals at Housekeeping to clean the spill.

Biological Exposure

Anyone who is exposed, or thinks they may have been exposed to blood or any other bodily fluid, should contact Employee Health Services or Student Health Services immediately for instructions. Then the exposure must be reported to an Appropriate Supervisor and EHRS.

Part 3: General Safety Practices

General Safety Summary

Be a Responsible Member of Tyler

This safety guide is designed to protect you, those around you, and the environment. Following these guidelines will help ensure a safe and productive studio environment:

- Listen to Your Appropriate Supervisor. They are responsible for your training and ensuring that you can work safely. Always follow their instructions.
- Use Equipment Responsibly. Do not operate any equipment unless you are authorized, properly trained, and confident in its use. If you are uncertain, seek guidance before proceeding.
- Adhere to Equipment Instructions. Follow posted standard operating procedures (SOPs) when using equipment. If you have questions, ask your instructor immediately.
- Report Hazards Immediately. Notify an Appropriate Supervisor about any unsafe conditions or damaged equipment. If necessary, take the equipment out of service, attach a warning tag, and secure its power source.
- Know Your Limits. Be aware of your physical, emotional, and mental well-being. Ensure you are well-rested and nourished before working in the studio.
- Stay Alert and Sober. Never operate mechanical equipment or power tools while under the influence of drugs, alcohol, or medication that affects your alertness, as impaired judgment is a major cause of accidents.

- Consider the Safety of Others.
    - Communicate any chemical or physical hazards your project may create.
    - Be aware of those around you and warn them or stop work if they get too close to a hazard.
    - Avoid approaching someone from behind or in their blind spot when they are working with machinery or tools.
- Dispose of Waste Properly. Follow studio-specific waste disposal guidelines. Many chemicals require special disposal methods and should never be discarded in regular trash or down sink drains.
- Speak Up About Safety Concerns. If you have any health or safety concerns, consult an Appropriate Supervisor or contact EHRS for guidance.

By following these principles, you contribute to a safer and more effective working environment for yourself and those around you.

Know where emergency equipment is located and what to do in the event of an emergency. Example of items you should familiarize yourself with their locations are.

- Eyewash stations, drench hoses and safety showers.
- Fire alarm pull stations, fire extinguishers, designated evacuation assembly area.
- Emergency phones and emergency contacts.
- Injury response procedures (notification, recordkeeping, healthcare resources).
- Locations of Safety Data Sheets (SDSs).

Standard Operating Procedures

A Standard Operating Procedure (SOP) is required when a process or material poses an immediate health or safety risk. Additionally, SOPs are often used for quality control to ensure consistency in outcomes. It is the responsibility of an Appropriate Supervisor to create, update, and maintain studio-specific SOPs, ensuring they are readily accessible to all individuals in the space.

Before using certain materials or performing specific processes, individuals must receive training on available SOPs, their location, and how to read and follow them. At a minimum, an SOP should contain the following information.

- Description of the task or material used
- The potential hazards of that task or material
- Controls selected to mitigate or prevent the above listed hazards
- Emergency procedures for injuries, contamination, fires etc.
- The operating procedures outlining how this process is performed or material used specifically in this location.
- Training required

To maintain clarity across different areas of Tyler, it is recommended that a standardized SOP template be used.

Personal Hygiene and Housekeeping

Always practice good hygiene, it is an effortless way to avoid exposure to toxic substances.

- Never eat, drink, smoke, chew gum, or apply cosmetics in the studio/shop, or wherever there is potential for chemical exposure.
- Wash your hands and exposed skin thoroughly with soap and water after using hazardous materials, and after removing gloves, especially before eating or smoking.
    - Don't forget to wash under your fingernails. Keep fingernails trimmed and clean, and do not bite your nails as there is a risk of ingesting hazardous substances.
- Never use hazardous chemicals such as toluene, turpentine, or other solvents to remove paint, inks, or stains from your clothing or skin. Safer alternatives such as baby oil can be used to remove paint instead.
- Never hold brushes or tools in your teeth or mouth.

Always keep studio spaces clean and organized**.** Continuous and diligent cleaning of the studio reduces the risk of accidents and fires. Designate a separate area for work with potentially hazardous materials.

- Dusty surfaces should always be wet mopped or cleaned with a HEPA filtered vacuum. Sweeping stirs up dust and creates an inhalation hazard. This is particularly important for toxic dusts such as silica found in clay and metals from artificial pigments.
    - Dusty work areas should be cleaned after each use or at a minimum daily.
- Clean and dry wet floors and small spills immediately, if the floor remains wet use a wet floor sign.
- Store tools and equipment in a secure location when not in use and keep them in good working order. Ensure their storage never blocks entry or exit routes.

- Pick up tripping hazards to keep walking working areas unobstructed.
- Position electrical cords so they don't hang into walkways, if they must span an area where people will walk tape them down or cover them with a floor mat.

Always maintain clear paths leading to and from entries and exits.

Proper Material Handling & Storage

- Do not block access to emergency equipment such as fire extinguishers, fire alarms, eyewashes, or circuit breakers.
- Keep exit routes, aisles, and exit doors clear of obstructions.
- Choose storage containers based on their safety and intended contents. Avoid breakable glass containers whenever possible and never put chemicals in empty food or beverage containers.
- Never store incompatible chemicals together. Examples include acids and bases or flammables with combustibles. Refer to SDS section 7 for compatibility information.
- Store materials so they will not easily fall and spill. Examples of situations to avoid include on the edge of counters, high shelves, and sloped or grated shelves.
- Don't store hazardous chemicals, especially acids, above eye level.
- Sharp edges or blades should be protected or enclosed to prevent accidental contact.
- Make sure all containers are labeled with contents and hazard warning information. If chemicals are transferred to another container create a

chemical label with the full chemical name, hazards, and warning that appeared on the original chemical label.

- Cover containers with a secure tight-fitting lid or cover when not in use to prevent liquids from evaporating or spilling and powders from spilling.
- Transfer materials carefully to avoid splashing or generating large amounts of dust. Always check the SDS to determine if the material is hazardous and if transfers should be done in a fume hood or other type of appropriate local ventilation. Also, reference the SDS for what PPE should be worn when performing the transfer.

Ventilation

- A common recommendation on product labels is "Use with adequate ventilation." This is a non-specific phrase that provides little information, but it does indicate that the product may contain odorous or potentially toxic materials and that it should be used with a local exhaust system (e.g., spray booth, snorkel, or chemical fume hood).
- Be aware that floor fans or ceiling fans will stir up settled dust and cause air contaminants to be carried into a person's breathing zone.
    - It's better to use exhaust ventilation, a mechanical system that moves air from inside to outside of the building, to remove hot or contaminated air than to just use a standard fan.
- If local exhaust or dilution ventilation systems are not working properly (e.g., if visible dust leakage or strong odors are noted), notify an Appropriate

Supervisor and Facilities Management. Work should be halted until given the clearance to do so.

Working Alone

It is the recommendation of EHRS that no one works alone in a shop or studio. This recommendation is based on the need to have another individual present in case of an emergency, especially when potentially hazardous equipment and materials are in use. If an Appropriate Supervisor determines that working alone is permitted, the hazards present must be assessed, contingencies are thought out and discussed, and the work is approved only if the chances of injury are minimal. Please contact EHRS for a risk assessment.

Below are recommendations for studio work performed alone when permitted:

- When possible, always use the "buddy system" when working in the studio. This is done by informing someone of your location, time you will be working alone, and ensure you have each other's contact information so if you encounter danger, someone is aware of your location and can assist.
- Always ensure you have a way to contact help while in the studio. This can be through an emergency phone in the studio or a cell phone.
- The studio user must be familiar with emergency contact numbers and where they are posted.
- The studio users must have completed all required safety training.
- The studio users must observe all shop safety rules when working in the studio.
- The studio users must wear all required PPE while working in the studio.
- Observance of all shop or studio-specific rules and regulations, beyond those laid out in this guide.

- Always report injuries following injury reporting procedures immediately, regardless of severity.
- Always report unsafe conditions, damaged or defective equipment to an Appropriate Supervisor.
    - Do not attempt to use damaged or defective equipment or repair it yourself unless properly trained and authorized.
- Always seek further guidance on machinery or equipment and or safety related issues that are unclear before attempting to use them or perform those tasks.
- Always work with an appropriate supervisor if there are specific needs for work being performed such as a fire watch, two person lifts, or other special needs circumstances.
- Equipment that is locked out, or de-energized to prevent unauthorized usage, must not be used or tampered with.

Food & Drink Restrictions

Hazardous materials can enter the body through various means, known as routes or portals of entry. One of the most common and easily overlooked routes is through contaminated food and drink. When food or beverages are brought into work areas, they can become contaminated by airborne particles or through direct contact with chemicals on our hands. Since these contaminants are often invisible, the risk is particularly dangerous.

To prevent exposure, food and drinks, including those in closed containers, are not permitted in the working areas of Tyler studios. Appropriate Supervisors may designate specific areas where food and drink are allowed, and it is important to familiarize yourself with studio-specific policies regarding their locations. Always follow these guidelines, and if food and drink are restricted in a particular area, ensure they are kept outside the workspace.

Part 4: Personal Protective Equipment

Personal Protective Equipment (PPE) is used to protect individuals from environmental hazards. This section outlines PPE guidelines specific to Tyler, but for a more comprehensive overview of Temple's Personal Protection Program and Risk Assessment, please refer to the provided link.

While PPE is an important safety measure, it should always be regarded as the last line of defense. It protects only the wearer, not those nearby, and its effectiveness relies on proper fit, maintenance, and use. Additionally, PPE does not eliminate hazards but instead acts as a barrier against them.

Certain clothing choices—such as long pants, long-sleeved shirts, and closed-toe shoes—are not technically considered PPE but may be recommended for added protection. However, some materials pose safety risks in studio environments. Synthetic fabrics, for example, can melt when exposed to heat, causing severe burns, and should be avoided near hot processes like welding, flame work, and furnaces. Likewise, loose clothing—including sleeves, scarves, neckties, and jewelry such as dangling necklaces, rings, watches, and long earrings—can become entangled in moving machinery, creating serious hazards.

Before using PPE, always inspect it for cleanliness and damage. Any defective or worn-out PPE should be removed from service immediately and either replaced or repaired by a qualified individual.

Studio users are encouraged to review PPE recommendations outlined in this guide. Appropriate Supervisors may have specific PPE requirements for certain tasks or studio spaces. Safety Data Sheets (SDS) also provide guidance on recommended PPE for handling particular materials. If you are unsure about PPE requirements, consult an Appropriate Supervisor or EHRS for clarification.

It is also important to consider the limitations of PPE. Wearing PPE can sometimes be uncomfortable, especially in hot conditions, and may restrict movement or dexterity, making

tasks more challenging. Additionally, PPE may create a false sense of security, as it only protects the wearer while the hazard remains present and could still affect others nearby. Incorrect fit, improper PPE selection, and the use of damaged or poorly maintained equipment can all lead to inadequate protection, further emphasizing the need for proper training and oversight.

For PPE to be effective, the user must:

- Know when PPE is necessary.
- Know what kind of PPE is necessary.
- Know how to use PPE properly.
- Understand the limitations of the PPE (what it can and cannot do).
- Know how to wear and adjust PPE.
- Know how to properly maintain PPE.

A hazard assessment, performed by an Appropriate Supervisor, is an evaluation of the workplace to determine the hazards you may be exposed to, such as:

- Biological exposure
- Chemical exposure
- Explosive
- Electrical
- Ergonomics
- Fall
- Mechanical failure
- Noise
- Physical
- Non-ionizing radiation
- Ionizing radiation
- Temperature extremes
- Low visibility

More details on PPE and the hazard assessment process are provided on the [Environmental Health and Radiation Safety web page.]

Eye and Face Protection

Safety eyewear should be worn for chemical, biological, dust, thermal, non-ionizing radiation and physical hazards such as impact. All safety eyewear—also known as safety spectacles—and face protection must comply with the ANSI Z87.1 standard to ensure minimum impact protection. OSHA regulations require that shared eyewear be cleaned and disinfected between uses by different individuals. Whenever possible, it is recommended that each person be issued their own eye protection. If sharing is necessary, a sanitation program should be implemented to maintain hygiene.

It is important to select the appropriate eye protection for specific hazards. Standard impact safety spectacles may not provide sufficient protection against

chemical splashes or laser exposure. When working in environments with a risk of liquid splashing or spraying, safety goggles must be worn. In cases where laser exposure is possible, individuals must use laser safety spectacles that are rated for the specific wavelength and optical density required.

Additionally, eye protection and face protection are not interchangeable. A face shield alone does not provide adequate eye protection, and safety spectacles or goggles do not fully protect the face. A face shield must always be worn in combination with safety spectacles or goggles for complete protection. Contact lenses, prescription glasses, or sunglasses do not serve as safety eyewear. If prescription glasses are required for vision correction, individuals must wear safety goggles over them or use safety spectacles with prescription lenses designed for protective use.

Respiratory Protection

Air contaminants, including respirable particles, vapors, mists, and fumes, can be effectively managed through proper work practices. This includes using less hazardous materials, minimizing exposure, ensuring proper ventilation, and keeping material containers sealed when not in use.

At Temple, EHRS manages the Respiratory Protection Program, which prioritizes engineering controls to reduce airborne contaminants before relying on personal protective equipment. Ideally, these controls should eliminate the need for respirators. However, if adequate controls are not feasible or are still being implemented, respirators must be used.

A respirator is a protective device designed to prevent the inhalation of harmful airborne substances. Before using a respirator, individuals must receive medical

clearance from a healthcare professional and undergo fit testing conducted by EHRS. If you suspect hazardous airborne exposures in your workspace, you can request an assessment from EHRS. Below are examples of respirators commonly used in the studio.

<table>
<tr><td> 
</td><td> 
</td><td>  </td></tr>
<tr><td>N95 Respirator</td><td>Half-Face Respirator</td><td>Full-Face Respirator</td></tr>
<tr><td colspan="3">  </td></tr>
<tr><td colspan="3">Powered Air Purifying Respirator (PAPR)</td></tr>
</table>

Hearing Protection

Hearing loss is one of the most **preventable workplace injuries**. A simple rule of thumb to assess noise levels is if you need to **raise your voice** to communicate with someone standing about **three feet away**, the noise may be hazardous, and **hearing protection may be necessary**.

Certain operations, such as **mechanical equipment in the wood and metal shops**, can generate high noise levels that pose a risk over time. If you suspect that noise exposure in your workspace is excessive, you can **request a noise assessment at no cost** by EHRS through our Hearing Conservation Program to determine whether additional protective measures are needed.

		
Ear Plugs	Canal Caps	Earmuffs

Hand Protection

Hand protection should be used for chemical, biological, thermal and physical hazards such as impact and cuts. However, it is crucial to select the appropriate type of glove for the specific hazard, as each is designed for a particular form of protection. For instance, a glove designed for cut resistance may not provide adequate chemical or heat

resistance. Choosing the wrong gloves—especially for chemical protection—can result in breakthrough, where hazardous substances penetrate the glove and come into direct contact with the skin without immediate detection.

Selecting the right gloves begins with understanding the chemicals or hazards involved, which can be determined by reviewing the Safety Data Sheet (SDS). Glove manufacturers provide chemical resistance ratings for different glove materials, helping users choose the best option for their needs. It is also important to consider how long gloves can be safely used and whether they are disposable or reusable.

Gloves should not be worn when operating rotating machinery, such as saws, drill presses, or powered threading machines, as they can become caught in the equipment, creating an additional hazard. For guidance on proper glove selection, consult an Appropriate Supervisor or EHRS. Below are examples of different types of gloves suited for various tasks you may encounter.

		
Chemical Resistance Nitril Gloves	Material Handling Palm Coated Gloves	Cut-Resistance Chain Mail Gloves

		
Wood or Metalworking Leather or Canvas Gloves	High/Low Temperatures Insulating Gloves	General Purpose Work Gloves for cut and abrasion resistance

Body & Foot Protection

Body protection should be used for chemical, biological, thermal and low visibility hazards. Clothing can serve as either a protective barrier or a potential hazard, depending on its fit and material. When working with machinery that includes rotating components, belts, chains, drives, or other moving parts, loose clothing, jewelry, and accessories can become entangled, posing a serious risk to the wearer. Even when machine parts are covered, gaps or openings in protective guards may still allow objects to get caught.

To minimize risk, it is essential to consult an Appropriate Supervisor, review studio policies, and follow applicable Standard Operating Procedures (SOPs) regarding proper attire. Some Tyler studios, such as Glassmaking, Sculpture, and Jewelry Metals CAD CAM, involve torches and flamework techniques where synthetic fabrics can melt, creating a significant hazard. In these environments, Flame-Resistant (FR) clothing may be required or made available for voluntary use to ensure safety and protection.

Foot protection should be worn for chemical, biological, thermal and electrical hazards as well as physical hazards such as slippery surfaces, compression and impact. Dropped tools, lumber, supplies, or heavy rolling carts can present a significant risk of

injury to an individual's feet. To mitigate this hazard, certain studios may require closed-toe shoes or even crush-resistant footwear, such as steel-toe or composite-toe shoes or boots. It is essential to consult the Appropriate Supervisor, studio policies, or Standard Operating Procedures (SOPs) to determine the specific foot protection required for a particular task or studio environment.

Hair and Clothing Safety

Long hair, typically longer than four inches, can become entangled in machine parts such as chains, belts, rotating mechanisms, suction devices, and blowers. Even when machines are equipped with mesh guards or protective covers, hair can still be pulled in, posing a serious safety risk. Additionally, long hair presents a fire hazard in areas with open flames or welding operations. Anyone with hair exceeding four inches in length must secure it properly by tying it back or wearing a hat or cap to prevent entanglement or accidental ignition. The same precaution applies to long beards.

Wear appropriate clothing and personal protective equipment (PPE). Refer to the studio safety guides for specific information.

- Always wear non-synthetic (cotton) clothing when working with hot objects (ex: welding). Polyester and other synthetic clothing is prohibited for hot work projects.
- Always cover all exposed skin when working with hazardous chemicals or hot objects.
- Shoes are required in all studios. Closed toed shoes, including steel or composite toe shoes or boots may be required based on individual studio or task. Always check with an Appropriate Supervisor for footwear requirements if unsure.
- Always store PPE properly, check for defects before every use, ensure its hygiene, and keep it readily accessible.

Part 5: Hazardous Materials & Equipment

Chemical Hazards

A chemical is classified as hazardous if it has a warning or danger label and/or a pictogram label. This information can be easily identified in two ways: by checking the chemical's label and reviewing its Safety Data Sheet (SDS).

Before purchasing, using, or storing any art materials, always review their labels and SDS to understand potential hazards. Whenever possible, opt for safer alternatives to known hazardous materials. Examples include:

- Choose water-based materials instead of solvent-based.
- Eliminate toxic metals like lead and cadmium (e.g., use lead free solders, glazes, and enamels)
- Use wet, instead of dry, materials and techniques to minimize dust production (e.g., wet sanding, wet grinding, liquid pigment, etc.)
- Apply coatings by brushing or dipping, instead of spraying.
- Choose products that do not create dusts and mists. If possible, avoid using materials in powder and aerosol form or use them with local exhaust ventilation.

Understanding Material Hazards and Exposure Risks

Artists must be aware of the potential hazards associated with the materials they use, such as flammability, toxicity, and reactivity. Knowing the proper safety

precautions is essential to preventing illness or injury. Exposure to hazardous chemicals can occur through four primary routes: inhalation, skin contact, ingestion, and injection.

- **Inhalation:** Airborne materials, whether from evaporation (e.g., solvents) or disturbance (e.g., powdered clay), pose respiratory risks. Welding operations can generate harmful metal fumes and toxic gases, making proper ventilation and respiratory protection critical.
- **Skin Contact:** Some chemicals, such as toluene, can be absorbed through the skin, necessitating the use of chemical-resistant clothing. Cuts and mucous membranes (eyes, nose, and mouth) also serve as entry points for hazardous substances. Always cover open wounds and use appropriate PPE to prevent exposure.
- **Ingestion:** Accidental ingestion can occur when food, beverages, or cosmetics come into contact with contaminated surfaces or hands. To prevent exposure, eating and drinking are strictly prohibited in areas where hazardous materials are present, and thorough hand washing is essential.
- **Injection:** Sharp objects like needles, splinters, or broken glass can puncture the skin, introducing hazardous chemicals directly into the body. Proper handling and disposal of sharp objects are crucial to minimizing this risk.

The effects of hazardous material exposure can vary. Some may cause **acute (immediate) health effects**, while others may lead to **chronic (long-term) health issues**, or in some cases, **no noticeable effects**. The severity of exposure depends on the material itself, duration and frequency of contact, the use of personal protective equipment, hygiene practices, and individual susceptibility. Understanding these risks and following proper safety protocols can help minimize health hazards in the studio environment.

Understanding Material Hazards

To identify the hazards associated with the materials you are using, always refer to the product's manufacturer label and Safety Data Sheet (SDS). The manufacturer's label provides essential information, including the material's name, hazard warnings, special handling procedures, required personal protective equipment (PPE), and first aid instructions.

If a chemical is transferred from its original container to another, the new container must be clearly labeled with the full name of the substance—abbreviations are not permitted. It must also display the appropriate hazard warnings, such as flammable, corrosive, or explosive. Never store chemicals in old food or beverage containers, and do not reuse chemical containers for food storage.

In compliance with Occupational Safety and Health Administration (OSHA) regulations, Temple University is required to maintain an inventory of hazardous materials along with SDS documentation for each product used and stored. These SDS documents can be accessed through the Environmental Health and Radiation Safety (EHRS) website via the chemical inventory system. If an SDS cannot be located, contact an Appropriate Supervisor or EHRS for assistance.

GHS Pictograms

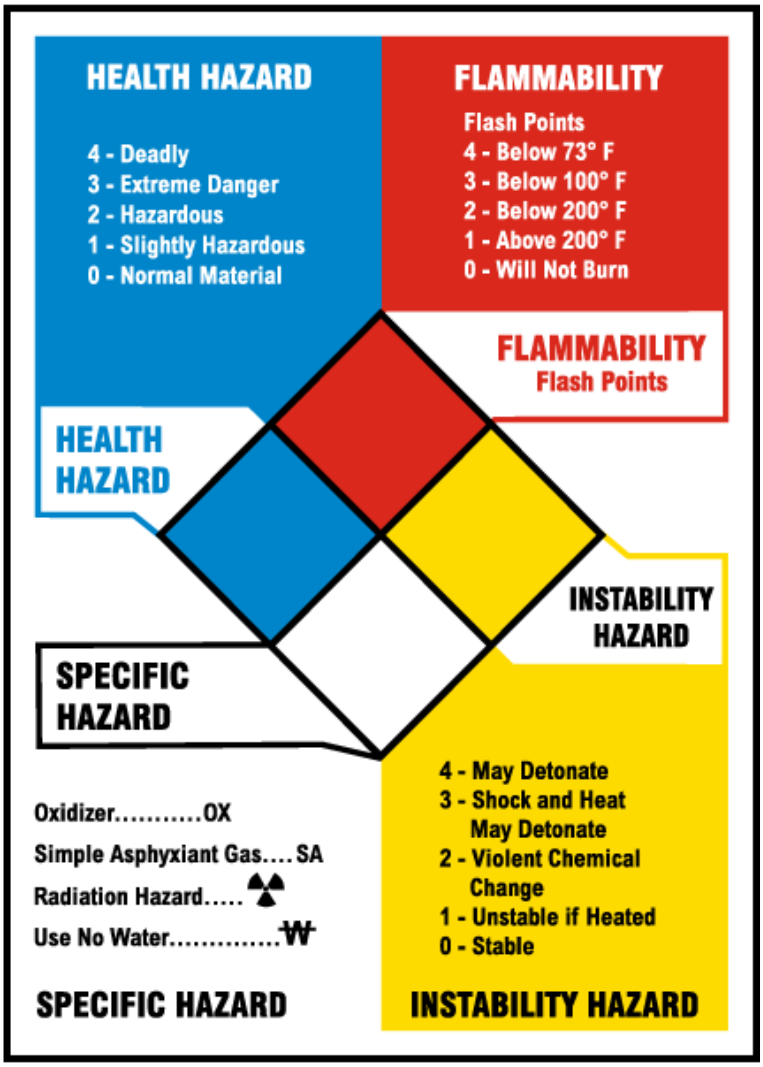
The image above displays the Global Harmonization System (GHS) pictograms and hazard warnings that indicate potential dangers associated with chemicals you may encounter or use. These pictograms can be found on the original container's label and the chemical's Safety Data Sheet (SDS), serving as a quick reference for identifying hazards.

GHS pictograms are designed to provide immediate recognition of a material's hazards, helping users determine appropriate personal protective equipment (PPE) and safe work practices. For example, if a chemical label includes the exclamation mark or health hazard pictogram, PPE should be worn when handling it. Similarly, if the flame or exploding bomb pictogram appears, controlling ignition sources should be a top priority.

Refer to the image above to familiarize yourself with these symbols and understand their meanings for safe handling of hazardous materials.

Also, use the EHRS fact sheet on Pictograms and Hazards for additional information.

NFPA Diamond



The National Fire Protection Association (NFPA) diamond is a commonly seen identifier on doors throughout campus. This diagram serves as a crucial tool for first responders, alerting them to the specific hazards present in a space. The NFPA diamond is divided into four colored sections, each representing a different type of hazard.

The red section at the top indicates the flammability of materials in the area. The yellow section on the right represents the instability or reactivity of substances present. The blue section on the left denotes health hazards associated with the materials. The bottom white section is reserved for special hazards, such as the presence of radioactive materials, simple asphyxiants, or substances that react dangerously with water.

For each category, the most hazardous, flammable, or unstable material in the space determines the reported value. Understanding the NFPA diamond helps ensure safety by quickly conveying critical hazard information to those who need it most.

For more information, please use the EHRS NFPA diamond fact sheet.

SDS Use

A Safety Data Sheet (SDS) is a standardized 16-section document that must be provided by the product's manufacturer or made available upon request. Previously referred to as Material Safety Data Sheets (MSDS), the name was updated as part of the Global Harmonization Project to ensure consistency in structure and content worldwide.

Each section of an SDS serves a specific purpose, providing essential information about the material's properties, hazards, handling procedures, and safety precautions. Below is a breakdown of the contents included in each section of an SDS.

You can also reference the EHRS SDS info sheet for a visual breakdown of an SDS.

Section 1: Identification

This section identifies the chemical, gives recommended uses, and provides essential contact information of the supplier. Required information consists of

- Product identifier used on the label and other common names or synonyms the substance is known by.
- Name, address, phone number of the manufacturer, importer, or other responsible party, and emergency phone number
- Recommended use of the chemical and any restrictions on use.

Section 2: Hazard(s) identification

This section identifies the hazards of the chemical and appropriate warning information associated with those hazards. Required information consists of

- Hazard classification of the chemical
- Signal word
- Hazard statement(s)
- Pictograms
- Precautionary statement(s)
- Description of any hazards not otherwise classified.
- For a mixture that contains an ingredient(s) with unknown toxicity, a statement describing how much of the mixture consists of that ingredient(s).

Section 3: Composition / Information on Ingredients

This section identifies the ingredient(s) contained in the product indicated on the SDS including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed. The required information consists of

- Substances

- Chemical name
- Common name and synonyms
- Chemical Abstracts Service (CAS) number and other unique identifiers
- Impurities and stabilizing additives

- Mixtures
  - Same as substances except
    - Chemical name and concentration of all ingredients which are classified as health hazards and are.
      - Present above their cut-off or concentration limits or present a health risk below the cut-off or concentration limits.
    - Concentration, in exact percentages, of each ingredient unless.
      - A trade secret claim is made.
      - There is batch to batch variation.
      - SDS is used for a group of substantially similar mixtures.

Section 4: First-Aid Measures

This section describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical. The required information consists of:

- Necessary first-aid instructions by relevant routes of exposure such as inhalation, skin and eye contact, ingestion.
- Description of the most important symptoms or effects, and any symptoms that are acute or delayed.
- Recommendations for immediate medical care and special treatment needed, when necessary.

Section 5: Fire-Fighting Measures

This section provides recommendations for fighting a fire caused by the chemical. The required information consists of:

- Recommendations of suitable extinguishing equipment, and information about extinguishing equipment that is not appropriate.
- Advice on specific hazards that develop from the chemical during the fire, such as any hazardous combustion products created when the chemical burns.
- Recommendations on special protective equipment or precautions for firefighters.

Section 6: Accidental release Measures

This section provides recommendations on the appropriate response to spills, leaks, or releases including containment and cleanup practices to prevent or minimize exposures to people, properties, or the environment. It may also include recommendations distinguishing between response for large and small spills where volume has a significant impact on the hazard. The required information may consist of:

- Use of personal precautions and protective equipment to prevent the contamination of skin, eyes, and clothing.
- Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing.
- Methods and materials used for containment.
- Cleanup procedures.

Section 7: Handling and Storage

This section provides guidance on the safe handling practices and conditions for safe storage of chemicals. The required information consists of:

- Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment, and providing advice on general hygiene practices.
- Recommendations on the conditions for safe storage, including any incompatibilities. Also provides advice on specific storage requirements such as ventilation requirements.

Section 8: Exposure Controls and Personal Protection

This section indicates the exposure limits, engineering controls and personal protective measures that can be used to minimize worker exposure. The required information consists of:

- OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS.
- Appropriate engineering controls such as to use local exhaust ventilation, only use outdoors etc.
- Recommendations for personal protective measures to prevent illness or injury from exposure to chemicals such as PPE.
- Any unique requirements for PPE, protective clothing, or respirators.

Section 9: Physical and Chemical Properties

This section identified physical and chemical properties associated with the substance or mixture. The minimum required information consists of:

- Appearance, physical state, color etc.
- Odor and odor threshold
- pH
- Evaporation rate
- Flammability

- Upper and lower flammability or explosive limits
- Vapor pressure and density
- Relative density
- Solubilities
- Partition coefficient
- Auto-ignition temperature
- Decomposition temperature
- Viscosity
- Flash point
- Melting point and freezing point

Section 10: Stability and Reactivity

This section describes the reactivity hazards of the chemical and the chemical stability. This information is broken into three parts: reactivity, chemical stability, and other. The required information consists of

Reactivity

- Description of the specific test data for the chemical(s). This data can be for a class or family of the chemical.

Chemical Stability

- Indication of whether the chemical is stable or unstable under normal ambient temperature and conditions while in storage and being handled.
- Description of any stabilizers that may be needed to maintain chemical stability.
- Indication of any safety issues that may arise should the product change in physical appearance.

Other

- Indication of the possibility of hazardous reactions, including a statement whether the chemical will react or polymerize, which could release excess pressure or heat, or create other hazardous conditions. Also, a description of the conditions which hazardous reactions may occur.

- List of all conditions that should be avoided such as static discharge, shock vibrations, etc.
- List of all classes of incompatible materials.
- List of any known or anticipated hazardous decomposition products that could be produces because of use, storage, or heating.

Section 11: Toxicological information

This section identifies the toxicological and health effects information or indicates that such data is not available. The required information consists of:

- Information on the likely routes of exposure such as inhalation, ingestion, etc. The SDS should indicate if the information is unknown.
- Description of the delayed, immediate, or chronic effects from short- and long-term exposure.
- The numerical measures of toxicity through LD50, this means the estimated amount of the substance expected to kill 50% of test animals in a single dose.
- Description of the symptoms.
- Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens or has been found to be a potential carcinogen.

Section 12: Ecological information (Non-Mandatory)

This section provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment. This information may include:

- Data from toxicity tests performed on aquatic and/or terrestrial organisms.
- Whether there is a potential for the chemicals to persist and degrade in the environment either through biodegradation or other processes.

- Results of tests of bioaccumulation potential.
- The potential for a substance to move from the soil to groundwater.
- Other adverse effects.

Section 13: Disposal Considerations (Non-Mandatory)

This section provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices. To minimize exposure, this section should also refer the reader to section 8 of the SDS. The information may include:

- Description of appropriate disposal containers to use.
- Recommendations of appropriate disposal methods to employ.
- Description of the physical and chemical properties that may affect disposal activities.
- Language discouraging sewage disposal.
- Any special precautions for landfills or incineration activities.

Section 14: Transport Information (Non-Mandatory)

This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea. The information may include:

- UN number and proper shipping name
- Transport hazard class(es)
- Packing group number
- Environmental hazards
- Guidance on transport in bulk
- Any special precautions which and employee should be aware of or needs to comply with.

Section 15: Regulatory information (Non-Mandatory)

This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS. The information may include:

- Any national and/or regional regulatory information of the chemical or mixtures

Section 16: Other information

This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. Other useful information may also be found here.

Chemical Storage

Tyler encompasses a wide range of artistic disciplines, but one common element across them all is the use of chemicals. From dyes and sprays to glazes, inks, paints, and adhesives, chemicals play an essential role in creative processes. However, proper storage of these materials is just as important as their use. Simply placing all chemicals in the same storage area can be hazardous, as some substances may react dangerously when stored together. This section provides guidance on safe chemical storage practices and key factors to consider when handling and storing these materials.

Flammables cabinets.

You may have noticed the yellow cabinets located throughout Tyler, but what purpose do they serve? These are flammables cabinets, specifically designed to store flammable substances safely. Built to withstand extreme conditions, these cabinets help contain fires and provide critical protection until emergency responders, such as firefighters, arrive. Because they are specialized storage units, it is important to follow specific guidelines for their proper use.

- If a total of 10 gallons, or more, of flammables are kept in a space they must be stored inside a flammables cabinet.
- Never store items on top of flammable cabinets.
- Always keep the doors fully closed and latched when not in use.
- Never store an oxidizer, such as oxygen tanks, in the immediate area of flammables especially never store them inside flammable cabinets.

- Never store combustibles, such as paper, cardboard, matches, etc. inside of a flammables cabinet.
- Use appropriate secondary containment if storing liquids inside the flammables cabinet.
- To prevent overcrowding, only store flammable items in the flammables cabinet. Check the SDS to see if an item is flammable to make this determination.

Caustic / Corrosive Cabinets

Similar to flammables cabinets, there are specially designed storage cabinets for caustic and corrosive substances, which are typically blue in color. These cabinets are

constructed from or coated with materials that can withstand the damaging effects of corrosive chemicals, such as acids. The key difference between caustic and corrosive substances is that caustics specifically harm living tissue, while corrosives degrade metals. While some corrosive substances can also be caustic, not all caustics are corrosive. As with flammables cabinets, proper guidelines must be followed to ensure their safe and effective use.

- Caustics and corrosives should never be stored above eye level.
- The cabinets doors must remain closed and latched when not in use.
- Appropriate secondary containment is required when storing liquids.
- Never store materials that may react with caustics or corrosives such as alkaline materials in the same cabinet.

Compatibility requirements

DANGEROUS GOODS & COMBUSTIBLE LIQUIDS STORAGE COMPATIBILITY CHART

Class or Subsidiary Risk		3	2	TOXIC GAS 2	OXIDIZING GAS 2	FLAMMABLE LIQUID 3	FLAMMABLE SOLID 4	SPONTANEOUSLY COMBUSTIBLE 4	DANGEROUS WHEN WET 4	OXIDIZING AGENT 5.1	ORGANIC PEROXIDE 5.2	TOXIC 6	CORROSIVE 8
FLAMMABLE GASES	2	OK TO STORE TOGETHER	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 3m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
NON TOXIC NON FLAMMABLE GASES	2	OK TO STORE TOGETHER	OK TO STORE TOGETHER	OK TO STORE TOGETHER	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 3m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
TOXIC GAS	TOXIC GAS 2	SEGREGATE At least 3m	OK TO STORE TOGETHER	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 3m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
OXIDIZING GAS	2	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 3m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
FLAMMABLE LIQUIDS + COMBUSTIBLE LIQUIDS	3	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 5m	SEGREGATE At least 3m
FLAMMABLE SOLID	4	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 3m	SEGREGATE At least 5m	SEGREGATE At least 3m	ISOLATE	SEGREGATE At least 3m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES
SPONTANEOUSLY COMBUSTIBLE	4	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 3m	OK TO STORE TOGETHER	SEGREGATE At least 5m	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 3m
DANGEROUS WHEN WET	4	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	SEGREGATE At least 5m	OK TO STORE TOGETHER	SEGREGATE At least 5m	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 5m
OXIDIZING AGENT	5.1	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 3m	SEGREGATE At least 5m	KEEP APART	SEGREGATE At least 5m	SEGREGATE At least 5m	MAY NOT BE COMPATIBLE CHECK MSDS AND NOTES	ISOLATE	SEGREGATE At least 3m	SEGREGATE At least 3m
ORGANIC PEROXIDE	5.2	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	ISOLATE	OK TO STORE TOGETHER	ISOLATE	SEGREGATE At least 3m

The graphic above serves as a tool for determining whether certain chemicals can be safely stored together. While some incompatibilities, like gasoline and matches, are obvious, others may pose hidden dangers that are not immediately apparent. This tool helps identify safe storage options for common chemicals in your workspace.

To use the tool, start by locating the first chemical on the far-left vertical column and select the class description that best matches it. Next, find the second chemical along the topmost horizontal row, using the provided class descriptions. The point where the selected row and column intersect will indicate whether the chemicals can be stored together safely. The possible outcomes include:

- OK to store together
- Segregate at least 3 meters apart
- Segregate at least 5 meters apart
- May not be compatible – check SDS and notes (further information is required as exceptions may apply)
- Isolate (these chemicals must not be stored near each other)

If you are unsure about chemical compatibility, always consult the Safety Data Sheet (SDS) or reach out to EHRS for assistance at (215)-707-2520.

Secondary containment

Secondary containment, like those shown above, is the proper method for storing hazardous liquid chemicals. Its purpose is to capture spills in case a container leaks, preventing hazardous substances from reaching the floor or contaminating the area below.

When selecting secondary containment, keep the following factors in mind:

- If storing a single container, the secondary containment must hold at least 110% of its volume.
- For multiple containers, it must accommodate either 150% of the largest container's volume or 10% of the total volume of all containers, whichever is greater.
- The material of the secondary containment must be resistant to the chemicals being stored, ensuring it does not degrade or react.

Improper secondary containment includes materials like cardboard boxes, which cannot hold liquids, or exposed metal when storing acids, as acids can corrode the

metal, leading to leaks. Since spills can happen unexpectedly, using proper secondary containment is essential to keeping both you and your workspace safe.

Physical Hazards

Physical hazards in Tyler will present in many different forms. They may include:

- Loud noise produced by tasks such as woodworking and metal work.
- Non-ionizing radiation infrared/ultraviolet light in welding, torch work, and laser engraving or cutting.
- Lasers, thermal burns/heat from welding, foundry work, laser etchers.
- Powered and non-powered hand tools, machinery, and equipment.
- Puncture hazards from broken glass and sharp tools
- Entanglement hazards by rotating machines, equipment, and parts.

Machine guarding such as interlocks, physical guards, and constant pressure switches are all examples of means of protection from physical hazards but cannot be solely relied on. PPE will also afford protection from physical hazards such as crush, puncture, pinch, thermal and non-ionizing radiation but similarly cannot be solely relied on. Instead, awareness, training, and caution is the best line of defense against most physical hazards.

Mechanical

Using powered equipment such as band saws, grinders, belt sanders, clay mixers, and lathes presents various hazards, including electrical risks, crushing, high noise levels, pinching, and other dangers due to their moving parts, such as gears, pulleys, belts, bits, and blades. Never use a defective tool or piece of equipment. Always turn off the power before making adjustments, ensuring that blades, bits, and other moving parts have completely stopped. If a machine is locked out or tagged out (LOTO), never attempt to operate, re-energize, or remove the locks, as only the individual who applied the lock or tag may remove it. Equipment should only be used by those who are authorized, properly trained, and confident in its operation. If you are uncertain about how to use a machine, seek assistance from someone with the necessary expertise. Always follow all posted instructions and standard operating procedures. Never operate mechanical equipment or power tools while under the influence of drugs, alcohol, medication, or any condition that may impair mental alertness. Additional safety considerations are outlined below.

- Always follow the approved Standard Operating Procedure (SOP) provided when operating machinery.
- Never tamper with or modify safety features of machinery such as
    - Machine guards
    - Auto stop features such as interlocks
    - Buttons or switches for operation
    - Light screens or light curtains
- Never use a machine for a task it was not intended for.
- Never perform maintenance or adjustments on energized equipment unless otherwise specified by the SOP or manufacturer's user manual.

- If a machine presents an odd noise, vibration or other characteristic that is "abnormal" discontinue use of the machine immediately and seek help.
- Always wear appropriate clothing when operating machinery.
    - Tight fitting clothing, tucked in shirt, sleeves buttoned at the wrist.
    - Remove all jewelry that hangs off body, remove watches and rings.
    - Do not wear gloves when working with a rotating or moving machine.
    - Contain all hair that is 4 inches or longer by use of a cap or secure with a hair tie.
    - Wear appropriate PPE such as
        - Fire retardant clothing if machinery will produce sparks, slag, or intense heat.
        - Wear closed toe shoes including steel or composite toe if the potential for foot crush hazards are present.
        - Eye protection that will appropriately shield eyes from hazards that are present.
        - Face shielding worn over eye protection if shrapnel or other flying debris will be produced that may strike the face.
        - Hearing protection if deemed necessary by EHRS or on a voluntary basis for nuisance noise.

Hand Tools

Examples of non-powered hand tools that artists may use include utility knives, chisels, snips, punches, hammers, etc. Hand tool injuries commonly result from a lack of training and improper use or maintenance of the tool. Some ways to avoid hand tool injuries include:

- Only use tools you are familiar with or have received instruction on.
    - If you are not familiar with the provided tool, ask for instruction before proceeding.
- Inspect tools before use to make sure they are in good condition. Worn or defective tools should be repaired or discarded. Report any defective equipment to an Appropriate Supervisor.
- Use the right tool type and size for the job, i.e., don't use a wrench as a hammer.
- When using a knife, always cut away from the body and keep hands and body clear of the knife stroke. Always stabilize the item being cut, using a vice or clamps to keep hands clear of the knife stroke.
- Keep tool cutting edges sharp so they will move smoothly and prevent binding.
- Dispose of used razor blades and utility knife blades in a puncture-resistant sharps container.
- Store tools safely, sharp edges and blades should be protected or enclosed to prevent accidental contact.
- Maintain a good grip and stand in a balanced position to avoid sudden slips.
- Avoid awkward postures such as bending, twisting, or reaching.
- Consider using ergonomically designed tools, especially those that will be used frequently, that fit the hand well.
- Always wear applicable PPE if deemed necessary.

Compressed Gases

Compressed gas cylinders offer the convenience of mobility, allowing them to be transported to different work areas; however, they also present significant hazards. The gases within these cylinders are stored under extreme pressure, and improper handling can lead to ruptures or even explosions. Given these risks, compressed gas cylinders

must be regarded as highly hazardous and handled with utmost care. Proper storage, usage, and maintenance should always be considered before purchasing, using, relocating, or storing these cylinders. Common examples of compressed gases include nitrogen, argon, oxygen, hydrogen, acetylene, and carbon dioxide. Empty cylinders should always be clearly marked as "Empty" or "MT" and stored separately from full or in-use cylinders. Additionally, the protective valve cap must remain in place until a regulator is securely attached. Further safety precautions regarding gas cylinder handling are outlined below.

- Always check with the vendor, before purchase, if the canister can be returned or if the purchaser is required to dispose of as this can be very costly.
- Always refer to the SDS for the gas being used.
- Gas cylinders have the potential to become rockets or bombs due to their high internal pressure. Common ways this may result is if the cylinder is heated or if the valve / cylinder fails.
- Gas cylinders have the potential to create a toxic, flammable, or oxygen deficient atmosphere depending on what gas they contain.
- Always purchase and use the smallest cylinder at the lowest concentration that is practical for the work being performed.
- Always order gas cylinders with a restrictive flow orifice (RFO) to limit gas flow rate leaving the cylinder.
- Always use a pressure relief device to allow safe venting if excessive pressure develops.
- Always store tanks upright and secure them with chains or straps located between the tank's midpoint and shoulder. These straps or chains must be mounted to a wall, a cylinder rack, bench mount, or stand.

- When moving cylinders, keep them in an upright position and use a cylinder cart or hand truck. Cylinders must be properly secured with a chain or strap and have the protective valve cap in place while being moved, never roll, or drag cylinders.
    - Always avoid dropping cylinders or allowing them to strike one another.
- Do not mix fittings, valves, regulators, or lines between different types of gases. Each is designed for its own purpose and cannot be used for all situations.
- Only use fittings, regulators and lines specified by the manufacturer.
- Cylinders containing flammable gases, such as acetylene, must be stored separately from oxidizers, such as oxygen, by either a 20-foot distance or by a non-combustible 5-foor high barrier.
    - The only exception to this is an oxy-acetylene welding cart when in use.
- Always keep tank valves closed, with their valve cover on, when not in use.
- Ensure tank storage areas have proper signage stating, "No Smoking" and "No Open Flames".
- Do not store tanks in areas above 125^{o}F, in direct sunlight, or above the temperature range specified by the manufacturer.
- Do not store tanks in cold rooms or other unventilated areas without EHRS permission.
- For flammable gases, use a flashback arrestor between the regulator and hose.
- Always perform periodic leak checks on the regulator, fittings, and lines.
- Refilling of cylinders may only be performed by the manufacturer or an approved vendor.

Ergonomics

Ergonomics is the science of movement, focusing on how motions are performed to assess and mitigate injury risks. Common ergonomic hazards include back injuries from lifting heavy or awkward objects, muscle strains or pulls from twisting motions, and repetitive stress injuries such as carpal tunnel syndrome from repetitive motions. To address these risks, ergonomics provides solutions such as using mechanical aids like hoists to move heavy objects and employing team lifts when an object is too heavy for a single person. If an item is awkward to carry or weighs more than 40-50 pounds, a team lift is recommended. Proper lifting techniques should always be used, including keeping the back straight, holding the load close to the body, bending the knees, lifting with the legs, turning the body instead of twisting, and carrying loads within the range of the mid-thigh to shoulder.

Many artists, such as potters, painters, and weavers, engage in repetitive motions, which increase the risk of ergonomic injuries. Those who spend extended periods working on computers are also susceptible. Repetitive movements, especially those involving the hands, wrists, and arms, can cause painful inflammation of muscles, tendons, and nerves, potentially leading to long-term damage. Awkward postures can further contribute to musculoskeletal injuries. To prevent such issues, it is essential to use appropriate tools and maintain neutral postures whenever possible—for example, keeping the wrist straight rather than bent. Additionally, taking regular breaks to stretch and move can help improve circulation and reduce strain on affected areas. Further information and ergonomic assessments are provided by EHRS.

Electrical Hazards

Electrical shocks, fires, and even electrocution can result from issues such as overloaded circuits, improperly linked extension cords, or damaged wiring. Any noticeable electrical hazards, including smoke, excessive heat, sparks, tripped circuits, or damaged power cords, should be reported to an Appropriate Supervisor without delay. Never use faulty equipment; instead, inform an Appropriate Supervisor immediately so it can be removed from service. Avoid using electrical equipment in wet or damp environments and ensure that outlets in such areas are equipped with ground fault circuit interrupters (GFCIs) for added safety.

- When using extension cords always check the integrity of the outer sheathing for degradation such as burns, cuts, fraying, melting or wire exposure.
- If a cord is missing its ground prong, immediately mark and remove the cord from service.
    - Never remove the ground prong from a male plug to allow it to fit in a two-prong female outlet.
- Never run an electrical cord through an area that has standing liquid or is generally wet. Also, the user's hands must remain dry when working with electricity.
- Extension cords are for temporary power only, if power is needed at a set location request an outlet be added.
    - Extension cords must be secured, such as taped to the floor or covered by a cord mat, when in use to prevent tripping hazards.
- When unplugging cords, always grab them by the prong housing, do not pull on the cable itself.
- Never daisy chain power strips together. This means do not plug power banks or power strips into another power bank or strip.

- If excessive heat or any smoke is noticed, discontinue the use of the energized source immediately, alert an Appropriate Supervisor and mark it out of service.
- Be mindful of conductive surfaces, such as metal, around you when using anything electrically powered.
- Never use metal frame ladders when working with electrical equipment, wooden or fiberglass frame ladders are safer alternatives.
- Always check for and remove flammable or combustible materials if sparks may be produced.
- Never open, attempt to modify, or work on electrical or circuit breaker panels unless trained to do so and only work within your scope of understanding.
- Never tamper with or modify circuit breakers to prevent their trip.
- Always power off, or unplug if able, equipment when you are finished using it. Unattended energized equipment poses a serious hazard to others.

Waste Management

The goal of Temple's waste management and disposal program is to reduce the potential harm to people and the environment. This is accomplished by ensuring the proper disposal of hazardous chemicals, sharps, and other materials which cannot be disposed of in municipal trash. Some ways to minimize risk and the amount of waste being generated are as follows:

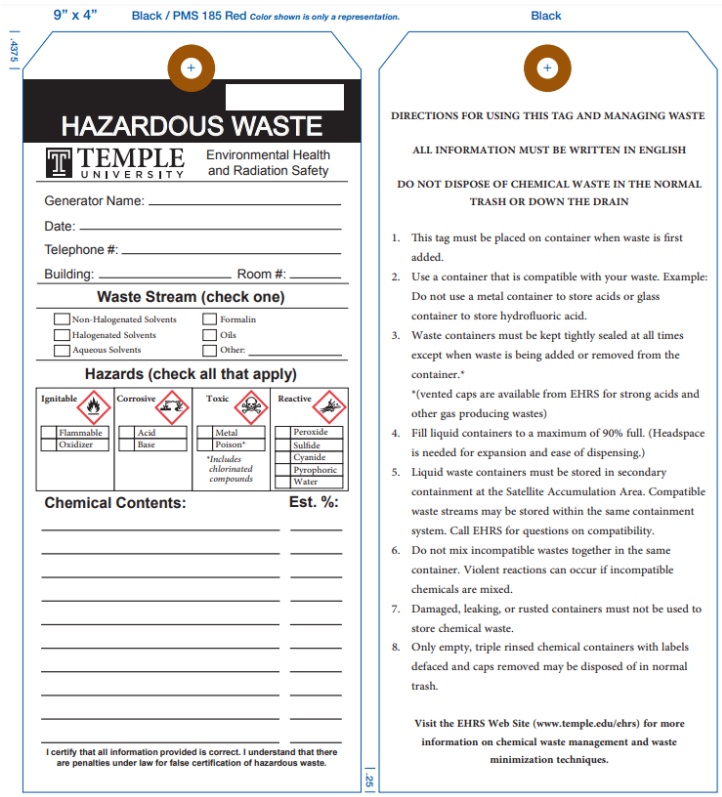
- Whenever possible use non-hazardous alternatives.
- Recycle or reclaim materials whenever possible.
- Use a smaller secondary container for more precise dispensing and only dispense the minimum amount needed.
- Know the disposal requirements before ordering a new material.

- Only bring materials that are pre-approved by an Appropriate Supervisor into studios.
- Always check the SDS for disposal recommendations and contact EHRS for the proper disposal requirements and methods for all chemical waste.

Common wastes that are generated in art processes include solvents, oil-based paints, ceramic glazes, and photographic processing chemicals. Many of these wastes are considered hazardous waste by the U.S. Environmental Protection Agency (EPA) and require special handling. Hazardous waste should be collected and disposed of by a licensed commercial disposal company and may not be poured down the drain or placed with regular trash. Hazardous waste disposal is arranged through Temple's hazardous waste management program and can be accessed by submitting an online request submission process.

Hazardous Waste

The following procedures apply to hazardous waste containers in shops and studios. Waste is considered hazardous if due to its quantity, concentration, or physical and chemical characteristics it my may cause illness, injury or death or pose a hazard to the environment. Waste with any of the following characteristics must be considered hazardous; ignitability, reactivity, toxicity, or specifically listed as such. Please contact EHRS with questions or for clarification.



- Place a "Hazardous Waste" tag, shown in the picture above, on hazardous waste containers before any waste is put into it.
    - Fill out the top portion of the tag including generator's name, date when container is first used, telephone number, building and room number.
    - Keep an inventory of the contents. Record the name and amount of each chemical added to the waste container.

    - If the chemical has a specific waste stream it must go in such as halogenated chemicals, oils, or formalin waste check the appropriate box in the Waste Stream section.
    - If the chemical added to the container has a known hazard such as flammability, corrosivity, etc. check the appropriate box in the Hazards section.
    - Before adding new waste to a container, check to see that the new waste is compatible with the original contents.
    - When the container is full, complete the hazardous waste tag with percentages of each chemical and the date the container became full. The % column must add up to 100%.
- Always keep the containers closed when not in use.
- Always store hazardous waste in appropriate secondary containment, as in place the waste container in another larger container to catch leaks or spills that may occur.
- Use only containers that are in good condition and inspect them regularly.
- Keep containers under the generator's control, don't pass or share them with other studios or locations.
- A container is full when the liquid level reaches close to, but not all to way, to the top of the container.
    - This will prevent the build-up of excessive vapors while ensuring adequate room for expansion.
- Submit a waste pick-up request within 3 days of the container being full.

More information regarding hazardous waste disposal and the online request submission to have any hazardous waste picked up for disposal may be found on the Environmental Health and Radiation Safety website under Waste Management.

Universal Waste

Universal wastes are common hazardous wastes that include batteries, pesticides, fluorescent lamps, mercury containing devices, and empty aerosol cans. These items must be stored in an impervious container such as a bucket with a closed lid, separated by type, and be labeled as "Universal Waste". EHRS provides the labeling stickers and can help source containers for this waste when requested. An example of a universal waste container with the EHRS sticker is below. To have your universal waste collected please follow the link here.

Recycled Rags Program

EHRS has partnered with an outside vendor to provide a recycled rags program. This program allows for rags, that have been used on solvents, to be properly cleaned and re-used. Some examples of when rags may become contaminated with solves are through cleaning brushes, cleaning spills on working areas, applying finishes, etc. The contaminated rags are then placed in the red metal bins with self-closing lids located in the studio spaces. Those rags are sent to the outside vendor who extracts the solvents from the rags and, when properly cleaned, sends back the cleaned rags to provide to our studios. This program has two key advantages in that material waste is reduced by giving multiple lives to each rag used in our studios and that this helps to save the environment by properly disposing of solvents that may otherwise go to municipal waste which causes pollution.

Drum that soiled rags are shipped in.

Soiled rag can that are in studios.

Grey recycled rags ready for another use.

Part 6: Training Requirements

General and Site-Specific Training

Every employee who works in an area where hazardous materials and/or hazardous operations are conducted is required to receive safety training. The intent of the training is to ensure that all individuals are informed about potential hazards and available protections while working in an area. These trainings should be documented through the Tyler Training Checklist to both verify completion of training and a reference for what topics must be covered.

Applicable trainings are divided into three basic groups:

1. Initial & Refresher Training – Provided by EHRS
2. Site Specific Training – Provided by Appropriate Supervisors.
3. Student Training – Provided by Appropriate Supervisors.

Initial training is required upon assignment to the area and includes basic safety orientation in addition to art specific information and training. Appropriate Supervisors are responsible for ensuring that all employees attend this mandatory training prior to working with hazardous materials or conducting hazardous operations. EHRS provides the Tyler School of Art and Architecture Safety training through Temple's learning management system. This training covers chemical hygiene, chemical waste, ergonomics, electrical safety, Department of Transportation security of hazardous materials, hazard communication, heat stress, ladder safety, machine guarding, personal protective equipment, and respiratory protection awareness.

Site specific training will cover hazards, practices, and other items specific to the site where individuals are working. These often cannot be covered in a general training as each studio or shop is set up differently and will have unique hazards specific to their discipline. Site specific training must be given by an Appropriate Supervisor to any employee prior to working with hazardous chemicals or conducting hazardous operations. This training responsibility cannot be shifted to inexperienced or untrained personnel. This training is often conducted during orientation or onboarding.

Additional training is also required when a new hazard is introduced or there is a specific need such as a significant change in procedures. An Appropriate Supervisor will provide, or arrange for, this additional training. Examples of a new hazard may be a physical or health hazard associated with chemicals or operations for which prior training was not received. Examples for the need of additional training may be to improve work practices, address measures to prevent a spill or accident from occurring, when an employee demonstrates a lack of understanding, or to provide training for work with highly hazardous substances. Departments are encouraged to routinely include health and safety topics in staff meetings, toolbox talks, or other communications with employees.

The following site-specific training must be conducted at a minimum:

- Where to find, the availability of, and understanding of the Art Safety Guide.
- How to locate, interpret and use a Safety Data Sheet (SDS).
- A review and understanding of all site specific Standard Operating Procedures (SOPs).
- The physical and health hazards of all potentially hazardous materials used and stored in the area.
- Available necessary protective measures for handling all hazardous materials in the area.

- What are and how to read, chemical labels and hazard warnings.
- The correct use and limitations of engineering controls, personal protective equipment, and other methods used to eliminate or reduce a hazard or exposure.
- The locations of emergency equipment.
- What and where medical services are available.
- The procedures for emergencies, spills, and first aid.

A record of this training must be kept on file and be available for review upon request. This information should be reviewed and updated on an annual basis if necessary.

Training Requirements for Students

Each Appropriate Supervisor should provide area specific instruction as part of the course instruction. Training may include the following:

- The location of emergency equipment such as eyewash stations, safety showers, emergency stop buttons, fire extinguishers, fire alarm pull stations, etc.
- Where to locate, how to use, the limitations of, and how to maintain personal protective equipment.
- Where exits and evacuations routes are located.
- The location of and instructions on how to access a copy of the chemical inventory, art safety guide, safety data sheets (SDS), and standard operating procedures (SOPs).

Refresher Requirements

Some trainings require refreshers to maintain compliance. Trainings that require refreshers are dependent on the nature of your work activities and will be marked with a note such as "required every X months". The initial training and refresher courses are

available through the EHRS website.

Recordkeeping Expectations

All EHRS provided online training records are maintained by EHRS. All other training should be documented, once completed, through the Tyler Training Checklist. This form can be maintained either electronically or physically in the location where the individual works. All training records should be kept for, at a minimum, the entire length of employment or study at Tyler.

Part 7: Studio-Specific Hazards

Architecture

In architecture planning comes to life through use of 3-D printers, laser cutters, woodshops, and more. The specific hazards in this studio present through the tools, machines and materials used. Currently this studio does not require the use of respiratory or hearing protection however, if processes change or new equipment is added EHRS must be notified to perform a hazard analysis. Always follow studio policies for training and review the Safety Data Sheet for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE
3D Printing	• Chemical exposure • Flammable solvents	• Only use approved materials for 3D printing. • Never tamper with 3D printer interlocks.	• Closed toe shoes • Nitrile gloves • Cotton lab coat or work apron
Machinery and Hand Tools	• Physical	• Some machines and tools have sharp cutting or leading edges. • Always respect machine guards. Never attempt to remove or work around them. • Always ensure clothing, hair and accessories do not hang off the body when operating moving machinery. • Never use a machine or tool you haven't been trained on. • Never leave running power tools or mechanical equipment unattended.	• ANSI rated safety spectacles • Face shield worn over ANSI rated safety spectacles • Closed toe shoes • Cut resistant work gloves

Laser Cutter	• Intense Heat • Non-Ionizing radiation	• Never look directly at the laser dot or source • Inspect area and material being cut for reflection. Reflected lasers can pose the same hazard as direct exposure. • Ensure material being cut is not combustible at the temperature the laser operates.	• Safety spectacles with optical density (OD) of 5, 6 or 7 • Closed toe shoes • Kevlar or leather gloves

Important notes:

- Only use equipment and perform activities you have received training on.
    - Training is given by studio technician, program head or approved faculty.
    - EHRS training is required.
- Always practice chemical hygiene.
    - Wash hands immediately after working with chemicals.
    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.
- Always follow posted standard operating procedures (SOPs).
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Ceramics

Ceramics is the practice of turning clay minerals into finished pieces of art. The means by which this takes place involves kilns, throwing wheels, hand tools, glazing, annealing and more. Some areas of concern include chemical exposure, temperature extremes and physical hazards. Respiratory protection is not required as determined by a risk assessment conducted by EHRS but may be worn through voluntary enrollment into Temple's Respiratory Protection Program. Hearing protection is also not required in this studio currently however, if processes change or new equipment is added, EHRS must be notified to perform a hazard analysis. Always follow studio policies for training and review the Safety Data Sheet, SDS, for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE

Pug Milling	• Chemical Exposure
	  • Dry clay contains hazardous materials.
	• Physical
	  • Laceration and pinch points from moving machinery
	  • Entanglement from moving machinery.
	• Ergonomics
	  • Clay may have significant weight.
		• Always ensure local ventilation is on.
		• Always respect machine guards. Do not tamper with or work around machine guards.
		• Keep load weight of clay to less than 50lbs per lift.
		• Always ensure clothing, hair and accessories do not hang off the body when operating moving machinery.
		• Never leave running power tools or mechanical equipment unattended.
			• ANSI, American National Standards Institute, rated safety spectacles
			• Closed toe shoes
			• Nitrile gloves
			• No loose clothing or dangling accessories.

Forming	• Chemical Exposure
	  • Dry clay contains hazardous materials.
	• Physical
	  • Tools and machines used in forming.
		• Only mix dry clay under local ventilation.
		• Limit dust creation by using wet techniques.
		• Only use tools for intended purpose.
			• ANSI rated safety spectacles.
			• Closed toe shoes.
			• Nitrile gloves.

Firing	• Temperature Extremes • High temperatures used to fire clay.	• Always use studio specified temperatures for type of firing being performed. • Always ensure local ventilation is on. • Always respect machine guards. Do not tamper with or work around machine guards.	• ASNI rated safety spectacles • Closed toe shoes • Leather or Kevlar gloves. • ANSI rated tinted safety spectacles to check cones.
Unloading Kilns	• Temperature Extremes • Works leaving annealer are hot	• Only place work taken out of annealer onto approved, heat rated, surface. • Always unload all work from annealer, not just your own work.	• ANSI rated safety spectacles. • Closed toe shoes. • Leather or Kevlar gloves.
Glazing	• Chemical exposure • Some glazes contain hazardous materials.	• Ensure local ventilation systems are on.	• ANSI rated safety spectacles. • Closed toe shoes. • Nitrile gloves

Important notes:

- Only use equipment and perform activities you have received training on.
  - Training is given by studio technician, program head or approved faculty.
  - EHRS training is required.
- Always practice chemical hygiene.

    - Wash hands immediately after working with chemicals.
    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.
- Always follow posted standard operating procedures (SOPs).
- If a tool or machine is found to be defective, notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Drawing/Painting

In this studio pen meets paper, however this may be an oversimplification as a wide variety of mediums are used including ink, paint, charcoal and more. Although there are limited number of dangers present, chemical and sharps hazards are the main area of concern. Currently this studio does not require the use of respiratory or hearing protection however, if processes change or new equipment is added EHRS must be notified to perform a hazard analysis. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE
Painting	• Chemical Exposure • Certain paints may contain hazardous solvents or pigments.	• Only use studio approved paints. • Use local ventilation system if hazardous vapors are produced by paint.	• Closed toe shoes • Nitrile Gloves • Smock or coveralls
Drawing	• Chemical Exposure • Certain drawing materials may produce hazardous dust or contain hazardous pigments.	• Always shake or tap excess charcoal into collection bin or trash instead of blowing it off. • Always try to use wet cleaning techniques such as wet wipes instead of sweeping to keep airborne dust levels low.	• Closed toe shoes • Nitrile gloves • Smock or coveralls

Spray adhesives	• Chemical Exposure
	  • Irritant
	• Explosion
	  • Spray adhesive cans contain gas under pressure.
		• Always use spray adhesive under local ventilation
		• Never expose spray adhesive to flame or spark.
			• ANSI rated safety spectacles.
			• Closed toe shoes
			• Nitrile gloves
			• Smock or coveralls

Glassware	• Sharps hazard from broken pieces of glass	• Never use hands to collect broken glass. Instead, use a broom and dustpan or other tools. • Always dispose of glassware in an appropriate container.	• ANSI rated safety spectacles. • Closed toe shoes

Important notes:

- Only use equipment and perform activities you have received training on.
    - Training is given by studio technician, program head or approved faculty.
    - EHRS training is required.
- Always practice chemical hygiene.
    - Wash hands immediately after working with chemicals.
    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.
- Paint, spray adhesive waste, and broken or whole glass cannot be disposed of in regular trash cans.
- Always follow posted standard operating procedures (SOPs).
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Fibers and Material Studies

Fibers is the art of turning thread, yarn, and other materials into finished products. There are several means by which fibers are turned into finished art as well as dyeing processes involved. Some areas of concern in this studio are chemical exposure from dyes, physical hazards from needles, and temperature hazards from processes used in material dyeing. This studio uses dust masks voluntarily as determined by a hazard analysis performed by EHRS. Hearing protection is not required in the fiber's studio however as determined by a hazard analysis performed by EHRS but may be worn voluntarily. If processes change or new equipment is added EHRS must be notified to perform a hazard assessment. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE

Dyeing	• Temperature Extremes
	  • Dyes baths are heated.
	• Chemical Exposure
	  • Certain dyes may contain know hazards
	  • Certain dyes are corrosive
		• Only perform dyeing on approved materials.
		• Only use approved dyes.
		• Only perform dyeing in approved areas.
		• Always use ventilated hood for mixing dyes and chemicals.
			• Chemical rated goggles
			• Closed toe shoes
			• Nitrile gloves
			• Waterproof apron
			• Voluntary use of dust masks

Hand and Power tool	• Physical
	  • Sewing, by hand or machine, poses needle poke hazard.
	  • Abrasion hazard from fibers.
		• Always respect machine guards. Never attempt to remove or work around them.
		• Always ensure clothing, hair and accessories do not hang off the body when operating moving machinery.
		• Never use a machine or tool you haven't been trained on
			• ANSI rated safety spectacles
			• Closed toe shoes
			• Thimble / finger protection
			• Voluntary use of hearing protection.

		• Never leave running power tools or mechanical equipment unattended.	

Important notes:

- Only use equipment and perform activities you have received training on.
    - Training is given by studio technician, program head or approved faculty.
    - EHRS training is required.
- Always practice chemical hygiene.
    - Wash hands immediately after working with chemicals.
    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.
- Always follow posted standard operating procedures (SOPs).
- Never leave running power tools or machines unattended.
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Foundations

In foundations aspiring, and already established, artists undergo their introduction to their Tyler career. In this studio, a wide brush is used to expose students to all paths Tyler offers. Students may encounter, and work hands on with, basic components of ceramics, fibers and material studies, glass, graphic and interactive design, metals/jewelry/CAD-CAM, painting, drawing, photography, printmaking, and sculpture. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE
Unspecified	• Refer to specific studio for hazards.	• Refer to specific studio for hazards.	• Refer to specific studio for hazards.

Important notes:

Due to this studio's wide focus and mediums, the hazards and materials used may vary between day, week, or month. Following instructor and studio technician guidance is important as well as familiarizing yourself with the other sections of this guide for that studio's listed activities, hazards, precautions, and PPE requirements.

- Only use equipment and perform activities you have received training on.
    - Training is given by approved faculty, program head or studio technician.
    - EHRS training is required.
- Always practice chemical hygiene.
    - Wash hands immediately after working with chemicals.
    - Never eat, drink, or smoke when handling chemicals.

- Read and understand the SDS of a chemical you are working with.

- Always substitute to a less hazardous material when possible.
- Always follow posted standard operating procedures (SOPs).
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Glass Making

Glass making is the art of turning raw glass, or cullet, into finished works. The sustained use of high temperature is the main means for manipulating and shaping raw glass. Chemicals can be introduced during the melting process to color a glass body or change the properties of the material. Metal-based pigments might also be fired onto glass to apply color or patterns. Tools and machinery are used in this studio to mark, cut, grind, and polish cold glass. Chemical adhesives might be used to bond multiple pieces of glass together or to bond glass to another material.

Areas of concern for this studio are the high temperatures associated with the hot glass forming equipment including furnaces, ovens, torches, and kilns. The machinery used to work cold glass including saws, lathes, and grinding equipment, as well as the chemicals present in the studio spaces. This studio uses N95 respirators as determined by a hazard analysis performed by EHRS. Only those that have been medically cleared, received training, and have been fit tested by EHRS may wear N95 respirators. Glass making does not currently require hearing protection however, if processes change or new equipment is added EHRS must be notified to perform a hazard assessment. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE

Furnace Charging	• Temperature Extremes
	  • High temperatures used to melt cullet.
	• Ergonomics
	  • Loading cullet into furnace by hand.
		• Only use approved tools, chute, to load cullet into furnace.
		• Always place chute on wall hanger when finished loading to denote its hot.
			• ANSI, American National Standards Institute, rated safety spectacles.
			• Face shield worn over ANSI rated safety spectacles

	• Exposure to silica dust • Potential exposure to metal oxides, if coloring or altering a glass body using materials containing metal oxides.	• Always work in two person teams when charging furnace. One person opens door, the other loads. • Always use approved wheelbarrow to transfer cullet to furnace. • Turn your body from wheelbarrow to furnace entrance, do not twist. • Never attempt to charge a furnace without proper training. • Custom charging program is to be used during each charge to pause the blower when glass is added.	• Closed toe shoes • Leather or Kevlar gloves • Voluntary use of fire-retardant jacket • Voluntary use N95 respirator, mandatory when using metal oxides for glass coloring and altering.

Annealing	• Temperature Extremes
	  • Oven will be hot while work is loaded into the annealer.
	• Physical Hazard
	  • Potential for handling sharp glass during loading and unloading.
		• Only place work taken out of annealer onto approved surface.
		• Always unload all work from annealer, not just your own work.
		• Never load anything other than glass or approved metals into the annealing ovens.
		• Limit switches installed on oven doors will turn off power to electrical elements each time the doors are opened.
			• ANSI rated safety spectacles
			• Face shield worn over ANSI rated safety spectacles
			• Closed toe shoes
			• Leather or Kevlar gloves
			• Voluntary use of fire-retardant jacket

Glass Blowing	• Temperature Extremes
	  • Molten glass being manipulated.
	  • Dehydration
	• Ergonomics
	  • Repetitive motions.
	  • Punty, blow pipes, and ladles are solid metal, may be heavy.
	• Open flames
	  • Open flames will be present in and around the studio while working.
	• Potential fumes / smoke
		• Always maintain control of your workspace during glassblowing. Do not allow people too close to molten glass.
		• Only shape glass on approved surfaces, and with approved tools.
		• Always take short water breaks to hydrate to and prevent repetitive stress injuries.
		• Always use yokes to support punty.
		• Only burn and ignite approved materials. Sprinkler systems will be set off with excessive temperatures and or smoke.
			• ASNI rated safety spectacles
			• Closed toe shoes
			• Natural fiber clothing, such as cotton, must be worn at all times.
			• Voluntary use of leather or Kevlar gloves
			• Voluntary use of fire-retardant jacket

Glory Hole Garage Pipe Warmers (Combustion Equipment for Forming Hot Glass)	• Temperature Extremes
	  • Molten glass being manipulated.
	  • Warm to hot metal equipment in space around shop.
	  • Open Flames
		• Always maintain control of your workspace during glassblowing. Do not allow people too close to molten glass.
		• Only use approved materials to handle molten glass.
		• Only attempt to turn on or off equipment if you have been trained, otherwise ask the shop monitor for assistance.
			• ANSI rated safety spectacles
			• Closed toe shoes
			• Natural fiber clothing, such as cotton, must be worn at all times.
			• Voluntary use of leather or Kevlar gloves
			• Voluntary use of fire-retardant jacket

Flamework	• Temperature Extremes
	  • Open flame
	• Explosion
	  • Flammable gases
	• Non-ionizing radiation
	  • Intense light
		• Only perform flamework in approved spaces.
		• Never leave torches on and unattended.
		• Always be mindful of where torch is facing.
		• Always follow studio policy for gas flow rates.
		• Always bleed gas line when work is finished through burn off.
		• Never stare directly at torch without proper eye protection.
			• Didymium safety spectacles
			• Closed toe shoes
			• Natural fiber clothing, such as cotton, must be worn at all times.
			• Voluntary use of leather or Kevlar gloves
			• Voluntary use of fire-retardant jacket

Neon Bending	• Temperature Extremes
	  • Open flames
	• Explosion
	  • Flammable gasses
		• Only perform neon bending in approved spaces.
		• Never leave bending torches on and unattended.
		• Always be mindful of where torch is facing.
		• Always follow studio policy for gas flow rates.
		• Always bleed gas line when work is finished through burn off.
			• ANSI rates safety spectacles.
			• Closed toe shoes.
			• Natural fiber clothing, such as cotton, must be worn at all times.
			• Voluntary use of leather or Kevlar gloves.
			• Voluntary use of fire-retardant jacket

Molding	• Chemical Hazards • Materials used in mold making and de-molding may be hazardous	• Only de-mold in approved space with local ventilation on.	• ANSI rated safety spectacles • Closed toe shoes • Nitrile gloves
Glass Coloring	• Chemical Hazards • Certain pigments may contain highly hazardous materials.	• Follow studio policy for what pigments and dyes are permitted.	• ASNI rated safety spectacles • Closed toe shoes

		• Only perform glass coloring in appointed spaces.	• Natural fiber clothing, such as cotton, must be worn at all times. • Leather or Kevlar gloves • Voluntary use of fire-retardant jacket

Powered Hand Tools and Mechanical Equipment	• Physical
	  • Laceration and pinch points from moving machinery
	  • Entanglement from moving machinery
		• Always respect machine guards. Never attempt to remove or work around them.
		• Always ensure clothing, hair and accessories do not hang off the body when operating moving machinery.
		• Never use a machine or tool you haven't been trained on
		• Never leave running power tools or mechanical equipment unattended.
			• ANSI rated safety spectacles
			• Face shield over ANSI rated safety spectacles
			• Closed toe shoes

Important notes:

- Only use equipment and perform activities you have received training on.
  - Training is given by studio technician, program head or approved faculty.
  - EHRS training is required.
- Always practice chemical hygiene.
  - Wash hands immediately after working with chemicals.
  - Never eat, drink, or smoke when handling chemicals.
  - Read and understand the SDS of a chemical you are working with.
- Working alone is prohibited in this studio.

- Always substitute to a less hazardous material when possible.
- Glass waste cannot be disposed of in regular trash cans.
- Always follow posted standard operating procedures (SOPs).
- Never leave running power tools or machines unattended.
- Never leave a torch unattended.
- Never leave gas lines open when flame is not ignited.
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Metals, Jewelry, CAD/CAM

In this studio metals, wood, plastics, wax, and other mediums are used in creating works of art. The processes used involve chemical treatments, flamework, cutting, grinding and many other methods. Some areas of concern in these processes include the release of toxic gases and vapors from melting metals and the chemicals used in treating metals. The studio uses dust masks and hearing protection voluntarily as determined by a hazard analysis performed by EHRS. If processes change or new equipment is added EHRS must be notified to perform a hazard assessment. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE

Soldering, Brazing, Welding	• Temperature Extremes
	  • All activities use high heat to manipulate metal
	• Chemical Exposure
	  • Metal fumes and vapors
	  • Acetylene, oxygen, and argon gases
		• Only solder, braze and weld in approved areas.
		• Use appropriate local ventilation system.
		• Always use a welding curtain to protect others while welding
		• Never leave an open flame unattended.
		• Always assume all surfaces in area are hot.
			• ANSI, American National Standards Institute, rated safety spectacles for soldering and brazing
			  • Welding shield for welding activities
			• Closed toe shoes
			• Leather gloves
			• Cotton lab coat or work apron

Pickling	• Chemical Exposure • Corrosive solutions	• Pickling can only be performed in a chemical fume hood.	• Chemical rated goggles • Face shield worn over ANSI rated safety spectacles

		• Never mix pickling solution out of a fume hood. • Always ensure local ventilation systems are on. • Dispose of used and expired solutions in accordance with EHRS Chemical Waste Guidelines. • Always assume all surfaces in area are hot.	• Closed toe shoes • Nitrile gloves • Cotton lab coat or work apron

Metal Forging	• Noise
	  • Hand and power tools can produce high noise levels
	• Temperature Extremes
	  • Molten metal
	• Chemical Exposure
	  • Corrosive solutions
		• Only perform metal forging in approved spaces
		• Always inspect tools before use.
		• Only use tools for their intended purpose.
		• Never operate equipment marked as "out of service."
		• Never leave an open flame unattended.
		• Always assume all surfaces in area are hot.
			• ASNI rated safety spectacles
			• Face shield worn over ANSI rated safety spectacles
			• Closed toe shoes
			• Leather gloves
			• Cotton lab coat or work apron.
			• Voluntary use hearing protection.

Mold Making	• Chemical exposure • Depending on the material used it may create vapors or fumes	• Only perform mold making in approved spaces. • Ensure local ventilation systems are on.	• ANSI rated safety spectacles • Face shield worn over ANSI rated safety spectacles • Closed toe shoes • Leather gloves • Cotton lab coat or work apron

Casting	• Intense Heat • Molten metal	• Only perform casting in approved areas. • Use local ventilation system when casting. • Always assume all surfaces in area are hot.	• ANSI rated safety spectacles • Face shield over ANSI rated safety spectacles • Closed toe shoes • Leather gloves • Fire resistant outer clothing layer
3D Printing	• Chemical exposure • Flammable solvents	• Only use approved materials for 3D printing. • Never tamper with 3D printer interlock.	• Closed toe shoes • Nitrile gloves • Cotton lab coat or work apron
Laser Etching	• Non-ionizing radiation • Class 4 laser used	• Never look directly at laser dot or source • Inspect area and material being etched for reflection. Reflected lasers pose the same hazard as direct exposure • Ensure material being etched is not combustible at temperature laser operates	• Safety spectacles with optical density (OD) of 5, 6 or 7 • Closed toe shoes • Leather gloves • Cotton lab coat or work apron
Powered Hand Tools and Mechanical Equipment	• Physical • Laceration and pinch points from moving machinery • Entanglement from moving machinery	• Always respect machine guards. Never attempt to remove or work around them. • Always ensure clothing, hair and accessories do not hang off the body when operating moving machinery. • Never use a machine or tool you haven't been trained on	• ANSI rated safety spectacles • Face shield over ANSI rated safety spectacles • Closed toe shoes • Cotton lab coat or work apron • Voluntary use hearing protection • Hair tie or cap to contain loose hair.

		• Never leave running power tools or mechanical equipment unattended. • When applicable always use equipment with provided dust collection system active.	
Loading / Unloading Kilns	• Temperature extremes	• Only use approved tools and methods to handle materials. • Only place materials from the kiln on approved surfaces. • Always assume all surfaces in area are hot.	• ANSI rated safety spectacles • Closed toe shoes • Leather or Kevlar gloves • Fire retardant jacket

Important notes:

- Only use equipment and perform activities you have received training on.
    - Training is given by studio technician, program head or approved faculty.
    - EHRS training is required.
- Always practice chemical hygiene.
    - Wash hands immediately after working with chemicals.
    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.
- Metal waste cannot be disposed of in regular trash cans.
- Always follow posted standard operating procedures (SOPs).
- Never leave running power tools or machines unattended.
- Never let molten metal mix with water, grease, oil, or other organic materials.

- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Photography

In the photography studio film and print developing use chemical processes with specific mixing instructions. Due to the chemical hazards present in these solutions, this is one area of safety concern for this studio. The photography studio does not currently require respirator use as local ventilation has been implemented as an appropriate engineering control. The photography studio also does not require the use of hearing protection however, if processes change or new equipment is added EHRS must be notified to perform a hazard assessment. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE
Film Development	• Chemical Exposure • Developer's solution has known hazardous chemicals	• Only develop film in approved areas. • Always ensure local ventilation is on and damper is set to allow proper air exchange. • Only use approved developer's solution. • Use liquid chemistry when possible. • Never mix solutions without gloves.	• Chemical rated goggles. • Closed toe shoes • Nitrile gloves • Chemical resistant apron • Studio appropriate clothing. • No food or drink allowed in this space.
Machinery and Hand Tools	• Physical • Machines have sharp cutting or leading edge.	• Always respect machine guards. Never attempt to remove or work around them. • Always ensure clothing, hair and accessories do not hang off the body when	• ANSI rated safety spectacles. • Closed toe shoes

		operating moving machinery. • Never use a machine or tool you haven't been trained on • Never leave running power tools or mechanical equipment unattended.	

Dark Room Use	• Visibility
	  • Area of extreme low light.
	• Nuisance noise
	  • Ventilation produces nuisance noise that may make hearing difficult.
		• Always you're your walking path to prevent slips, trips, and falls.
		• Never leave materials in path of egress (the route to the exit or entrance).
		• Always assume floor may be wet in spots, take caution to avoid slips, trips, and falls.
			• Same PPE as film development.
			• No food or drink allowed in this space.

Alternative Processes Room	• Chemical Exposure • Dry, powder, chemical mixing	• Always ensure fume hood is operational and on before mixing chemicals inside of it. • Never attempt novel chemical mixtures without specific guidance by an Appropriate Supervisor. • Always use a secondary tray when mixing dry chemicals to prevent accidental spills.	• Same PPE as film development.

Lighting Studio	• Elevated work
	  • Ladders are frequently used in this studio.
	• Electrical hazard and intense lights.
	  • To power the lights in this studio electrical cords are often run, and lights are powerful giving intense illuminance and sometimes strobing effects.
		• Never daisy chain extension cords, meaning plug a power strip into another power strip.
		• Always ensure extension cords are secure to prevent tripping hazards.
		• Never work with electricity in the vicinity of water, always ensure hands are dry too.
		• Keep combustibles such as paper, cardboard, etc. a safe distance from high power lights as they produce heat.
		• Never shine lights directly at another person as this could cause eye damage.
		• Always warn others in the studio if a strobing effect will be used as certain people may have strong adverse effects.
		• Always follow ladder safety training guidelines for ladder use.
			• ANSI rated safety spectacles.
			• Closed toe shoes

Important notes:

- Only use equipment and perform activities you have received training on.
  - Training is given by studio technician, approved faculty, and trained studio monitors.
  - EHRS training is required.
- Always practice chemical hygiene.
  - Wash hands immediately after working with chemicals.

    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.
- Liquid chemical waste cannot be disposed of in regular drains unless otherwise given permission by an Appropriate Supervisor.
- Always follow posted standard operating procedures (SOPs).
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Printmaking

In the printmaking studio, processes are used to create multiples from original matrices. The areas of concern in this studio include chemical exposure, hand tool and machinery use, and ergonomic hazards. Engineered controls are in place. Personal respiratory protection and hearing protection are not currently required in the printmaking studio however, if processes change or new equipment is added EHRS must be notified to perform a hazard analysis. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE

Matrix surface manipulation, printing, and cleaning for Intaglio plates, Relief blocks, Lithography stones and plates, Serigraphy screens, and Letterpress type	• Chemical Exposure
	  • Corrosive solutions
	  • Flammable and combustible liquids
	  • Inks may contain hazardous chemicals.
	  • Abrading matrices may create hazardous situations.
		• Only use studio approved inks, etches, cleaners, and solvents.
		• Use chemicals in designated areas to minimize any contamination and the creation of dangerous chemicals.
		• Ensure local countertop, snorkel, or booth ventilation is on.
		• Use designated and sprayed materials under local ventilation or spray booth as specified by studio policy.
			• Chemical rated goggles and/or face shields when splash hazard is present.
			• Closed toe shoes
			• Nitrile gloves
			• Apron or smock
			• Dust mask when needed.

Machinery and Hand Tool Use	• Physical	• Always respect machine guards. Never attempt to	• ANSI rated safety spectacles.

	• Some machines and tools have sharp cutting or leading edges. • Some machines and tools spray liquids • Some tools spin fast or slow • Some machines have pinch points • Some tools and machines heat up during use.	remove or work around them. • Keep hands and body out of path of tool or motion of machine. • Always ensure clothing, hair and accessories do not hang off the body when operating moving machinery. • Never use a machine or tool you haven't been trained on. • Never leave running power tools or mechanical equipment unattended.	• Closed toe shoes. • Apron or smock.
Lithography stones and plate lifters movement around studio	• Ergonomics • Lifting and pushing 20lb to 200lb stones, CPVC plate lifters and aluminum plate lifters.	• Know your lifting limitations and use hydraulic lifts or help from a second person when necessary. • Turn your body, do not twist when handling the lithography stone.	• Closed toe shoes

Important notes:

- Only use equipment and perform activities you have received training on.
    - Training is given by studio technician, program head or approved faculty.
    - EHRS training is required.
- Always practice chemical hygiene.
    - Wash hands immediately after working with chemicals.

    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.
- Liquid chemical waste cannot be disposed of in regular drains.
- Always follow posted signage.
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.
- Take your time.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Sculpture – Metal and Woodworking

In the sculpture studio both wood and metal are used to create works of art. The variety of processes used include everything from cutting, sawing, and grinding to welding and soldering. The areas of concern in this studio include chemical exposure, temperature extremes, physical and ergonomic hazards. The sculpture studio uses hearing protection on a voluntary basis and does not currently require respiratory protection. If processes change or new equipment is added, EHRS must be notified to perform a hazard assessment. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE

Soldering, brazing, welding	• Temperature Extremes
	  • All activities use high heat to manipulate metal
	• Chemical Exposure
	  • Metal fumes and vapors
	  • Acetylene, oxygen, and argon gases
		• Only solder, braze and weld in approved areas.
		• Use approved local ventilation system
		• Always use a welding curtain to protect others while welding
			• ANSI, American National Standards Institute, rated safety spectacles for soldering and brazing
			  • Welding shield for welding activities
			• Closed toe shoes
			• Leather gloves
			• Fire retardant jacket

Machinery and Hand Tools	• Some machines and tools have sharp cutting or leading edges.	• Always respect machine guards. Never attempt to remove or work around them. • Always ensure clothing, hair and accessories do not hang off the body when operating moving machinery.	• ANSI rated safety spectacles • Face shield worn over ANSI rated safety spectacles • Closed toe shoes

		• Never use a machine or tool you haven't been trained on • Never leave running power tools or mechanical equipment unattended.	

Important notes:

- Only use equipment and perform activities you have received training on.
    - Training is given by studio technician, program head or approved faculty.
    - EHRS training is required.
- Always practice chemical hygiene.
    - Wash hands immediately after working with chemicals.
    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.
- Metal and wood waste cannot be disposed of in regular trash cans.
- Always follow posted standard operating procedures (SOPs).
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520

Temple Contemporary and Exhibitions

In Tyler's contemporary and Exhibitions studio works of art are displayed in exhibitions and public programs. This studio focuses on the art of presenting to the public and other artists for critique. Displaying art presents its own unique set of hazards as the general public's safety is of concern. Some considerations to explore for this space include the structural integrity of the space when choosing where to hang art, the tensile strength of hangers and brackets used, ventilation considerations for vapor outgassing through different art mediums, lighting, electrical supply and more. As hazards present depending on the materials brought into the space, always consult an Appropriate Supervisor or EHRS. Always follow studio policies for training and review the SDS for a chemical or material you are going to handle.

Activity	Hazards	Precautions	PPE
Suspending Art	• Ergonomics • Fall • Mechanical failure • Physical	• Always use team lifts if the art is awkward or heavy to lift. • Use mechanical aids to lift the art if possible. • Only suspend art using appropriately rated materials. Check weight limits. • Only suspend art from engineering approved supports. • Stanchion or restrict access to the space directly under suspended art where significant injury could occur should it fall. • Follow ladder safety guidelines if work at elevated height is required.	• Closed toe shoes

Lighting	• Electrical • Temperature extremes	• Never overload outlets by daisy chaining extension cords or power banks. • Always secure cords by taping them to the floor, covering with a carpet, or placing signs to alert people of tripping hazard. • Lights produce heat, ensure spacing is adequate so object being illuminated will not catch on fire.	• Closed toe shoes
Machinery and Hand Tools	• Some machines and tools have sharp cutting or leading edges.	• Always respect machine guards. Never attempt to remove or work around them. • Always ensure clothing, hair and accessories do not hang off the body when operating moving machinery. • Never use a machine or tool you haven't been trained on • Never leave running power tools or mechanical equipment unattended.	• ANSI rated safety spectacles • Face shield worn over ANSI rated safety spectacles • Closed toe shoes

Important Notes:

- Only use equipment and perform activities you have received training on.
    - Training is given by studio technician, program head or approved faculty.
    - EHRS training is required.
- Always practice chemical hygiene.
    - Wash hands immediately after working with chemicals.
    - Never eat, drink, or smoke when handling chemicals.
    - Read and understand the SDS of a chemical you are working with.
- Always substitute to a less hazardous material when possible.

- Always follow posted standard operating procedures (SOPs).
- If a tool or machine is found to be defective notify a studio technician or instructor.
- Never use a tool or machine marked as out of service.

Emergencies	Questions
In the event of an emergency call Public Safety at (215) 204-1234	Contact Environmental Health and Radiation Safety (EHRS) at (215) 707-2520