

Safety & Compliance in the Arts



Environmental Health and Safety
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Contacts and Objectives

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| • Waste Management | • Occupational Safety |
| • Industrial Hygiene | • Insurance/Risk Management |
| • Asbestos/Indoor Air Quality | • Lab Safety |
| • Fire Safety | • Waste Management |



The common misconception when working in the Arts is that it is a nonhazardous occupation, which creates a greater risk of exposure and injury due to hazardous art materials being used. Research has shown that an artist's craft has the potential to adversely affect his/her health. If not properly used, art materials and processes can cause physical injury or illness or initiate fires. It is essential for artists to understand studio hazards and how to protect themselves and those working around them.

Training Objectives

- To provide you with the University's chemical safety procedures applicable to individuals working in USF art studios, shops, and studios.
- To make you aware of the applicable laws and regulations to ensure environmental compliance
- To disseminate safety contact information and resources that will assist you in making safe decisions and remaining compliant with regulations

Individual Responsibility

The key to having a safe art environment lies with an individual's commitment to safety while conducting projects. Most accidents can be avoided by using common sense and good judgment. While working in studios, an individual should consult with his/her Supervisor about:

- The potentially hazardous chemicals and machines present
- Operations where hazardous materials are present
- Location of safety equipment
- Available safety trainings

Employee Responsibilities

The USF Chemical Hygiene Plan outlines the responsibilities of individuals working in chemical "laboratories" including art studios, ceramic studios, photography darkrooms, etc. All employees are required to:

- Follow all University safety procedures as outlined by the Chemical Hygiene Plan, EH&S, and the Instructor/Area Manager
- Attend all required safety trainings
- Report any conditions deemed unsafe to the Instructor/Area Manager, Safety Supervisor, or EH&S

Supervisor Responsibilities

The USF Chemical Hygiene Plan also outlines the responsibilities of Supervisors/Area Managers working in

chemical “laboratories” including art studios, ceramic studios, photography darkrooms, etc. All supervisors are required to:

- Determine job-specific safety and compliance procedures
- Provide required safety equipment to staff
- Ensure that employees receive appropriate safety training
- Ensure that employees follow safety and compliance procedures
- Ensure correction of identified hazards
- Report all injuries/illnesses via the workers’ compensation process





Chemical Hygiene Plan

- The USF Chemical Hygiene Plan requires all faculty, staff, and students who work in chemical “laboratories” to attend the EH&S Chemical Safety Training annually. According to the Chemical Hygiene Plan, “a chemical laboratory is defined as any facility designated for use in teaching, research or service activity, where chemical agents are used, or stored.” Examples of these facilities include research laboratories using or storing chemicals, art studios that use paints and solvents, ceramic studios, teaching laboratories that use or store chemicals, and photography darkrooms.
- All personnel working in the studio must have available to them a copy of the Chemical Hygiene Plan. You can review the Chemical Hygiene Plan at www.usf.edu/eh&s.

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Recognizing Hazards: Hazard Classes

<p>FLAMMABLE</p> <ul style="list-style-type: none"> • A material that may catch fire and burn in air • Any liquid having a flashpoint below 100 degrees F (37.8 degrees C) • Flammable vapors are usually heavier than air (vapor density > 1), so it is possible for the vapors to travel along floors and, if an ignition source is present, result in a flashback fire • Store flammable liquids only in specially designed flammable storage cabinets and refrigerators/freezers or explosion-proof refrigerators/freezers away from ignition sources and oxidizers 	
<p>OXIDIZER/REACTIVE</p> <ul style="list-style-type: none"> • An unstable material that may ignite, explode, or produce toxic gas under certain conditions • Examples include sodium, t-butyl lithium, aluminum nitrate, perchloric acid, nitric acid, and sodium peroxide • Store away from flammable materials and place in a secondary containment when stored with incompatible materials 	
<p>CORROSIVE</p> <ul style="list-style-type: none"> • A material that destroys metal and can cause destruction of tissue upon exposure • Has a pH of less than 2 or greater than 12.5 • Examples include strong acids such as hydrochloric acid and sulfuric acid, and strong bases such as potassium hydroxide and sodium hydroxide 	
<p>POISON/TOXIC</p> <ul style="list-style-type: none"> • A material that is harmful or fatal if ingested or absorbed • Toxic chemicals have an LD50 of 50 - 500 mg/kg, single oral dose for rats • Highly toxic chemicals have an LD50 of < 50 mg/kg, single oral dose for rats • Store in a secure, sealed container below shoulder level. Use only in designated areas 	

Recognizing Hazards: Resources

1. Manufacturer's Label

The manufacturer of a chemical must provide a label that indicates:

- Full name of chemical
- Hazard warnings
- Name and address of manufacturer

* Chemical containers without manufacturer's labels should be returned to the manufacturer.

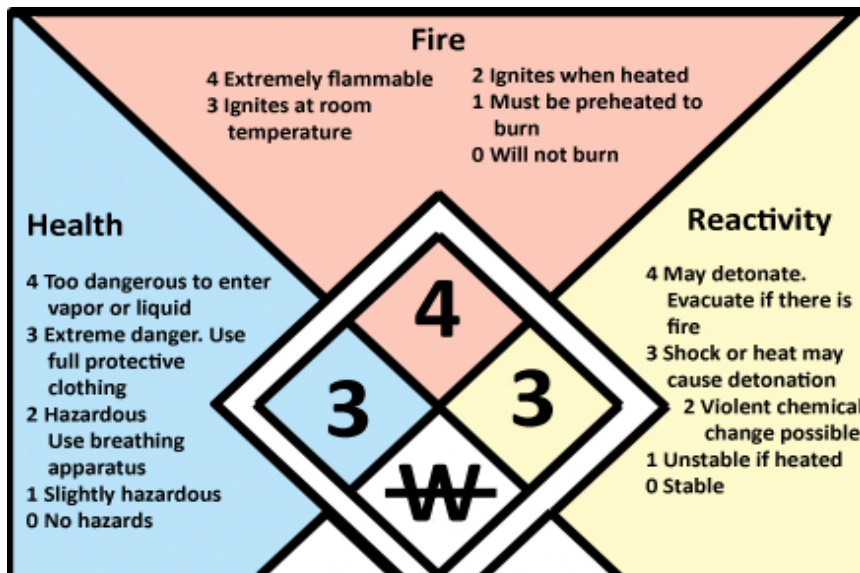
2. Safety Data Sheets (SDS)

An SDS is a document, prepared by the manufacturer, which contains safety information for materials containing hazardous chemicals. It contains information about:

- Material components
- Dangers
- Safe handling of material

SDS sheets are shipped with the chemical, but can also be found online. Be sure that you have immediate access to the SDS for chemicals you are working with.

3. NFPA Label



This label was developed by the National Fire Protection Association to identify and rank a material's hazards. Hazards are rated from 0 (no hazard) to 4 (extremely hazardous).

Fire Hazard – labeled in red

Health Hazard – labeled in blue

Reactivity Hazard– labeled in yellow

Specific Hazard – labeled in white (OX=oxidizer, W=use no water, CORR=corrosive, ALK=alkali)

Minimizing Hazards: Exposure and Risk

Exposure Routes of Entry:

- Absorption through the skin
- Inhalation
- Ingestion (eating and drinking)
- Injection (needles or sharp pieces of glass, plastic, or metal)

Effects:

- Acute: severe symptoms develop rapidly and lead quickly to a health crisis. These symptoms often subside when the exposure stops.
- Chronic: symptoms develop slowly, due to long and continuous exposure to low concentrations of a hazardous substance. Such symptoms do not usually subside when the exposure stops.

Exposure risk can be minimized by:

- Substitution of less hazardous materials
- Engineering controls (example: working in the fume hood)
- Administrative controls (Chemical Hygiene Plan, training)
- Personal protective equipment (PPE)

Minimizing Hazards: Chemical Storage

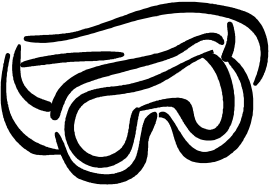



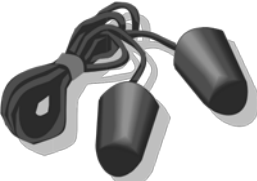
All art facilities that use hazardous chemicals must:

- Keep an up to date inventory of all chemicals in the lab
- Provide all workers with access to SDS sheets (electronic or paper format)
- Label all chemical containers with the full chemical name – no abbreviations
- Ensure that chemical containers remain closed when they are not being used

Chemicals should be stored in compatible containers. Do not use containers that are not compatible with chemicals such as food containers. Additionally, chemicals should be stored in cabinets or on shelves within your work area and should be segregated by hazard class. For example, flammable chemicals should be stored in a flammable-rated cabinet and away from oxidizing chemicals.

Minimizing Hazards: Personal Protective Equipment

There are various types of personal protective equipment (PPE) that can protect the eye, face, and skin. PPE is used as a last line of defense against the hazards associated with tasks being performed and can be used alone or in conjunction with engineering and administrative controls.

<p>EYE PROTECTION</p> <ul style="list-style-type: none"> • <u>Safety glasses</u> protect against flying debris • <u>Splash goggles</u> protect against liquid splashes, vapors, aerosols, dust • <u>Full face shields</u> over splash goggles provide extra protection when working with corrosive chemicals • Prescription eyewear alone is not considered sufficient eye protection 	
<p>GLOVES</p> <ul style="list-style-type: none"> • For handling hazardous materials, sharp, or very hot or cold items • Latex, vinyl, or nitrile gloves are appropriate most of the time • Glove compatibility charts provide information for specific chemicals, and are available online through glove manufacturers 	
<p>PROTECTIVE GARMENTS</p> <ul style="list-style-type: none"> • Coveralls, smocks, aprons, etc. • Protect the arms, legs, or front of the body from chemicals, flying objects, molten metal, and sparks • Impervious aprons provide extra protection against corrosive liquids 	
<p>RESPIRATORS</p> <ul style="list-style-type: none"> • Consult EH&S before use. Federal regulations prohibit the use of respirators by untrained personnel or students. If EH&S determines use is necessary, the individual must participate in the University's respirator program. This includes an annual medical evaluation, respirator fit test, and training. 	
<p>HEARING PROTECTION</p> <ul style="list-style-type: none"> • Earplugs or earmuffs • Exposure to machine noise can result in hearing loss • Use when noise levels exceed 85 decibels 	

Minimizing Hazards: Exposure Management

These are safety guidelines that should be followed to minimize your risk of exposure when working with hazardous chemicals:

- No eating, drinking, chewing gum, applying cosmetics in areas where chemicals are handled or stored
- Appropriate personal protective equipment (PPE) must be worn by personnel when working with chemicals. These may include smocks, coveralls, face shield, gloves, and respirators.
- Avoid generating hazardous dust.
- Never use lips or teeth to point paint brush contaminated with hazardous chemicals.
- Wash hands thoroughly and frequently.
- Post safety signs to inform personnel about hazards when working with chemicals or equipment.
- Work areas are free of slipping & tripping hazards.

Ventilation Systems

If you are using a chemical or working with a material that poses inhalation hazards, use ventilation controls such as a fume hood, ventilation hood, or snorkel to reduce the risk of being exposed to any hazardous particles, vapors, fumes, or mists. Art processes such as silk screen printing, acid etching, paint spraying, welding, woodworking operations, and photographic development often use local exhaust ventilation.

Fume hoods are tested annually by Environmental Health & Safety. If the fume hood's monitor alarms, please contact Environmental Health & Safety at 813-974-4036. Do not mute. An alarming monitor indicates that there may be a low or high face velocity in the fume hood that can increase the potential for chemical vapors to enter the work environment. This also increases your exposure to the chemical. Additional guidelines that should be followed when using a fume hood include:

- Performing all applications at least 6 inches inside the hood
- Avoiding rapid movements that create cross drafts and disrupt airflow
- Keeping the sash as low as possible while using hood. The glass is the primary barrier between the worker and a possible spill, splash, or explosion.
- Not storing chemicals or equipment in hood
- Closing sash when hood is not in use

Minimizing Hazards: Potential Hazards

Activity	Hazards	Recommended Safety Precautions
Painting	<ul style="list-style-type: none"> - Pigments - metal based - Solvents - thinners - Resins - varnishes, lacquers - Spray application methods 	<ul style="list-style-type: none"> - Use tube or pre-mixed and commercial paints whenever possible - Use water based instead of solvent based - Never use your lips to point the paint brush or use teeth to hold the paint brush
Printmaking	<ul style="list-style-type: none"> - Ferric Chloride - Ink Pigments - Acids - Nitric Acid - Acids and caustics are used to etch and clean 	<ul style="list-style-type: none"> - If toxic materials are being used, wear a full-length disposable smock or coveralls that are removed and properly disposed of in the studio

	<p>various media in intaglio and lithography. These materials are very corrosive to the skin, eyes and respiratory system, especially when concentrated.</p>	<ul style="list-style-type: none"> - Wear chemical protective gloves, apron, and eye protection (goggles) as necessary when handling solvents and corrosive chemicals, or when cleaning brushes, screens, and other equipment - Use barrier creams to prevent casual contact with toxins
<p>Photography - Black & White Processing/Color Processing</p>	<ul style="list-style-type: none"> - Acids-glacial acetic acid - Photochemicals found in fixers, developers, toners, etc., i.e. silver nitrate, amines - Stop Baths 	<ul style="list-style-type: none"> - Substitute less-toxic alternatives for highly toxic photochemical developers, toners, and bleaches. Consult the product's SDS. - Never put your bare hands in working solutions (particularly developer solution, which may contain a strong sensitizer). Use tongs instead. - If you come in contact with any solutions, wash the affected area immediately with soap (acidic cleanser such as pHisoderm) and water - When finished working or when leaving the darkroom, wash hands thoroughly - Store concentrated photochemicals (particularly stop baths) on low shelves where they will not spill and splash in your face or eyes - Store photochemicals in original or polypropylene containers—never glass - Cover working solutions when not in use
<p>Clay Modeling/ Glazing</p>	<ul style="list-style-type: none"> - Glazes - silica, metals - Colorants - vanadium pentoxide, metals - Firing Kiln - Clay/Plaster-silica - Silica, if inhaled over the course of many years can lead to the debilitating lung disease silicosis. Loading and mixing dry clay in a clay mixer creates an opportunity for exposure - During firing, clay releases combustion products and gases such as carbon monoxide, formaldehyde 	<ul style="list-style-type: none"> - Kilns should be locally exhausted and vented to the outside - Keep combustible materials, particularly flammable materials, away from kilns - Keep a fire extinguisher close by and know how to use it - Wear appropriate shaded eye protection when looking directly into the kiln - Purchase prepared glazes without toxic components whenever possible - If possible, avoid using or mixing glazes containing highly toxic metals such as lead, cadmium, arsenic, or uranium - Wash your hands thoroughly when you finish working or leave the studio - Practice good hygiene methods

Sculpting/Modeling	<ul style="list-style-type: none"> - Plaster-irritants such as lime, calcium sulfate - Clays -plastic resins, oils - Wax - overheating - Cement - lime, alumina, silica - strong skin, eye, and respiratory system irritant 	<ul style="list-style-type: none"> - Wear chemical protective gloves, apron, and goggles as necessary when handling bulk quantities of resins - If you will be applying a pint or more of a product that contains a flammable solvent, remove all sources of ignition from the area - Store flammable materials in a flammable-storage cabinet
Woodworking	<ul style="list-style-type: none"> - Sawdust - Loud machinery - Paints/solvent based finishes - Treated wood - Carving tools 	<ul style="list-style-type: none"> - All floor-mounted woodworking equipment should be fitted with local exhaust ventilation at the point of operation and filtered - Wear hearing protection such as earplugs or muffs when using noisy hand tools or machines - Make sure all equipment is equipped with guards, and consider panic buttons for shutting off equipment in an emergency - When using hand-carving tools, keep your hands behind the tool and cut away from your body

Emergency Response: Spills

Small spills may be cleaned up by the worker as long as they have proper supplies, knowledge, PPE, and are comfortable doing so.




- Consult the SDS of the spilled chemical & wear proper PPE prior to clean-up.
- Spread absorbent around spill site and over liquid's surface and wait 15 minutes.
- Collect wet absorbent & transfer to a plastic bucket or bag using dustpan & brush.
- Properly label and dispose of as hazardous waste.

If one of the following conditions occurs, call EH&S:

- Spill is large.
- Spill involves extremely hazardous chemicals.
- Ventilation is inadequate.
- No spill clean-up materials.
- Personnel uncomfortable handling clean-up.
- If a spilled chemical enters the drain, soil or water body.

Emergency Response: Incidents

If there is an emergency, call 911 or University Police and be prepared to give detailed information about your location.

<p>EYEWASH</p> <ul style="list-style-type: none"> • If chemicals get into eyes, flush eyes for 15 minutes. • Seek medical attention. • Lab personnel must flush eyewash weekly and keep a record. • Do not block with glassware or equipment. 	
<p>SAFETY SHOWER</p> <ul style="list-style-type: none"> • If chemicals get onto clothes/skin, rinse for 15 minutes, removing contaminated clothing. • Seek medical attention. • USF tests showers annually. • Do not store items under shower. 	
<p>FIRST AID KIT</p> <ul style="list-style-type: none"> • Know location. • Check for completeness and expiration dates. • Administer first aid for minor injuries and advise a visit to Student Health Services. 	

Emergency Response: Incident Reporting

Call **911** for all emergencies. Complete the online incident reporting form on the EH&S website.

Workers' Compensation (WC) covers faculty, staff, and official volunteers at the University of South Florida. Teaching and graduate assistants are included as employees.

If you are injured on the job:

- Notify your supervisor
- Supervisor will contact AmeriSys at 800-455-2079
- Proceed to approved medical facility
- Send injury report to WC office within 24 hours
- Forms are available on the USF HR Workers' Compensation website

Hazardous Waste

In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA). This law gave the Environmental Protection Agency (EPA) the authority to regulate all individuals who generate and accumulate hazardous wastes. All labs, studios, and shops that generate and accumulate hazardous wastes are subject to unannounced inspections from the Florida Department of Environmental Protection and/or EPA and are thus subject to fines.

Universal Waste

These materials are subject to hazardous wastes regulations unless they are managed or recycled according to the universal waste regulations.

- Nickel Cadmium, Lithium Ion, Nickel Metal Hydride, Lead Acid, Mercury or Silver Hydride batteries must be segregated and collected in a container labeled with its contents.
- Fluorescent and High Intensity Device (HID) lamps (either used or broken) must be stored in a plastic lined box or metal container labeled with its contents.

- Mercury thermometers, thermostats, and barometers must be stored in a plastic lined box or metal container labeled with its contents.

Chemical Waste

- Continuously evaluate your processes to minimize waste and to produce waste that is less hazardous.
- At USF, all chemical waste must be treated as hazardous waste and must be collected. No hazardous waste can be put in the trash, down the drain, or on the ground.
- Empty chemical containers can be disposed in the trash or reused to store hazardous wastes, EXCEPT for empty containers that stored acutely hazardous wastes (EPA P-listed). These have green warning labels. They cannot go in the trash and must be disposed of through EH&S.
- Before disposal, remove or deface the label with a marker and write “Empty” on the bottle. The lids on empty flammable containers should be removed before disposal.
- Lead solder remnants must be collected and disposed of as hazardous waste.

Common Studio Waste Streams

- Contaminated rags
 - Solvent-contaminated wipes that must be collected in closed, labeled, metal containers and stored for no longer than 180 days before being sealed and disposed of as regular trash.
 - These may also be collected and disposed as hazardous waste.
- Solvents
- Acids
- Paints
- Glazes
- Aerosol cans
 - Aerosol cans are considered hazardous waste if the contents include an EPA listed waste or exhibit the characteristics of a hazardous waste. Examples of aerosol cans that contain hazardous wastes are cleaners, degreasers, and solvents. Aerosol cans containing a hazardous waste that are no longer being used, or missing the nozzle must be collected in secondary containment and labeled “Waste Aerosol Cans” and disposed of through EH&S, not discarded in the trash.

Hazardous Waste: Container Management

According to EPA regulations,

- All hazardous waste containers must be labeled “Hazardous Waste” and the label must include the contents, percentages of the waste constituents, and an indication of the hazard (for example: toxic).
- Attach a completed yellow waste tag with this information as soon as waste is added.
- Do not use chemical abbreviations or formulas on the container label – full names only.
- Hazardous waste must be stored in a container compatible with the contents.
- Do not store hazardous wastes in food or drink containers.
- Hazardous waste containers must be kept closed at all times except when adding or removing contents.

- Contents in leaking containers must be transferred into another container.
- A container is empty when its quantity is 3% or less than its total capacity.
- Empty containers that contained hazardous chemicals can be defaced, marked as empty, and disposed in the trash.
- Remove lids from empty flammable containers before discarding in the trash.
- Empty containers that contained acutely hazardous wastes (EPA p-listed) are considered hazardous waste and must be disposed of as such.

Hazardous Waste: Accumulation & Storage

All hazardous wastes accumulated in the lab must be kept in a Satellite Accumulation Area (SAA).

- SAA must be located at or near the related work process and be under the control of the generator.
- The maximum amount that can be stored in an SAA is 55 gallons or 1 quart acutely hazardous wastes (P-listed).
- Labels with the contents of the container, the words “Hazardous Waste”, and a description of the hazard should be placed on containers the first time waste is added into the container.
- Secondary containment and weekly inspections for lids, leaks, and labels are strongly recommended.
- Always remove funnel after disposing of hazardous waste into the container and keep containers closed except when adding waste.

Wastes should be segregated, based on compatibility of chemicals, to prevent potential reactions.

- Read the SDS before segregating wastes.
- Always keep unused chemicals in their original containers to prevent exposure to harmful vapors and dust.
- Divide wastes into separate waste streams such as acids, bases, oxidizers, photographic wastes, solids, mercury, halogenated flammables, and non-halogenated flammables.

Hazardous Waste Pick-Up

USF uses the Hazardous Inventory Tracking System (HITS) to track chemical inventory and to request waste supplies and pick-up. To gain access to HITS, you must submit a HITS Access Form to EH&S. This form can be found on the website. Login to HITS to request a hazardous waste pick-up using the information on the yellow waste tag.

Biomedical Waste

Biomedical waste is regulated by the Florida Department of Health using the Florida Administrative Code (FAC) 64E-16.

- Needles, syringes, razors (chemical or biological) are disposed of in a red plastic red box. Other items are placed in red bags.
- Maintain box in an upright position throughout use.
- Replace frequently and do not allow overfilling past $\frac{3}{4}$ of the way full.
- When ready for pick-up, close boxes and contact EH&S to schedule a pick-up through Stericycle.



Stormwater Management

Stormwater pollution can have a significant impact on the quality of surface waters and surrounding ecosystems. USF strives to mitigate the impact of stormwater runoff from its facilities.

An illicit discharge is defined as any discharge into a storm drain that is not composed entirely of stormwater.

Examples of illicit discharges include:

- Rinsing buckets of paint or other materials in the grass, sidewalks, and near storm drains.
- Dumping wash water on ground or down storm drains.
- Performing auto repairs involving oil and other mechanical fluids in parking lot.



Fire Safety

Common fire safety violations:

- Extension cords must be used as temporary wiring only. Unplug them before you leave each day. If you need permanent wiring, purchase a power strip to plug into the wall with a cord long enough to reach your appliance.
- Do not daisy chain power strips by plugging them into one another. Each power strip must be plugged directly into an outlet.
- Do not block exits, fire alarms, fire extinguishers and electrical panels.
- Store all flammables (glues, aerosols, wood finishes, etc...) in a flammable storage cabinet. At the end of the day return all flammables to the flammable storage cabinet.
- Do not store flammables near any exits or escape routes.
- Electrical/mechanical rooms may not be used as a storage area.
- Storage has to be below 18 inches from the ceiling in a sprinkled building and 24 inches below in a non-sprinkled building.
- Do not hang any object(s) from the sprinklers or their piping.
- Gas cylinders should be handled appropriately due to the health and physical hazards associated with their contents.
 1. Read SDS and cylinder labels for safety information.
 2. Never rely on the color of the cylinder for identification.
 3. Do not use an open flame to detect leaks from flammable gases.
 4. Never roll, drag or drop cylinders; move cylinders with proper equipment.
 5. Inspect regulators and hoses before use.
 6. Protect valve from damage and do not store anything over a valve.
 7. Remove empty cylinders from work area.
 8. Cylinders must be secured to a permanent fixture in the upright position in a cool, dry place.
 9. Oxygen and flammable gases must not be stored within 20 feet of each other.
 10. Remove empty cylinders from studio as soon as possible.

Fire hazards can become a problem in art studios because of poor solvent storage. These hazards include flammable and combustible solvents, oily rags, chemical oxidizers, and compressed welding gases. When working with flammable or combustible solvents:

- Be aware of the solvent's flashpoint and volatility, which influence its ability to initiate a fire.
- Choose solvents with the highest flashpoint and lowest volatility.
- Ventilate the area and do not use open flames or electrical equipment that may generate sparks (always bond and ground metal containers when dispensing flammable solvents).
- Store organic solvents away from chemical oxidizers.
- Purchase in as small a quantity as possible; having large quantities of flammable or combustible liquids is a serious fire hazard.
- No smoking or burning candles in any studio.
- Store solvent soaked rags or oily rags in a metal, self-closing fire proof container; empty the cans daily.
- Clean up flammable spills immediately.

Emergency Response: Fire

You are not expected to fight the fire. Follow these emergency procedures to assure your safety:

1. Alert others in the area by yelling out **FIRE FIRE FIRE!**
2. Activate the fire alarm by using the manual pull station.
3. Attempt to extinguish fire, if it is small and you know how to use an extinguisher.
4. Close all doors behind you as you evacuate the building.
5. Call 911 as soon as possible outside the building.
6. Give as much information as possible to the emergency dispatcher.
7. Meet in the designated relocation area at least 150 feet from the building.
8. Remain in a grassy area, clear of parking lots where emergency vehicles will need to travel.

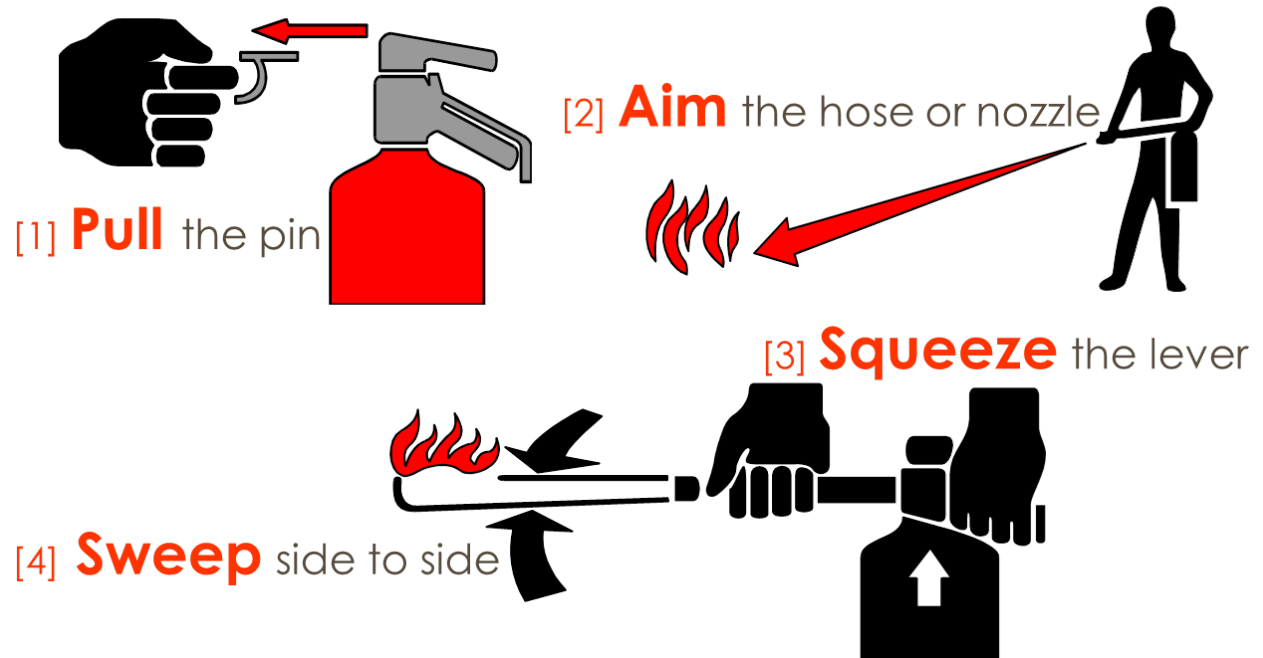
There are three components needed to create a fire: fuel, oxygen, and heat. In order to extinguish a fire, one of these components needs to be removed. A fire extinguisher is a fire protection device used to extinguish or control small fires, often in emergency situations. It is important to know what types of fire extinguishers are in your workplace and their locations.

EH&S conducts a monthly inspection of the fire extinguisher to ensure that:

- the extinguisher is not obstructed
- the pin and seal is intact
- the extinguisher hose is not plugged
- no dents or damage to the fire extinguisher

The PASS method should be used to extinguish fires. EH&S offers free fire extinguisher training. Contact EH&S for more details.

The PASS Method



Additional Resources

USF Policies & Procedures:

USF Chemical Hygiene Plan: <https://www.usf.edu/administrative-services/environmental-health-safety/documents/chemical-hygiene-plan.pdf>

USF Hazardous Waste Management Procedure: <http://www.usf.edu/administrative-services/environmental-health-safety/hazardous-waste/index.aspx>

USF Biomedical Waste Procedure: <https://www.usf.edu/administrative-services/environmental-health-safety/documents/bmwplannov2016.pdf>

Chemical Standard Operating Procedures: <http://www.usf.edu/administrative-services/environmental-health-safety/programs-services/laboratory-safety/sops.aspx>

SDS:

Vanadium Pentoxide: <http://www.sciencelab.com/msds.php?msdsId=9927639>

Nitric Acid: <http://www.sciencelab.com/msds.php?msdsId=9926241>

Ferric Chloride: <http://www.sciencelab.com/msds.php?msdsId=9924033>

Calcium Sulfate: <http://www.sciencelab.com/msds.php?msdsId=9923277>

Silver Nitrate: <http://www.sciencelab.com/msds.php?msdsId=9927411>

Glacial Acetic Acid: http://www.sciencelab.com/xMSDS-Acetic_acid-9922769

Kiln Safety:

<http://www.tdi.state.tx.us/pubs/videoresource/stpelectrickiln.pdf>

Safe Lifting:

<https://www.osha.gov/SLTC/etools/electricalcontractors/materials/heavy.html>

Hearing Conservation:

<http://www.osha.gov/SLTC/noisehearingconservation/index.html>

Laboratory Safety Training

Hazardous Waste Refresher

Biomedical Waste Refresher

Hazardous Communication

Personal Protective Equipment

Slips, Trips, and Falls

Hearing Conservation

Golf Cart Training

Asbestos Awareness Training

Fire Prevention Safety Training



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Environmental Health and Safety

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<http://www.usf.edu/eh&s/>