



STUDIO HANDBOOK:
**Studio and Safety Guidelines for Teaching Staff,
Volunteer Monitors, and Students**

Updated December 2023

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Acknowledgment Form

All students, monitors, and teaching staff are required to complete the following acknowledgment form via the QR code below or following [this link](#). All relevant information is included within this handbook.



Fleisher Work Orders

All teaching staff, monitors, and students are welcome to submit a work order which is reviewed by Fleisher's Facilities team. Work orders can be submitted via a digital form which can be accessed by the QR code below or following [this link](#)



The form is meant to relay concerns such as a wobbly chair, under stocked First Aid Kits, or a broken outlet. If there is an urgent safety matter, please contact the front desk, either in person or by phone x300.

Community Guidelines

The mission of Fleisher Art Memorial is to make art accessible to all, despite economic means, cultural background or artistic experience. Our core values are: the recognition that everyone can be an artist; art is a pathway to fulfillment; and art enriches community. Since 1898, Fleisher has been fostering a safe, encouraging, inclusive and creative community. Our Community Guidelines were collaboratively written and agreed upon by members of Fleisher's adult student body and staff. These guidelines were designed to ensure a safe, encouraging, and joyful environment for our entire community, including students, faculty, models, and staff. We expect all participants in the adult program to abide by our guidelines and to report any incidents that violate them to the Manager of Adult Education, Suzanne Seesman, lseesman@fleisher.org. We will proactively enforce these guidelines and determine appropriate consequences based on the severity of the incident. These guidelines may be updated and change over time.

At the end of each class, students will have an opportunity to share feedback through evaluation surveys.

As part of the Fleisher community, we expect and encourage the following behaviors and actions:

- Fleisher is a safe place that honors each individual's experience and background, where our diverse experiences are seen and celebrated - not just accepted or tolerated.
- Fleisher's community is accepting, open, thoughtful, kind, willing to speak out and take a stand against harmful behaviors, language, and comments.
- Faculty and students encourage each other to express their individual artistic vision and to evolve as artists, to embrace "failure" and overcome the fear of making mistakes.
- Our students and faculty are curious about diverse ways to create and experience art. They stay present, open to feedback, and are willing to listen to each other.

Everyone should be treated with respect, including staff, faculty and students. Fleisher will not accept or tolerate the following behaviors. Consequences for these behaviors will result in removing a student from their class and possibly asking a student not to return to Fleisher again.

- Dehumanizing, mean, aggressive, violent, or destructive behavior.
- Excluding, disrespecting, or bullying people based on race, gender identity, ability, religion, sexual preference, political stance, language ability, immigration status, artistic experience, or economic status.
- Being dismissive of other people's opinions, elitist, judgmental or criticizing others harshly.
- Being destructive and harmful to studio spaces, other people's artwork or materials and equipment.

Students who behave in a disruptive or inappropriate manner are subject to removal from the classroom at the instructor's request, and depending upon the severity may be asked not to return to Fleisher.

General Studio Policies

To help ensure that Fleisher Art Memorial remains a safe, inclusive, respectful, supportive, and fun environment for all students, volunteer monitors, faculty, and staff by following these guidelines while in studios.

- Fleisher strives to welcome students of all backgrounds and experiences. If you require accommodation or have circumstances that will be helpful to the instructor to make your time a good learning experience, we invite you to share those with the instructor, or the Manager of Adult Education.
- Be mindful of others' artwork, personal space, and belongings. Make sure to ask permission before touching others' artwork or belongings—this includes students, faculty, and models.
- Make every effort to attend class, and to be on time. Irregular class attendance is disruptive and can slow progress for other students. Those who are unavoidably late should enter quietly, so as not to interrupt others. Instructor may choose to or not to review missed information at their discretion.
- Students may not enter the studio space or classroom more than 15 minutes before the class official start time. Students must leave the classroom on the scheduled end time of the class.
- Allow time to clean up and to exit the studios at the end of class. Students must leave Fleisher's building by 9:40 p.m. The alarm system is activated, and the parking lot gates are locked by 9:50 p.m. (4 p.m. on Saturdays.) All remaining vehicles will be locked in and/or towed at the owner's expense.
- Actively participate in clean-up after each class. Respect your communal studios, and leave your work area in the same, or better condition, than you found it. Make an effort to work cleanly and to keep paint, ink, and solvents off furniture, easels, equipment, model stands and props. If spills do occur, clean them up.
- Do not store dirty paint rags, mediums and/or solvents in lockers. All used solvents, materials and rags should be taken home. Do not discard solvents in the sinks. If you have questions about proper material clean up and disposal, please ask the instructor to review best practices.
- Fleisher is not responsible for students' artwork, tools, or equipment left on the premises. Rental lockers are available for a term/yearly fee for the storage of students' belongings. Make sure to pick up your artwork on the day of your last class session. Any work left in the classrooms past the last class session may be discarded in preparation for the new term.
- Hazardous materials are prohibited in the Fleisher studios. This includes fixative, spray paint, epoxy and varnishes. New potential Hazardous Materials must be cleared with the Director of Facilities.
- New processes and techniques should be attempted only under the supervision of the instructor. If you don't know how to use a piece of studio equipment, stop, and ask the instructor or monitor for direction—they can help you learn how to safely use the equipment.
- Fire exits are clearly marked—make sure to familiarize yourself with exit locations. Do not block fire exits with easels, props, chairs.
- Smoking and vaping is not permitted anywhere in the Fleisher building, including fire escapes, or in the children's garden. Cigarette receptacles are located at designated areas outside the Catharine and Christian Street buildings.
- Please silence phones during class time and do not make calls. Camera phones may be used to take photographs for documentation or for note taking, at the discretion of the instructor; however, the use of cell phones while figure models are posing is not permitted at any time
- Alcohol consumption during class sessions is not allowed.

Emergency Procedures

Any questions about emergency procedures can be addressed to Eric Preisendanz, Director of Facilities via email at epreisendanz@fleisher.org.

In the case of fire

Building occupants are required by law to evacuate a building when the fire alarm sounds.

- When the fire alarm sounds everyone must leave the buildings immediately.
- Do not use the elevator.
- If teaching: take the roster with you and monitor the location of the students.
- Signs showing exit routes are posted on each floor and in each classroom.
- Faculty members are responsible for being aware and attentive to students requiring special assistance.
- When an evacuation of the building is imminent, faculty are responsible for counting students, escorting them to an outdoor meeting place, keeping students together, and recounting.
- If fire is in 719 Catharine: meet in parking lot. If fire is in Works on Paper: meet in Palumbo Park.
- Notice to re-enter buildings will be called by staff members once all clear is given by fire department personnel. Do not enter buildings until told to do so.

In the event that a fire or smoke from a fire

- Pull the fire alarm.
- VS staff will notify each classroom via intercom to evacuate.
- Evacuate students to a safe distance outside the building.
- Teaching staff should take a class roster and account for all students.

If you smell gas

Notify the Front Desk immediately. A member of the Facilities team will determine if the situation is an emergency.

Chemical Exposures

An assortment of chemicals are used in Darkroom, Printmaking, and Jewelry Studios. The following procedures should be followed in the event of chemical exposure. In all cases, the incident should be reported to a Program Manager and Studio Tech regardless of severity.

Chemicals on Skin

1. Immediately flush with water for no less than fifteen minutes. Remove any jewelry or clothing that have become contaminated to facilitate removal of any residual material. For pullover shirts and sweaters, it may be beneficial to cut garments off to prevent contamination of eyes.
2. If immediate medical attention is needed, call 911 and explain carefully what chemicals were involved.
3. Review the MSDS to determine if any delayed effects should be expected.

Chemicals in Eyes

1. Seek medical attention regardless of the severity or apparent lack of severity. If an ambulance or transportation is needed, contact Public Safety at 911. Explain carefully what chemicals were involved.
2. Flush eye(s) with water for at least fifteen minutes. The eyes must be forcibly held open to wash, and the eyeballs must be rotated so all surface area is rinsed. The use of an eye wash fountain is desirable, so hands are free to hold the eyes open. Remove contact lenses while rinsing. Do not attempt to rinse and reinsert contact lenses. Close containers, open windows or otherwise increase ventilation, and move to fresh air.
3. Review the MSDS to determine if any delayed effects are expected.

Chemical Inhalation

1. Close containers, open windows or otherwise increase ventilation, and move to fresh air.
2. If symptoms, such as headaches, nose or throat irritation, dizziness, or drowsiness persist, seek medical attention by calling Public Safety at 911. Explain carefully what chemicals were involved.
3. Review the MSDS to determine what health effects are expected, including delayed effects.

Accidental Ingestion of Chemicals

1. Immediately contact the Poison Control Center for instructions.
2. Do not induce vomiting unless directed to do so by a health care provider. Explain carefully what chemicals were involved.
3. Review the MSDS to determine what health effects are expected, including delayed effects.

Open Studio Policies

Open studios for intermediate and advanced students are an opportunity to use the Fleisher facilities to help expand your body of artwork, without the cost of renting your own studio. For students taking courses in a specific medium, there is also a drop-in option for those interested in taking advantage of open studio hours to work on their projects. The drop-in fee for students is \$10; check in with the front desk for details.

- Work independently in the studio without the help of instruction.
- Attend an orientation if you are a new student or have not received an orientation through a recent class. Orientations are offered on the evening of the first open studio session of the term, or by appointment with the studio technician for the area.

Darkroom, Printmaking, and Screenprinting:

Studio Technician Jackson Kramer at jkramer@fleisher.org 215-922-3456 ext. 301

Ceramics and Jewelry:

Senior Studio Technician Chris Archer at carcher@fleisher.org 215-922-3456 ext. 339

All other Open Studios (Painting and Drawing, and Mosaics & Stained Glass):

Manager of Adult Education Suzanne L. Seesman at lseesman@fleisher.org 215-922-3456 ext. 324

- Respect everyone's working space, noise levels, and the use of shared equipment.
- Check in with the Studio Monitor when you arrive and before leaving the space.
- Contact the Open Studio Monitor or Manager of Adult Education about any concerns, broken equipment, or special needs you may have.
- Begin cleaning up 30 minutes prior to the end of Open Studio hours.
- Exit the studio space at the end of Open Studio hours.
- Do not act in a disruptive or inappropriate manner, as this may result in having your Open Studio privileges suspended or removed. Failing to follow the Open Studio Guidelines may result in the loss of your Open Studio privileges.

Model Procedures

Models are important members of our community. We celebrate models as full people deserving of the same level of respect, courtesy, and consideration as everyone else in our community. Please be thoughtful in your language and behavior when working with models and remember that students, monitors, and faculty are expected to act in ways that align with our community guidelines.

- The door to the studio should remain closed during class, with the "model in progress" sign placed on the outside for the duration of the class.
- Make sure curtains are properly covering windows within the studio at all times.
- Instructors/monitors are responsible for asking the model their pronouns and kindly correcting and encouraging students to use correct pronouns when referring to the model.
- Students are not allowed to communicate with the model during the session. Students and models should share all comments discreetly with the faculty member or monitor in the studio.
- Models have the same choice to mask as everyone on-site at Fleisher. Students and faculty are not permitted to ask models to remove their masks while posing. Instructors must make sure students are aware of this and all other policies, as well as support students in respecting models.

- Please do not use the model linens for activities other than poses. The linens can be found in the prop closet and are provided for the models' comfort/safety and should be used as such.

Open Studio Monitor Guidelines

Application Process

Open Studio Monitors are valued Fleisher volunteers who make the Open Studio program possible. To increase equity and access to monitor positions, volunteers must apply for the position and hold one-year terms.

- All applicants are required to fill out a short application which will be reviewed by Fleisher staff with select candidates being invited to interview for the volunteer position.
- Monitor applications will open in the fall term of each year. Studio Techs and the Manager of Adult Education will share the application in a call for volunteer monitors with past Open Studio participants and students who may have been waitlisted for the program.
- Monitors remain in their role for the fall, winter, spring, and summer terms. However, if a monitor must step away from their role, staff will look to the initial applicant pool for a substitute volunteer.

Orientation and Acknowledgment Form

All monitors are required to participate in an orientation with a member of the Fleisher staff. Orientation can be scheduled with the following staff members.

Darkroom, Printmaking, and Screenprinting:

Studio Technician Jackson Kramer at jkramer@fleisher.org 215-922-3456 ext. 301

Ceramics and Jewelry:

Senior Studio Technician Chris Archer at carcher@fleisher.org 215-922-3456 ext. 339

All other Open Studios (Painting and Drawing, and Mosaics & Stained Glass):

Manager of Adult Education Suzanne L. Seesman at lseesman@fleisher.org 215-922-3456 ext. 324

At the start of each term monitors are required to complete an electronic acknowledgment form.

Attendance Policy

We ask that Open Studio Monitors be able to commit to at least one scheduled shift per year and to attend the majority of their scheduled shifts throughout the year. If you are unable to make a shift, please communicate as early as possible with your staff point person (details below) as well as our Visitor Services team via phone 215-922-3456 or email info@fleisher.org.

If we are not able to find a sub, some Open Studios will have limited access to tools or equipment for the safety of participants. Our Visitor Services team will post the appropriate signage to inform participants in the following mediums: [Jewelry, Mosaics & Stained Glass, and Printmaking](#).

Open Studio Monitor Procedures

1. **Open Studio Folder:** We will have a folder waiting for you at the front desk in Fleisher's main building, with the attendance roster attached. Please pick up the folder before each session, and make sure to drop it off at the front desk by the end of the day.
2. **Take Roll:** Check in participants of Open Studios by taking attendance on the attendance roster. Checking in participants will ensure that everyone who is using the space is registered. It will also help Open Studio participants to get to know you as a monitor. Make sure to introduce yourself to Open Studio participants and explain your role in the Open Studio class.
3. **Review Open Studio Policies:** Take a moment to review the Open Studio Policies with participants. Students not currently enrolled in a corresponding class are required to review and sign the Adult Student Acknowledgment Form. Completed forms are kept in the Open Studio Folder.
4. **Help Open Studio Participants:** Answer basic studio questions and help participants find the necessary supplies/equipment for their work.
5. **Safety:** Regularly check on participants to make sure that the studio equipment is being used safely, and that the participants are being respectful to their colleagues and to the studio space. If an incident occurs, Monitors will be asked to fill out a Fleisher Incident Report. If an incident occurs that requires the removal of a student from the classroom, please first contact the appropriate staff person.

Darkroom, Printmaking, and Screenprinting:

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6. **Closing Up:** Ask students to start cleaning up 30 minutes prior to the end of Open Studio Class. Make sure that all students leave the Open Studio space before your departure.

Ceramics

General Studio Guidelines

Fleisher's Ceramics studio is a shared shop, designed for beginners. Production work is prohibited, and we ask that work produced be proportionate to the number of classes enrolled. Students who produce large volumes of work may receive a warning. Those who continue excessive production may be asked to curb the amount of work they are making.

Tools and Storage

Fleisher does not provide personal tools.

Each student will receive one storage shelf for each class. Please take your work, tools, and leftover clay home with you on your last day of class if you are not taking a class the following term. All items left behind on your shelf will be discarded before the next term begins.

Clean Up Procedures

It is essential to keep the studio and glaze room clean. Clay and glaze left on the floor will dry and become a fine, nearly invisible silica dust, which is circulated and suspended indefinitely in the air. Although not a problem for students, this dust can cause health problems for people who spend a lot of time working in the studios. Please make sure you clean up your trimmings and spills before they become dust.

- NEVER discard clay in the sink. Pour off water and put heavy slip and clay chunks in the reclaim bin found near the lockers/windows.
- Thoroughly clean wheels, pans, bench, stools, tables, the floor, the wall behind you, and bats.
- After the wheel is clean make sure it is turned off. Put the stool upside down on the wheel.
- Use the dustpan and brush to clean up your clay scraps at your work area, ware boards, and the floor.
- Scrape and clean wedging and plaster tables after using them.
- Use newspaper in the glaze room.
- Return glazes to their proper place, always cleaning lids and rims of containers.

Firing Guidelines and Schedule

If the glaze is too close to or on the bottom of a pot, it will be placed on the "Needs help" shelf. If you find one of your pots there, clean up the bottom and put it back on the glaze ware shelf.

For students enrolled in a class or Open Studio, you may make new work up until the third to last week of the term. Three weeks out from end of term, students should leave work to be bisque fired. Two weeks out from term leave work to be glaze fired. By the last week of term students will be able to take their work home with them. All other work will be fired on a rolling basis and may not be ready by the end of term.

Clay

Clays are minerals composed of hydrated aluminum silicates, often containing large amounts of crystalline silica. Other impurities may include organic matter or sulfur compounds. Sometimes, grog (ground firebrick), sand, talc, vermiculite, perlite, and small amounts of minerals such as barium carbonate and metal oxides, are added to modify clay properties.

Students enrolled in a class or Open Studio are charged \$20 at the time of registration for a 25lb of clay. Clay can be retrieved in the Ceramics Studio. To purchase additional clay, visit the front desk.

Risks

- Bags of clay and glaze materials can be very heavy, and lifting can cause back problems.
- Hypersensitivity pneumonia, asthma, or other respiratory problems may occur with exposure to molds growing in wet clay that is being soured or aged in a damp place, in slips that stand for months, or with inhalation of dry aged clay.
- Throwing on a potter's wheel for long periods of time can result in carpal tunnel syndrome because of the awkward position of the wrists. Pain, numbness and/or pins and needles in the thumb and first three fingers, are common symptoms. Back problems can occur from bending over the potter's wheel for long periods of time.
- Hand contact with wet clay can result in abrasion and dryness of fingertips and hands.
- Clay scraps on the floor, bench and other surfaces can dry and pulverize, producing an inhalation hazard due to the presence of free silica. Similarly, reconditioning clay by pulverization and sanding finished greenware can create very high concentrations of hazardous silica dust.

Safety Rules

1. Wear separate work clothes while in the studio. Choose clothes of material and design that don't trap dust. Wash these clothes weekly, and separately from other laundry.
2. Avoid contact of clay with broken skin.
3. To prevent back problems, always lift with knees bent.
4. Keep wrists in unflexed position as much as possible to prevent carpal tunnel syndrome. Take frequent work breaks.
5. Recondition clay by cutting still-wet clay into small pieces, letting them air-dry, and soak in water.

Glazes

Glazes used to color or finish clay pieces are a mixture of silica, fluxes and colorants. Common fluxes include lead, barium, lithium, calcium and sodium, and are used to lower the melting point of silica. The actual colorants, which are an assortment of metal oxides usually account for less than 5% of the glaze by weight. Glaze components are weighed, sorted and mixed with water. These materials are often in fine powdered form, and result in high dust exposures.

Glazes are part of each student's studio fee. Check test tiles for firing results.

Risks

- Soda ash, potassium carbonate, alkaline feldspars, and fluorspar used in glazes are skin irritants.
- Spray application of glazes is very hazardous because of the potential inhalation of glaze mists.
- Dipping, pouring, and brushing certain glazes may cause skin irritation and accidental ingestion due to careless personal hygiene habits.
- Glazes containing solvents are both flammable and hazardous.

Safety Rules

1. **Recommended PPE:** Gloves, Respirator (when working with dry materials)
2. Only approved glazes may be used in the Fleisher Ceramics Studio. Specific questions can be addressed to Chris Archer, Senior Technician.
3. Ventilation fan must be on when applying solvent-containing glazes.

Darkroom

General Darkroom Safety Overview

To avoid accidents, the following operational safety rules must be observed by everyone working in Fleisher's Darkroom. Failure to follow the safety rules will result in a loss of studio privileges.

- Review Chemical Exposure Guidelines pg. 9
- Always Add Acid to water...Never add water to acid **Remember "AAA"**
- Never store chemicals on the floor
- Do not eat or drink in the Darkroom
- Always turn on ventilation while working in the Darkroom
- Always wear appropriate personal protective equipment (PPE) such as, gloves and goggles
- Always wash hands with soap and warm water after working with chemicals to avoid possible chemical exposure
- Know how to use emergency equipment before an actual emergency
- Do not use paper towels to clean up acid spills as this may cause a fire
- Clean up all spills immediately to prevent slipping and falling and to reduce inhalation of chemical vapors
- Keep all containers and trays closed or covered when not in use to prevent the release of toxic gases/vapors.
- Never wash any chemicals down the sink
- Notify faculty, monitor, or studio tech immediately of any accidents or injuries, no matter how slight

Black-and-White Photographic Processing

A wide variety of chemicals are used in black and white photographic processing. Film developing is usually done in closed canisters. Print processing uses tray processing, with successive developing baths, stop baths, fixing baths, and rinse steps. Other treatments include use of hardeners, intensifiers, reducers, toners, and hypo eliminators.

Mixing Photochemicals

Photochemicals can be bought in liquid form, which only needs diluting, or powder form, which needs dissolving and diluting.

Risks

- Developer solutions and powders are often highly alkaline, and glacial acetic acid, used in making the stop bath, is also corrosive by skin contact, inhalation and ingestion.
- Developer powders are highly toxic by inhalation, and moderately toxic by skin contact, due to the alkali and developers themselves (see [Developing Baths](#) below).

Safety Rules

1. **Required PPE:** Gloves, safety goggles and protective apron when mixing concentrated photochemicals. Always add any acid to water, never the reverse.
2. Use liquid chemistry whenever possible, rather than mixing developing powders. Pregnant people in particular, should not be exposed to powdered developer.
3. When mixing powdered developers, use a glove box (a cardboard box with glass or plexiglas top, and two holes in the sides for hands and arms), local exhaust ventilation, or wear a NIOSH-approved toxic dust respirator.
4. In case of skin contact, rinse with lots of water. In case of eye contact, rinse for at least 15-20 minutes, preferably using an eyewash station, seek medical attention.
5. Store concentrated acids and other corrosive chemicals on low shelves so as to reduce the chance of face or eye damage in case of breakage and splashing.
6. Do not store photographic solutions in glass containers.

Developing Baths

The most commonly used developers are hydroquinone, monomethyl para-amino phenol sulfate, and phenidone. Several other developers are used for special purposes. Other common components of developing baths include an accelerator, often sodium carbonate or borax, sodium sulfite as a preservative, and potassium bromide as a restrainer or antifogging agent.

Risks

- Developers are skin and eye irritants, and in many cases strong sensitizers. Monomethyl-p-aminophenol sulfate creates many skin problems, and allergies to it are frequent (although this is thought to be due to the presence of para-phenylene diamine as a contaminant). Hydroquinone can cause depigmentation and eye injury after five or more years of repeated exposure, and is a mutagen. Some developers also can be absorbed through the skin to cause severe poisoning (e.g., catechol, pyrogallol). Phenidone is only slightly toxic by skin contact.
- Most developers are moderately to highly toxic by ingestion, with ingestion of less than one tablespoon of compounds such as monomethyl-p-aminophenol sulfate, hydroquinone, or pyrocatechol being possibly fatal for adults. Symptoms include ringing in the ears (tinnitus), nausea, dizziness, muscular twitching, increased respiration, headache, cyanosis (turning blue from lack of oxygen) due to methemoglobinemia, delirium, and coma. With some developers, convulsions also can occur.
- Sodium hydroxide, sodium carbonate, and other alkalis used as accelerators are highly corrosive by skin contact or ingestion. This is a particular problem with pure alkali or with concentrated stock solutions.
- Potassium bromide is moderately toxic by inhalation or ingestion and slightly toxic by skin contact. Symptoms of systemic poisoning include somnolence, depression, lack of coordination, mental confusion, hallucinations, and skin rashes.
- Sodium sulfite is moderately toxic by ingestion or inhalation, causing gastric upset, colic, diarrhea, circulatory problems, and central nervous system depression. It is not appreciably toxic by skin contact. If heated or allowed to stand for a long time in water or acid, it decomposes to produce sulfur dioxide, which is highly irritating by inhalation.

Safety Rules

1. See the section on Mixing Photochemicals for mixing precautions.
2. Do not put your bare hands in developer baths. Use tongs instead. If developer solution splashes on your skin or eyes immediately rinse with lots of water. For eye splashes, continue rinsing for 15-20 minutes and seek medical attention.

Stop Baths and Fixer

Stop baths are usually weak solutions of acetic acid. Acetic acid is commonly available as pure glacial acetic acid or 28% acetic acid. Some stop baths contain potassium chrome alum as a hardener.

Fixing baths contain sodium thiosulfate ("hypo") as the fixing agent, and sodium sulfite and sodium bisulfite as a preservative. Fixing baths also may also contain alum (potassium aluminum sulfate) as a hardener and boric acid as a buffer.

Risks

1. Acetic acid, in concentrated solutions, is highly toxic by inhalation, skin contact, and ingestion. It can cause dermatitis and ulcers, and can strongly irritate the mucous membranes. The final stop bath is only slightly hazardous by skin contact. Continual inhalation of acetic acid vapors, even from the stop bath, may cause chronic bronchitis.
2. Potassium chrome alum or chrome alum (potassium chromium sulfate) is moderately toxic by skin contact and inhalation, causing dermatitis and allergies.
3. In powder form, sodium thiosulfate is not significantly toxic by skin contact. By ingestion it has a purging effect on the bowels. Upon heating or long standing in solution, it can decompose to form highly toxic sulfur dioxide, which can cause chronic lung problems. Many
4. asthmatics are particularly sensitive to sulfur dioxide.
5. Sodium bisulfite decomposes to form sulfur dioxide if the fixing bath contains boric acid, or if acetic acid is transferred to the fixing bath on the surface of the print.
6. Alum (potassium aluminum sulfate) is only slightly toxic. It may cause skin allergies or irritation.
7. Boric acid is moderately toxic by ingestion or inhalation and slightly toxic by skin contact (unless the skin is abraded or burned, in which case it can be highly toxic).

Safety Rules

1. **Required PPE:** Gloves and safety goggles.
2. All darkrooms require good ventilation to control the level of acetic acid vapors and sulfur dioxide gas produced in photography.
3. Cover all baths when not in use to prevent evaporation or release of toxic vapors and gases.

Other Hazards

Many other chemicals are also used in black and white processing, including formaldehyde as a pre-hardener, a variety of oxidizing agents as hypo eliminators (e.g., hydrogen peroxide and ammonia, potassium permanganate, bleaches, and potassium persulfate), sodium sulfide to test for residual silver, silver nitrate to test for residual hypo, solvents such as methyl chloroform and freons for film and print cleaning, and concentrated acids to clean trays.

Electrical outlets and equipment can present electrical hazards in darkrooms due to the risk of splashing water.

Risks

- Concentrated sulfuric acid, mixed with potassium permanganate or potassium dichromate, produces highly corrosive permanganic and chromic acids.
- Hypochlorite bleaches can release highly toxic chlorine gas when acid is added, or if heated.
- Potassium persulfate and other oxidizing agents used as hypo eliminators may cause fires when in contact with easily oxidizable materials, such as many solvents and other combustible materials. Most are also skin and eye irritants.

Safety Rules

1. See previous sections for precautions in handling photographic chemicals.
2. Cleaning acids should be handled with great care. Wear gloves, goggles and acid-proof, protective apron. Always add acid to the water when diluting.
3. Do not add acid to, or heat, hypochlorite bleaches.
4. Keep potassium persulfate and other strong oxidizing agents separate from flammable and easily oxidizable substances.
5. Install ground fault interrupters (GFCIs) whenever electrical outlets or electrical equipment (e.g. enlargers) are within six feet of the risk of water splashes.

Color Processing

Color processing is much more complicated than black and white processing, and there is a wide variation in processes used by different companies. Color processing can be either done in trays or in automatic processors.

Color Developing Baths

The first developer of color transparency processing usually contains monomethyl-p-aminophenol sulfate, hydroquinone, and other normal black and white developer components. Color developers contain a wide variety of chemicals including color coupling agents, penetrating solvents (such as benzyl alcohol, ethylene glycol, and ethoxydiglycol), amines, and others.

Risks

- See the developing section of black and white processing for the hazards of standard black and white developers.
- In general, color developers are more hazardous than black and white developers. Para-phenylene diamine, and its dimethyl and diethyl derivatives, are known to be highly toxic by skin contact and absorption, inhalation, and ingestion. They can cause very severe skin irritation, allergies and poisoning. Color developers have also been linked to lichen planus, an inflammatory skin disease characterized by reddish pimples which can spread to form rough scaly patches. Recent color developing agents such as 4-amino-N-ethyl-N-[p-methane-sulfonamidoethyl]-m-toluidine sesquisulfate monohydrate and 4-amino-3-methyl-N-ethyl-N-[3-hydroxyethyl]-aniline sulfate are supposedly less hazardous, but still can cause skin irritation and allergies.
- Most amines, including ethylene diamine, tertiary-butylamine borane, the various ethanolamines, etc. are strong sensitizers, as well as skin and respiratory irritants.
- Although many of the solvents are not very volatile at room temperature, the elevated temperatures used in color processing can increase the amount of solvent vapors in the air. The solvents are usually skin and eye irritants.

Safety Rules

1. Wear gloves and goggles when handling color developers. Wash gloves with an acid-type hand cleaner (e.g. pHisoderm (R)), and then water before removing them.
2. Mix powders in a glove box, or wear a NIOSH-approved toxic dust respirator.
3. Color processing needs more ventilation than black and white processing due to the use of solvents and other toxic components at elevated temperatures.

Open Studio Set Up and Tear Down

Preparations

1. Turn on incandescent lights, red lights, and safety lights
2. Turn on fan
3. Open safe light barn doors
4. Straighten floor mats

Clean Trough and Trays

1. Turn on the front water valve and allow a gentle flow from the hose mouth
2. Set trays up, on angle and clean trough (including edges), wiping by hand
3. Set each tray in position
4. Ensure fix remover tray has spout pointing away from the fix tray
5. Rinse each set of tongs and place them in their appropriate tray
6. Turn on rise water valve *Hose should be connected to the receptacle at the bottom of the print washer*
7. Make sure the flow is minimal

Mixing Chemistry

1. **Print Developer:** 300ml Developer /2700ml Water
 - Pour Developer gently into the first tray and rinse graduates
2. **Stop:** Pour full strength from the Stop Tub. 3000ml.
 - Pour Stop gently into the second tray and rinse graduates
3. **Fix:** Carefully pour out 300ml and mix with 2700ml water
 - Wipe the floor where any chemical may have dripped
 - Gently pour into the third tray and rinse graduates
 - Place graduates in drying rack
4. **Fix Remover:** Pour approx ½ of jug, full strength, directly from the jug
 - Make sure that the water flowing out of the Print washer is not spilling into the Fix Remover tray
 - Make sure the spout of the Fix Remover tray points away from the Fix Tray
5. **Final Setup**
 - Check Print Stations: Each Print Station should have a timer, easel, and focus finder
 - Reset fan and reset regularly throughout remainder of studio session
 - Start GraLab Darkroom Timer
 - Turn off Incandescent lights

Tear Down

1. Confirm all light sensitive paper is put away and nothing is in Dev or Stop trays
2. Turn on incandescent lights
3. Turn off safety lights
4. Close safe light barn doors
5. Turn off Water to Rinse tray, unplug hose, and let the tray drain
6. Dump the Developer and Stop down the drain
7. Test the Fix with a couple drops of fix test: if the drops are clear, fix is good. If drops are cloudy, pour in to Fix Recycle Bucket
8. Pour the Fix Remover back into the Fix Remover jug
9. Clean trough and trays
10. Ensure each Print Station should have timers, easel, and focus finder
11. Remove all trash
12. Check that all water is off

13. Turn off fan
14. Turn off Incandescent lights.
15. In the outer room confirm that water is off, trays are clean and drying, dryer and light table is off, and all other tools have been returned

Jewelry

Shared Equipment and Tools

- No Jewelry Studio supplies should leave the studio.
- Students are responsible for cleaning up all areas of the Jewelry Studio they are working in. Store your project(s), portfolios or materials in the in a locker.
- Studios should be kept as clean as possible. Dust tables and ensure trash is thrown away in the appropriate bins.
- All tools and materials need to be put back in their designated places at the end of class sessions.

General Jewelry Safety Overview

To avoid accidents, the following operational safety rules must be observed by everyone working in Fleisher's Jewelry Studio. Failure to follow the safety rules will result in a loss of studio privileges.

- **Follow all safety rules and regulations.**
- Review Chemical Exposure Guidelines page 9.
- Before beginning a procedure, think through the steps and have a plan for what to do in an emergency.
- Know where the fire extinguishers, first aid kit, eye wash station and MSDS (Material Safety Data Sheets) sheets are kept and how to use them.
- Know where the exit and fire alarm is located.
- Never use any tool or machine without proper training from your instructor or use any tool or machine you are unsure of.
- Nonferrous metals **INCLUDING STEEL** are not permitted in the studio. It destroys equipment.
- Wear proper shoes and apparel, tie up long hair and loose clothing. Do not wear jewelry while working in the shop.
- Proper eye protection must be worn at all times while in the shop.
- Use all available ventilation equipment.
- Be aware of other students. Notify the supervisor when someone is using the shop in an unsafe manner.
- Notify the instructor immediately of defective, dull, broken, or unsafe equipment. **DO NOT USE** if any of these are present.
- No food or drink in the shop.
- Notify supervisor immediately of any accidents or injuries, no matter how slight.

If You Smell Gas

If you smell gas, turn off the tank, exit the studio, and inform the front desk immediately.

Gas Tanks

Tanks and torches are checked Monday through Thursday and Saturdays during term by a member of the Facilities team. A log is kept on the outside of the door and stored in a log folder inside the studio.

[Gas tank and torch safety check Log](#)

Risks

- The jewelry studio uses acetylene and propane gases that are flammable and an explosion hazard. Oxygen can also be used with these gases.
Currently the propane oxygen tank should only be used by Faculty member Maureen Duffy.
- Oxygen is a potent fire risk if it comes in contact with oils, greases or flammable materials.

Safety Rules

1. Only Jewelry Studio Teaching Staff and Open Studio Monitors who have completed a studio orientation and safety training with a Studio Tech are permitted to turn on gas. **Students may not turn on the gas or use the gas without supervision.**
2. Tanks are checked Monday thru Thursday and Saturday twice a day during term hours by a member of the Facilities team. Log checks are kept in the Jewelry Studio.
3. In addition, all faculty and/or Open Studio Monitors should check tanks at the beginning and end of every class. Any safety concerns should be brought to the attention to the on duty Facilities staff person.
4. To check the tanks and torches, open and close the tank and bleed the line. Test for valve and fitting leaks using soapy water. Dip your hose in a bucket of water with the gas pressure on to check for hose leaks. Test after changing tanks and other times as well. **Never use a flame to test for a leaking gas.**
5. The ventilation system must be turned on and, weather permitting, the windows should be open when gas and torches are in use.
6. Keep work area tidy and cleaned up. Only have the necessary tools out on work surfaces. Prepare your work area. Do not have flammable or combustible materials near the work area.
7. Always handle cylinders carefully. Do not drop them, bump them, or use as supports.
8. Never position cylinders near any electrical equipment or process.
9. Do not use torch equipment near flammables or combustibles.
10. Wear fire resistant clothing - this is really important. Tie your hair back, wear no jewelry etc. - most standard rules for using tools count here as well. Foot protection is necessary with much torch work.
11. Keep cylinders and valves clean at all times to avoid leaks. When attaching the regulator blow out any dirt in the opening by opening and closing the valve for a brief instant (use eye protection). Inspect the filter in the inlet nipple of an oxygen regulator to see that it is in position and clean. If it is missing take it to your repair shop to be re-fitted.
12. If you smell gas, turn off the tank, exit the studio, and inform the front desk immediately.

Torches

Torches use a combustible gas fuel mixed with oxygen or air to create intense flame for soldering and annealing. In our shop, we have three kinds of torch: acetylene/air and oxy/acetylene.


Risks

- Thermal burns from handling metal that has been recently soldered, or from flame.
- Respiratory trauma from exposure to flux and flow-inhibiting agents (white-out, yellow ochre).
- Exposure to metal and torch fumes.
- Exposure to mild acids in the pickling process

Safety Rules

1. **Required PPE:** Safety glasses, closed toe shoes, and protective apron
2. Wear appropriate clothing at all times (avoid sandals, bare legs, bare midriffs, or excessively baggy clothing).
3. Tie back long hair and dangling jewelry when working.
4. Wear appropriate eye protection against particles and glare. Welding glasses are a must if working with the oxy/acetylene torch.
5. Keep area clear of flammable objects such as paper towels and flux pots.
6. Do not attempt to change tanks.
7. Heated metal remains hot for a long time. Use caution and proper equipment when handling equipment, substances or materials that have been heated.
8. Do not use torch tips designed for other fuel gases (i.e. the gas air torch tips).
9. Do not lay an ignited torch down on the tabletop; always be aware of where your flame is.
10. Do not solder or heat any pressurized container or vessel.
11. Turn on ventilation prior to use.
12. Turn off torches when not in use.
13. Bleed all lines when finished. Compressed acetylene is potentially explosive.

Flex-Shaft (Polishing)

Flex-shafts are rotary tools used for small- scale drilling, carving, grinding, sanding and polishing. Depending on the type of bit or burr, they can be used on wood, wax, metal, stone, plastic, bone, horn, and more. 

Risks

- Eye and skin damage from flying debris.
- Cuts and abrasions on your fingers and hands.
- Burns from overheated materials or tools.
- Hair, clothing, or jewelry becoming entangled with the spinning parts of the tool.
- Inhalation of dusts/vapors.

Safety Rules

1. **Required PPE:** Safety glasses
2. Loose hair must be tied back.
3. Lubricate the bit or burr as appropriate
4. Never change the motor direction while the motor is running.
5. Use forward motor direction ONLY for fluted burrs, drills, and cutters
6. Many mandrels have right-hand threaded arbor screws that will unscrew in the reverse direction.
7. Insert the shank of the accessory as far as possible into the chuck to give it maximum support.
8. Always securely tighten the chuck jaws of hand-piece with a chuck key so that it won't come loose.
9. Do not force the tool.
10. Do not bend the shaft and sheath at a tight angle.
11. Always wait until the motor, shaft, and accessory have come to a complete stop before changing the accessory.
12. Always use an accessory with the same or higher speed rating than the tool.

Bench Shear

A bench shear, also known as a lever shear, is a bench mounted shear with a compound mechanism to increase the mechanical advantage. It is usually used for cutting rough shapes, but cannot do delicate work.

Risks

- Sharp edges on cutters, work pieces can cause cuts.
- Squash/crush and pinch points.

Safety Rules

1. **Required PPE:** Closed toe shoes
2. Bench shears must be securely fastened to a bench or purpose designed stand. If the bench shear is not secure inform faculty or monitor immediately.
3. Guards or safety devices must never be removed or adjusted, except by an authorized person for maintenance purposes.
4. Shearing edges (blades) should be maintained in good condition, be distortion free and correctly adjusted.
5. Working parts should be well lubricated and the blades free of rust and dirt. 5. Ensure no slip/trip hazards are present in workspaces and walkways.
6. Familiarize yourself with and check all machine operations and controls
7. Never use bench shears for cutting metal that is beyond the machine's capacity with respect to thickness, shape, or type.
8. Material should be properly supported during cutting and industrial type gloves should be worn to protect the hands.
9. Hold material securely to prevent it tilting during the cut.
10. Ensure fingers and limbs are clear before operating the bench shears.

Pickle Pot

A pickle pot is essentially just a mini crock pot with a lid. It is important to only use your pickle pot for pickle solution, as it's a toxic compound that can contaminate any other substance.

Risks

- The pickle contains warmed acid solution (sparex); splashes can cause burns.

Safety Rules

1. **Required PPE:** Closed toe shoes are required
2. The pot has 10% Sodium Bisulphate (to remove the oxidation layer) - mix this with the water in the pot-use safe handling precautions. b) Allowing for the volume of the jewelry and solution, fill the pot with the solution. c) Add the solution to the pot-fill slowly to prevent overflow and splash back.
3. Allow the solution to heat-NOT to boil. Do not set the pot on high as it will boil dry.
4. Use copper tongs to gently set the jewelry into the pot
5. Never use your hands to dip the jewelry into the pot-don't drop your material into the pot as it could result in splash back.
6. Do not use the pot without the cover.
7. Do not touch the pot or solution while operating- it may be hot or may cause discomfort and possible skin irritation.
8. Slowly remove the material from the pot using the steel-free tongs (never using your hands), hold the jewelry above the pot to allow excess solution to drain away.
9. In case of skin/eye contact, wash immediately with water.
10. Neutralize the jewelry by placing it in baking soda
11. Rinse the jewelry and tongs, and allow it to dry.
12. After using the pickle pot turn off the pot when not in use/cleaning and discard spent pickle if required; add baking soda to it and let it bubble and then follow proper disposal procedures as used pickle is a contaminated solution- refill with new solution if required- be careful of splash back.
13. Clean the inside and the outside of the pot to remove contaminants and dry it-do not immerse in water! NEVER clean while it's running

Buffing Lathe

A buffing lathe is a powerful table-mounted powerful electrical motor that is used to spin a variety of polishing wheels or “mops” at very high speed.

Risks

- Eye and skin damage from flying debris.
- Cuts and abrasions on your fingers and hands.
- Burns from overheated materials or tools.
- Hair, clothing, or jewelry becoming entangled with the spinning parts of the tool.
- Inhalation of dusts/vapors.

Safety Rules

1. **Required PPE:** Safety Glasses, dust mask, protective apron, and closed toe shoes
2. Always wear eye protection when using a Buffing Lathe.
3. Remove ties, rings, watches and other jewelry, roll up sleeves, and tie back loose hair before using the tool.
4. **Turn on dust collector and open blast gate before beginning work.**
5. Do not make adjustments to the machine or change accessories unless you have been trained to do so. 5) Make all adjustments to the tool with the power OFF.
6. Always operate the machine with the plexi shield in place.
7. Make sure the accessory is not torn or loose before using.
8. Always hold the work firmly.
9. If material begins to feel warm, stop and cool it immediately. Never wear gloves, or hold work with a rag, when buffing, as they can become tangled in the mechanism and trap your hand.
10. Do not polish pieces of material that are too small to be safely supported or held.
11. Avoid awkward hand positions where a sudden slip could cause a hand to move into the accessory.
12. Never leave the machine work area when the power is on or before the machine has come to a complete stop.
13. There are two distinct areas on a buffing wheel –The UNSAFE area which is rotating towards the workpiece and the SAFE area, which is rotating away from the workpiece. The division of these two areas is marked with the dotted line on the above drawings. The workpiece must only be applied to the area of the buff that is rotating AWAY from the workpiece.
14. When buffing parts have sharp corners, edges or hooks, they should be offered to the wheel with the edge flowing away from the buff, so the part does not catch.
15. Although the buffing machine has two mops that rotate at the same time, one person should only operate the machine at a time

Precision Drill Press

The Drill Press is a tool for boring clean, accurate, perpendicular holes in metal, wax, plastic, wood, bone and other materials. Unlike large-scale drill presses, the work piece is held by hand on a movable platen, and raised to meet the bit.

Risks

- Damage to eyes, hands and/or fingers from losing control of material during drilling operations.
- Hair, clothing, or jewelry becoming entangled with the spinning parts of the tool.
- Thermal burns from friction.
- Eye/skin trauma from flying debris.

Safety Rules

1. **Required PPE:** Safety glasses, ear plugs, and closed toe shoes
2. Safety glasses must be worn while using this tool.
3. Remove ties, rings, watches and other jewelry, roll up sleeves, and tie back loose hair before using the tool.
4. Make all drill press adjustments with the power shut off.
5. Only use twist drills of 1/8" or less.
6. "Step up" to any hole larger than 1/16"
7. Insert the shank of the bit as far as possible into the chuck to give it maximum support.
8. Always securely tighten the chuck jaws with a chuck key.
9. Always lubricate your bit when drilling metal. Long stock should be drilled with the excess to the left of the operator. If the stock rotates it will hit the post and not the operator.
10. Support the underside of the stock to be drilled with a backer board.
11. Keep fingers away from rotating drill bits.
12. Use light pressure only. Excessive pressure will cause the bit to bend while spinning, breaking the bit.
13. If a drill bit binds, turn off the drill press and carefully turn the chuck backwards by hand to free the drill bit.
14. Never reach around or under a rotating drill bit or grab the chuck to stop a drill press. This can result in hand punctures or other serious injuries.
15. Do not touch the drill bit immediately after drilling a hole as the bit may be very hot and could burn your hands.
16. Always leave the drill press clean and ready for the next user. Clean the machine with a brush or shopvac.

Mosaics & Stained Glass

Safety Overview

To avoid accidents, the following operational safety rules must be observed by everyone working in Fleisher's Mosaics and Stained Glass Studio. Failure to follow the safety rules will result in a loss of studio privileges.

- Know the hazards associated with any tools, materials, adhesives etc you are using, and take appropriate care.
- You must wear safety goggles whenever you are breaking up mosaic materials. Chips can fly off at high speed over surprising distances.
- A dust mask will protect you from breathing in dust from broken ceramics etc, or when mixing cement grout.
- No food or drink in the studio.
- Never place a hot soldering iron on your work surface: you could start a fire. Never leave flammable items (such as paper) near your soldering iron.
- Use a brush and dustpan to clean work and workstations of small glass particles.
- Wear nonflammable or 100% cotton clothing that covers your arms and legs to help prevent burns.
- Know where your fire extinguisher is and how to use it.
- No saws or grinders without an instructor or Open Studio Monitor.
- Use ladder and/or ask for assistance when accessing stored materials on higher shelves

First Aid

- Immediately cool the affected area under cold water for 15 minutes.
- Do not apply any creams or ointments. Cover with a band-aid.
- Seek medical attention if the burn covers an area bigger than 3 inches across.
- Complete an incident report

Grout and Thin Set

Risks

- Thin set contains silica dust. Inhaling silica dust is bad for your lungs, and long-term exposure can result in silicosis.

Safety Rules

1. **Required PPE:** Gloves and dust mask or respirator
2. Work at designated work station
3. Add the powder to the water, not the other way around.
4. Pour water into your bucket, and then pour in your powdered thinset mix. By starting with water in your bucket, you won't have dry, unmixed thinset on the bottom of your bucket.
5. Make small batches; don't try to mix the whole bag all at once.

Soldering Iron

Risks

- The World Health Organization's International Agency for Research on Cancer classifies lead as a Group 2A Carcinogen, which means it is Probably Carcinogenic to Humans. The primary route of exposure to lead from soldering is ingestion of lead due to surface contamination. Skin contact with lead is, in and of itself, harmless, but lead dust on your hands can result in it being ingested if you don't wash your hands before eating, smoking, etc.
- The soldering iron is a source of heat when on. The temperature of the heated tip can reach 400°C and will cause severe burns. The tip can also cause serious damage to loose clothing, hair, electrical wires, and the surrounding workspace.
- The joints that you solder are also very hot – allow them time to cool before handling.
- Touching a hot iron to power cords can melt through the insulation and cause electric shock.

Safety Rules

1. **Required PPE:** Wear eye protection. Solder can “spit” (an air pocket or impurity can pop as you heat the solder and send bits of solder flying)
2. Use lead free solder
3. Keep cleaning solvents in dispensing bottle to reduce inhalation hazards
4. Never touch the element or tip of the soldering iron. They are very hot (about 400°C) and will burn. The solder itself also gets hot.
5. Hold wires to be heated with tweezers or clamps.
6. Keep the cleaning sponge wet during use.
7. Always return the soldering iron to its stand when not in use. Never put it down on your workbench. Be sure that the stand is weighted enough or attached to your worktable so that it doesn't topple over if you brush against the cord.
8. Turn unit off or unplug it when not in use.
9. Soldering irons come in models that use different wattages. Use the right size soldering iron for your projects; too much heat can ruin your board or components.
10. Never, ever try to catch a hot soldering iron if you drop it. Let it fall, buy a new one if you have to — just don't grab it!
11. Give any soldered surface a minute or two to cool down before you touch it.
12. Always wash your hands with soap and water after soldering.

Printmaking (Etching and Lithography)

Shared Supplies and Equipment

- Any Printmaking materials such as furniture, tools, projects taken out of the studio, must be returned to the studio when you are done working. Materials left out might be considered shared supplies and projects are in jeopardy of being damaged accidentally by other users of the studio.
- Students are responsible for cleaning up all areas of the Printmaking studio they are working in. Store your project(s), portfolios or materials in the provided shelves, flat files, or in your locker.
- Studios should be kept as clean as possible. Trash should be thrown away in the appropriate bins.
- All tools and materials need to be put back in their designated places at the end of class sessions.
- At the end of each term, due to the limited amount of space, no projects or materials are to be left in the studio unless students are enrolled in the upcoming term.

General Safety Overview

To avoid accidents, the following operational safety rules must be observed by everyone working in Fleisher's Printmaking Studios. Failure to follow the safety rules will result in a loss of studio privileges.

1. Review Chemical Exposure Guidelines page 9.
2. Report accidents that demand medical attention to your instructor (after receiving medical attention).
3. Be alert to unsafe conditions and call attention to them for corrections: i.e. broken ladder, broken chairs, broken lights, etc.
4. Keep exits, fire extinguishers, doors, etc. free of all obstructions.
5. Be aware of ignition sources such as hot plates, lamps, extension cords, etc.
6. DO NOT ATTEMPT TO REPAIR ANY TOOLS. Any missing, malfunctioning, or broken equipment should be labeled as such, removed from public use, and reported to your instructor or the technician.
7. Clamp lights must be unplugged when not in use.
8. NO FOOD OR DRINK is allowed in any part of the printmaking studios.
9. Long hair must be tied back to avoid entanglement with moving press parts.
10. Remove any scarves, long necklaces, or other dangling clothing while working on the presses.
11. Keep your tools sharp as dull tools can be more dangerous to use.
12. Use a bench hook while chiseling wood or linoleum blocks or other relief plates.
13. No open toed shoes are allowed in the printmaking studios.

Printing Press Safety Rules

1. The presses are all handset and operated.
2. Tie back any long hair and remove any hanging, jewelry, scarves, ties, headphones, etc. that might get caught.
3. Be aware of who is around you and where the press is going to end up.
4. When operating the press be aware of your own posture and adopt a position comfortable for you.
5. Never twist, lift, or hold heavy objects when operating the presses.
6. Do not raise rollers too high to avoid the bed sliding out.
7. Always set up and remove blankets, with the bed central to the press.

General Chemicals

The main chemicals used in lithography and relief printing are inks, pigments, and acids.

Inks

Intaglio, lithography and relief inks are made of a vehicle (either linseed oil or water) that suspends pigments. Additional hazardous binders, preservatives, etc. may also be included.

Risks

- Oil-based inks contain treated linseed oils. Ingestion of treated linseed oil in large amounts may be hazardous due to the small amounts of heavy metals present.
- Rags soaked in oil vehicles may spontaneously combust if heated.

Safety Rules

1. Know the materials you plan to work with. Always review the SDSs for all chemicals used in a process so that you are fully aware of the hazards and how to mitigate those hazards, and use the least toxic and least hazardous materials possible.
2. Avoid using lead pigments and concentrated acids whenever possible.
3. Do not use an open flame or open heating element to heat linseed oil, varnishes, or burnt plate oil. Take normal fire prevention measures.
4. Place oil-soaked rags in self-closing disposal cans or a pail of water and remove from the studio each day.

Chemicals are stored in flammable lockers and should be put away in said lockers at the end of Open Studio and classes.

Solvents

Organic solvents are used in printmaking to dissolve and mix with oils, resins, varnishes, and inks. They also clean plates, rollers, tools, and even hands.

Risks

- Inhalation is the main route of solvent exposure. High concentrations of solvent vapors can cause dizziness, nausea, fatigue, loss of coordination, or coma. These effects may also increase the chances for mistakes and accidents.
- Repeated or prolonged skin contact with solvents can cause defatting of the skin and resultant dermatitis. Skin absorption can also be harmful.
- Many solvents are toxic if ingested (for instance, swallowing 1 ounce of turpentine can be fatal).
- Most solvents are either flammable or combustible.

Safety Rules

1. **Recommended PPE:** Dust mask and gloves
2. Have adequate ventilation in place when using solvents.
3. Only keep the minimum amount of solvents necessary. Large amounts of solvents must be stored in a flammable storage cabinet.
4. Never store solvents or solvent-containing materials in food or drink containers. Always label the contents of a container with the full name written out.
5. Wear gloves when handling solvents to avoid skin contact. Select gloves that are appropriate for the solvent that you are using. Use baby oil rather than solvents to clean ink off your extremities.

Acids

Acid etching is used in intaglio and lithography. Nitric acid, hydrochloric acid, and phosphoric acid are examples of common etching acids used in printmaking. If you use hydrofluoric acid, review MSDSs for handling and emergency procedures before commencing work.

Risks

- Chemical etching requires very strong, concentrated acids. These are very corrosive to the skin, eyes, respiratory system and gastrointestinal system. Even diluted acids can still cause skin irritation on repeated or prolonged contact.
- Chromic acid is a dermal sensitizer, suspect carcinogen, and oxidizer.
- Phenol is highly toxic by skin absorption and ingestion. Exposure may cause severe kidney damage, central nervous system effects and even death if exposed to large quantities. Exposure to phenol can also cause deep and painful skin burns.
- Concentrated nitric acid is a strong oxidizing agent and can react explosively with other concentrated acids, solvents, and the like. Nitric acid emits various nitrogen oxide gases, including nitrogen dioxide, which is a strong lung irritant and can cause emphysema, pulmonary edema, bronchitis, methemoglobinemia, pneumonitis, and more.

Safety Rules

1. **Required PPE:** Splash goggles, protective apron, and thick gloves
2. Know the materials you plan to work with. Always review the MSDSs for all chemicals used in a process so that you are fully aware of the hazards and how to mitigate those hazards, and use the least toxic and least hazardous materials possible.
3. Store concentrated nitric and chromic acids away from organic materials to prevent fires.
4. Only Studio Techs or Teaching Staff may dilute concentrated acids, never the reverse. Always add the acid to the water when diluting.
5. Make sure there is adequate ventilation when doing acid etching.
6. Use of corrosive materials should only occur in locations where there is immediate access (i.e., within 50 ft.) to eyewashes and drench showers.