HAMILTON COLLEGE STUDIO ART DEPARTMENT
Photography Studio Environmental, Health and Safety (EHS) Handbook

Purpose:

- To serve as a supplemental EHS reference guide for all employees and students within the KTSA Photography studio (132A-G).

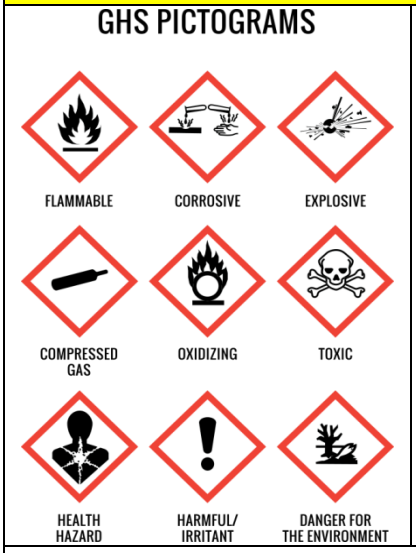
General Facility Responsibilities:

- Students—Understand and adhere to all safe work practices as communicated by faculty and staff, and as outlined in this document.
- Restricted Students (monitors, seniors)—Understand safe work practices of the department and assist faculty and staff with implementation and studio oversight.
- Faculty—Train students and other staff to ensure compliance with all EHS regulatory requirements.
- Studio Operations Manager—Coordinate and act as the liaison between the EHS Director, department faculty, and students to ensure compliance with EHS obligations.
- Director of Environmental Protection & Safety— Oversee the college's EHS requirements, conduct audits, maintain and update compliance documents and plans, train faculty and staff, collect and dispose of departmental waste, and assist with all other regulatory matters.

General Studio Use Guidelines for Students:

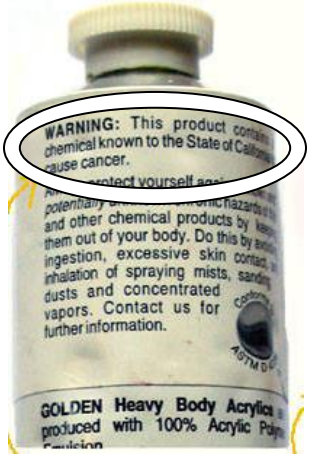
- Must be enrolled in a class in order to use the department's facilities and equipment.
- Must understand all terminology used in this handbook.
- Must understand safety and health hazards associated with all chemicals (i.e. through MSDS's or the like).
- Must use equipment and materials for their prescribed purposes only.
- Must know and understand the location and use of safety equipment, e.g. emergency eyewashes/showers, emergency phones, emergency exits, spill kits and fire extinguishers. Note that fire extinguisher use requires additional training.
- Must immediately notify the appropriate authority of any unsafe practice or condition, e.g. faculty, Studio Operations Manager, Custodian, student monitor, EH&S or Campus Safety.
- Are responsible for cleaning and maintaining all workstations, countertops and sinks, and clearing/discarding of trash after each work session.
- Are responsible for maintaining clean, obstruction-free work areas and access to emergency equipment, exits, electrical equipment, and passageways. All aisle-ways must be kept free of chairs, boxes, equipment, and waste receptacles.
- Must not engage in horseplay, practical jokes or other behavior that might confuse, startle, or distract other students.
- Must wash hands frequently during work sessions, after contact with any hazardous materials, before eating, drinking or smoking, and before leaving the studio.
- Must not eat or drink in the studio.
- Must not pour any hazardous waste down a sink drain or allow it to evaporate.

CHEMICAL HAZARD INFORMATION



Original Manufacturer Container Labels & GHS Pictograms

Over the last several years, original manufacturer chemical containers have been phasing-in the labeling provisions of the new OSHA/GHS Hazcom standard. This new standardized label format will use the nine pictograms depicted to the left on both its chemical label and the Safety Data Sheet (SDS). It is important to note that original manufacturer chemical containers pre-dating this new standard may depict hazards through alternative means, like signal words (i.e. danger, warning), NFPA ratings, or words (i.e. flammable, corrosive, poison, etc.). See examples below.

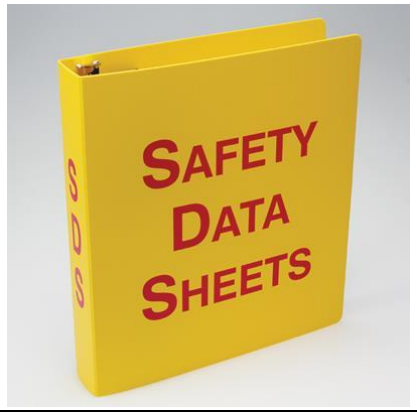


Secondary Workplace Labeling

Chemicals dispensed into secondary containers must be labeled with a Hazcom label using the NFPA format depicted below, which convey safety information numerically.

Chemical Product Inventory & SDS's

All chemical products used in this studio must be inventoried on a departmental spreadsheet, and a SDS (safety data sheet) for each chemical must be maintained and made accessible. It is essential to be familiar with the SDS's for the products you use through training, and SDS's for new products introduced into the studio must be reviewed and assessed before introduction. Hamilton maintains a database of SDS's that can be accessed through MSDS-Online at this LINK. Otherwise, the studio may also keep hard copy SDS's on hand for select high hazard or frequent use chemicals.

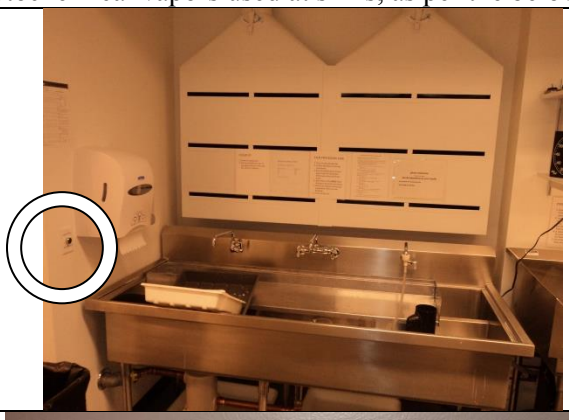


Labeling of Hazardous Art Materials Act (LHAMA)
Many chemical materials in Studio Art disciplines also have chemical safety labeling that adheres to LHAMA and the Art & Creative Materials Institute (ACMI). Generally speaking, art chemicals with the AP seal are considered to be low hazard or non-toxic, while art chemicals with the Caution Label (CL) seal, or California Proposition (CA PROP) 65 icon, are considered to have some hazardous properties or ingredients that necessitate additional safety precautions. Alternatively, art chemical labeling may simply say "Conforms to ASTM D-4236". This labeling is acceptable as a general screening tool only for hazardous properties. You should consult the chemical's MSDS for additional safety information, as per the below.

ENGINEERING, VENTILATION & EMERGENCY EQUIPMENT CONTROL MEASURES

Engineering/Ventilation Controls
The studio has 2 principal local exhaust ventilation systems for photochemical vapors used at sinks, as per the below:

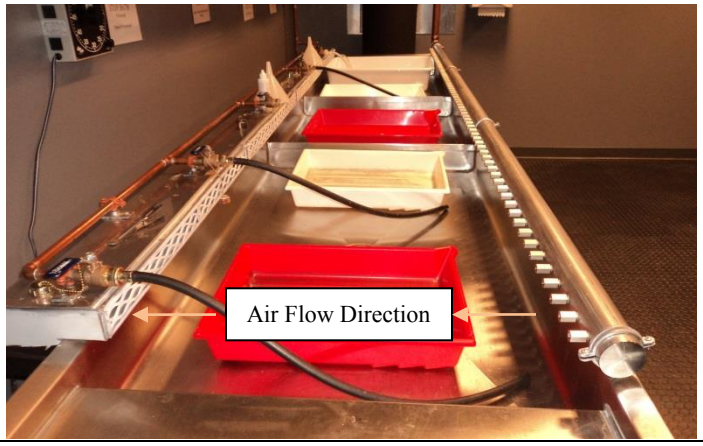
Film Processing Sink (132A)
Photochemical vapors generated at the film processing sink are controlled via a wall-mounted hood system, which can be activated via the on/off switch to the left of the sink.



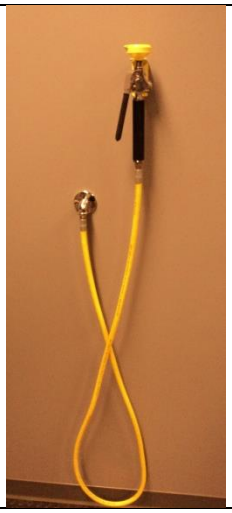
Main & Advanced Darkroom Sinks (132G &F)
Photochemical vapors generated at the main and advanced darkroom sinks are controlled via key operated on/off controls in both rooms. The system utilizes an air curtain to "push" vapors from the air supply side of the sink to the air return side of the sink, before reaching the breathing zone of darkroom users.

Main Darkroom Sink

Advanced Darkroom Sink



Emergency Controls
The studio has 3 demarked "safety zones" that include a fire extinguisher, emergency phone, first aid kit, spill kit, emergency flush hose, and a combo emergency eyewash/shower, which must remain accessible and sanitary at all times.



PERSONAL PROTECTIVE EQUIPMENT (PPE)			
General Studio Attire	As a general recommendation, personal clothing should cover the arms, legs and torso. Wear close-toed shoes (no sandals, crocs).		
Eye Protection	Use eye protection in accordance with the appropriate MSDS information. Generally speaking, safety glasses are acceptable during work with chemicals without splash hazards. The conduct of photochemical mixing and/or dispensing involves a splash hazard. Therefore, wear indirectly vented chemical splash goggles.		
Hand Protection	The routine handling of materials that have been in contact with photochemicals, or in the event of splash hazards to the hands, requires nitrile gloves for hand protection.		
Body (and clothing) Protection	The conduct of photochemical mixing or dispensing involves a splash hazard, which could impact both personal clothing and skin. Wear chemical splash aprons when performing such activities.		

ENVIRONMENTAL PROTECTION & COMPLIANCE

Photography Studio Waste Management
The photography studio uses many chemical materials, each of which are subject to a hazardous waste determination. Generally speaking, consider the following…

Chemical Container Rules
Chemical containers whose contents have been entirely used up and are empty may be disposed of as trash, as they are not regulated as hazardous waste. However, partially full chemical containers that contain substantial residual chemical materials (like concentrated photochemicals that have expired, leaked or settled) must be collected because they **ARE** subject to hazardous waste determinations.

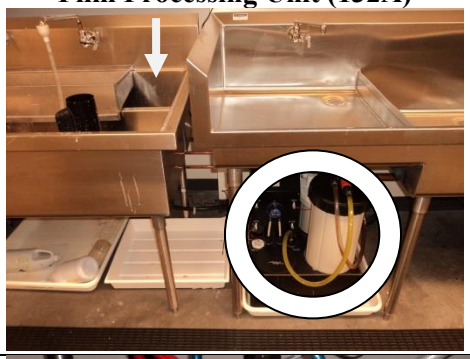
Sink Use & Photochemical Disposal Rules

There are several sinks throughout the photography studio, which convey wastewaters to the sanitary sewer for treatment and disposal. Sinks primarily provide for hand hygiene, as well as photochemical mixing/dilution, use and disposal. Typically, after concentrated developer and stop bath photochemicals are mixed and diluted with water to their working concentrations (9:1 or 10:1) and then used in accordance with manufacturer guidelines, they may be safely/legally disposed of down sink drains to the sanitary sewer without collection/management as hazardous waste. Fixer photochemicals will be discussed below. However it is never acceptable to dispose of concentrated/unused photochemicals directly down the sink, which could violate both environmental regulations and local sewer use ordinances.

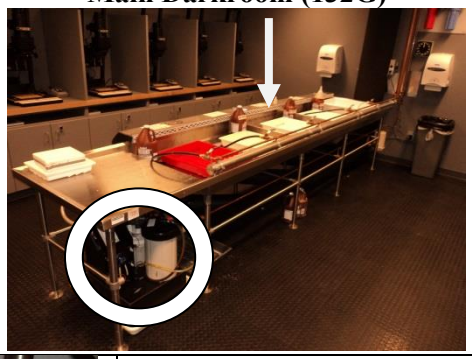
Photochemical Fixer Use & Silver Recovery

When fixer photochemicals are mixed/diluted and used in accordance with manufacturer guidelines, elevated levels of elemental silver exist in the wastewater that require alternatives to sink disposal. To avoid collecting used fixer as hazardous waste, the studio uses 3 silver recovery units to reclaim elemental silver from this wastewater, for subsequent precious metals recovery and recycling. Be sure to dispose of used fixer into the circled locations noted below. Fixer trays at the main and advanced darkroom sinks are segregated from other photochemical trays, and stenciled as per the image to the right.

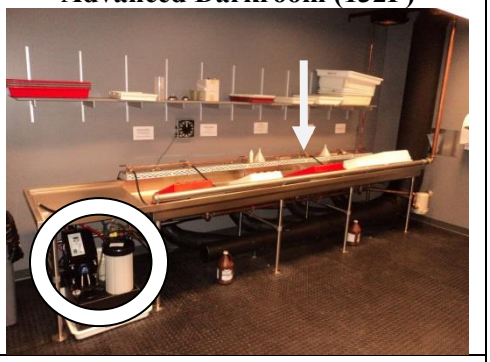
Film Processing Unit (132A)

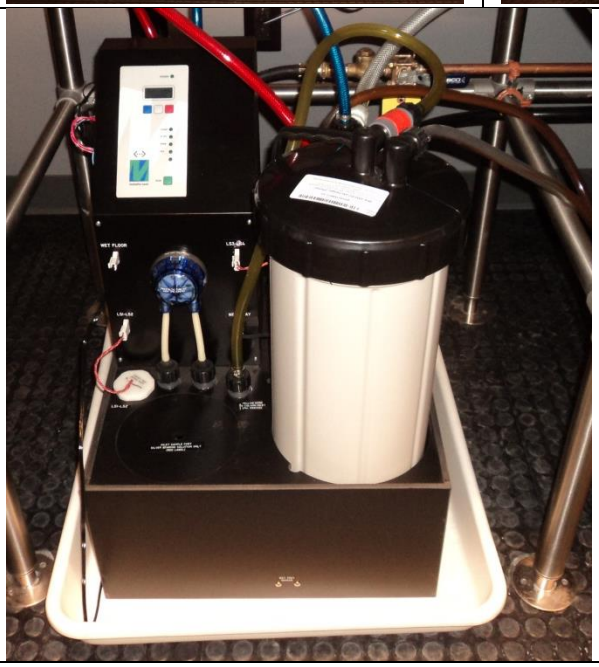


Main Darkroom (132G)



Advanced Darkroom (132F)





Silver Recovery Unit Operation

The Studio Operations Manager is primarily responsible for servicing and maintaining all 3 units. The following simplified criteria must be followed by studio users at **ALL** times:

- **Never** touch any display panel buttons or plumbing fixtures. The units are intended to remain on at all times, and pump/treat used fixer when the reservoir reaches a certain volume.
- **Never** dump more than 1 tray of used fixer into the drain that leads to the unit reservoirs 1—during a single studio use period, or 2—when the units are actively pumping/treating used fixer. Doing so will exceed the maximum reservoir volume capacities and result in an audible overfill alarm.
- **Never** introduce water or non-fixer photochemicals into the drain that leads to the units. They are for used fixer only.
- In the event of an accidental overfill resulting in an alarm, the units will automatically shut down and must be serviced before returning to normal operation. **Terminate** all activities that introduce used fixer to the units until approval by the Studio Operations Manager.

OTHER FIRE SAFETY & EMERGENCY PREPAREDNESS CONSIDERATIONS

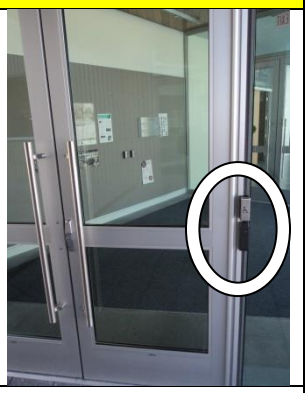
Emergency Equipment
The Studio Operations Manager is responsible for ensuring that all emergency equipment specified above is accessible and sanitary at all times through routine inspection. Additional emergency spill response equipment is maintained by the Director of EHS in KTSA, for deployment as needed.

Fire Safety
All who work or study in KTSA should be familiar with the fire safety plan for the building, which can be found at this LINK. This plan identifies the locations of emergency equipment located outside of studios (pull stations, fire extinguishers), egress paths, and fire safety system descriptions. In the event of a fire alarm signal (including the activation of the clear fire strobe to the right), evacuate the building and proceed to your designated muster point (**KJ circle**). In the event the amber alert signal (strobe to the left) is activated locally by a Building Coordinator, shelter in place and await further instruction.

Emergency Phone #'s	Campus Safety—4000 (emergency line), 4141 (non-emergency line) Physical Plant—4500 HCEMS—4000 Environmental Protection & Safety—4647 Studio Operations Manager—4827

STUDIO ACCESS, SECURITY & USE GUIDELINES

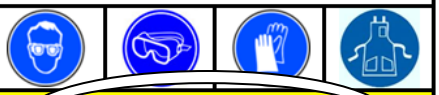
Studio Access
KTSA is generally accessible to the entire College community between the hours of 8:00 am and midnight, by way of its main entrance doors being unlocked. Between the hours of midnight and 8:00 am, KTSA main entrance doors will be controlled via the Card Access system, whereby only employees who regularly reside in the building and certain authorized students must use their Hill Card to gain access to the facility. Student access during controlled hours will be limited to those actively enrolled in classes, and based upon studio use criteria established below.



Studio Security
All studio spaces where chemical, physical or environmental hazards are used and/or stored (as identified via a hazard sign) shall be secured against unauthorized access, so as to prevent theft, releases/spills, sabotage or security breaches. The principal strategy to achieve this requirement is closed and locked/controlled studio doors. The only time studio doors should be open/ajar or unlocked is when a class is actively in session, or when it can be directly supervised by department personnel outside of class sessions.

Photography Studio (KTSA 132)

Chemical Hazards		Physical/Equipment Hazards
Irritants 	Health Hazards 	Silver Recovery 
Corrosives 		

Engineering, Administrative & PPE Control Measures			
No Food/Drink 	Ventilation 	Training 	PPE 
Emergency Contact Information • Campus Safety: **x4000** • Studio Operations Manager: **x4827** • Environmental Protection & Safety: **x4647**			**Access, Security & Use** **Level 3/Significant Hazard Space** Studio is locked when unoccupied, and only trained students or employees are authorized to use the space.

Studio Use

The photography studio is designated as a **Level 3/Significant Hazard Space**, as per the hazard sign depicted to the left. Student use of the studio and all materials contained therein is restricted to those enrolled in classes, or as authorized by department faculty/staff. An EHS-trained student monitor system is required to supervise all authorized studio users.

ATTACHMENT A
HAMILTON COLLEGE STUDIO SAFETY AGREEMENT FOR STUDENTS

Hamilton College is committed to providing *all studio users* a safe environment in which to work and learn. Students must be well informed of the chemical and physical hazards associated with all studio activities, and conform to the following rules established for the use of these facilities:

1. The use of any hazardous chemical material, or the use/operation of any equipment/machinery/power tool, must be approved by your instructor.

2. Unauthorized facility use, horseplay or pranks are strictly prohibited in the studio.

3. Report all injuries to your faculty member or instructor immediately. Any student injured in the studio must be seen by the Health Center.

4. Eating, drinking or smoking in a studio where chemicals are actively in use is strictly forbidden. Eating or drinking is acceptable in suitable non-chemical use or storage areas, or as specified by your instructor.

5. Everyone who uses this studio must know the locations of emergency equipment, such as fire extinguishers, eyewashes, showers, first aid kits, spill kits and telephones.

6. Wear the appropriate attire when working with chemicals or dangerous equipment in the studio. Wear the necessary Personal Protective Equipment (PPE) as specified by your instructor, and do not wear loose clothing, dangling jewelry, or your hair in an unconfined manner when using equipment that may catch these loose items.

7. When using equipment, machinery or power tools, obey the instructions, Standard Operating Procedures, or manufacturer's recommendations/warnings governing their use at all times.

8. All hazardous chemical materials must be properly used, stored, labeled and disposed of.

9. Know the flammability, reactivity, health hazard and special hazards of any hazardous chemical material you must use. Report any signs or symptoms indicating a potential overexposure to a hazardous chemical to your instructor.

10. After using chemicals in the studio, always wash your hands prior to leaving, even after wearing protective gloves.

11. Dispose of hazardous chemical materials in a manner specified by your instructor. Do not use sinks to drain dispose of chemical materials. Sinks are only to be used for rinsing or other hygienic purposes. Do not dispose of any residual chemical waste materials unless you are certain that the waste stream may be discarded as trash/solid waste. Report all spills to your instructor immediately.

12. Maintain the areas you use in the studio in a tidy, neat, and well-kept manner. Since you individually are in the best position to know what chemicals or products are in use during certain studio activities, do not assume that others within your class, your instructors, or college support staff will clean up messes they were not responsible for.

I, _____, have carefully read the studio safety agreement for Hamilton College and understand that these rules will be rigorously and impartially enforced. I also understand that willful and/or repeated violations of these safety rules will result in my studio privileges being revoked.

Student Signature:	Date:
Class Name/Section & Instructor:	