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

# **Purpose:**

• To serve as a supplemental EHS reference guide for all employees and students within the KTSA Sculpture suite of studios (118, 117, 116A-C).

# **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, and adhere to the following safety attire/other rules when using powered equipment:
  - No loose clothing (i.e., ties, scarves, loose sleeves, etc.).
  - No open-toed shoes/sandals, short shorts or mini-skirts.
  - o All jewelry (i.e., rings, necklaces, bracelets, body piercings, or watches) must be removed or covered.
  - Long hair must be pulled back in a bun or otherwise tightly constrained. Long beards must also be constrained.
  - PPE in the form of safety glasses (at a minimum) is required for all personnel working in the studio, even if they are only a by-stander to ongoing work. Other PPE, such as dustmasks, ear plugs or facemasks, may also be required.
  - Cell phones shall not be used in the shop when work is ongoing, nor shall any equipment user be permitted to wear portable music devices with headphones.
- 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 AMS Original Manufacturer Container Labels &



# 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 <u>LINK</u>. 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.



# PHYSICAL HAZARD INFORMATION

# **Stationary Power Tools & Equipment**

KTSA sculpture studios 116A (clay mixing), 116B (hot shop) and 118 (wood shop) contain a variety of equipment that represent both a physical hazard from the equipment itself, and/or additional health hazards from the materials they process. There are 12 major stationary power tools in these studios, each of which are maintained by the Studio Operations Manager. Each device must be rigorously managed and used to comply with all manufacturer specifications and OSHA stationary power tool requirements (to include machine guarding and PPE considerations). Standard Operating Procedures (SOP's) have also been developed for all 12 devices.

Table Saw	Compound M	iter Saw Wo	ood Lathe	Jointer	
Table Saw Compound Witer Saw			Wood Lathe Jointer		
Panel Saw	Band Saw	Drill Press	<b>Belt/Disc Grinder</b>	Clay Mixer	
Bench Grinder 1	Bench Grinder 2	Horiz. Band Saw	Foot Shear	Drill Press	

#### Stationary Power Tools/Equipment Access & LOTO Control Measures

With the exception of the non-electrically powered foot shear, all other major stationary power tools/equipment throughout Sculpture are access controlled through plug lockouts, which the Studio Operations Manager controls. The Studio Operations Manager can also de-energize all electrical outlets in 118 by locking out the emergency power kill switch in his office (118B). In the event any individual piece of equipment is damaged and must be taken out of service, a full OSHA lockout/tagout (LOTO) must be implemented.



#### Mobile Hand/Power Tools & Equipment

There are numerous mobile hand/power tools and equipment used throughout the various sculpture studios, with a broad range of physical hazards, operating guidelines, electrical safety considerations and machine guarding requirements. While equipment-specific SOP's have not been developed for these devices, personnel must still be trained before device use, inspect their tools before/after use, and take damaged or deficient tools out of service if they fail an inspection. All mobile hand/power tools and equipment are stored in 118 (wood shop) or 118A (tool/material storage).



# Electric & Gas Fired Ceramic Kilns

Studio 116B (hot shop) contains 5 electric fired kilns and 3 gas fired kilns, as depicted below. Given the significant mechanical and fire safety related hazards associated with all ceramic kilns, kiln operation and use is restricted to sculpture Faculty and the Studio Operations Manager, or students under their direct supervision.





#### **ENGINEERING, VENTILATION & EMERGENCY EQUIPMENT CONTROL MEASURES**

Each functional space with the Sculpture suite of studios has a complement of hazard control measures, as per the below. 118 Wood Shop

All major stationary power tools in this studio are equipped with local exhaust ventilations systems that convey dust directly to the HEPA dust collection system in the 118C adjacency. This ventilation system activates instantaneously upon power tool startup, with a 2-3 minute delay before powering down at the conclusion of power tool use. The demarked "safety zone" includes a fire extinguisher, emergency eyewash, emergency phone, first aid kit and emergency power kill switch, and must remain accessible and sanitary at all times.



## **117 Paint Spray Booth**

The paint spray booth room is a small, stand-alone room within the sculpture suite that enables personnel to perform paint spraying/drying activities in an isolated and well ventilated setting. All spray painting activities within the spray booth must be documented in the provided log book, noting the date of the activity, and the quantity of spray paint utilized. The spray booth may be turned on via a button on the inside of the entrance door. Emergency equipment in this room includes a fire extinguisher, emergency eyewash and spill kit, and must remain accessible and sanitary at all times.



#### 116 Main Sculpture Studio

The main sculpture studio is the primary classroom/lecture space within the sculpture suite, containing work benches, sinks and storage spaces. It does not contain any specialized engineering/ventilation controls, other than general dilution ventilation. However it does have a demarked "safety zone" that includes a fire extinguisher, emergency eyewash, first aid kit and spill kit, which must remain accessible and sanitary at all times.



#### **116A Clay Mixing Shop**

The clay mixing shop has a demarked "safety zone" that includes a fire extinguisher, emergency eyewash, emergency phone, first aid kit and spill kit, which must remain accessible and sanitary at all times.

This shop also contains two specialized local exhaust ventilation systems. The first system is a dedicated snorkel hood to collect fugitive dusts from the Soldner clay mixer. The second system is a wall mounted slotted bench hood to collect fugitive dusts generated during the measuring/mixing of dry material additives. The controls to both systems are to the inside right of the entrance door; the top button controls the snorkel hood, and the bottom button controls the bench hood.





## **116B Hot Shop Safety Equipment**

The hot shop has two demarked "safety zones" that together include a fire extinguisher, emergency eyewash, fire alarm pull station, first aid kit, 2 fire blankets, emergency phone, emergency power kill switch and a natural gas control button, all of which must remain accessible and sanitary at all times.

**116B Hot Shop Kiln Exhaust Systems** Local exhaust ventilation is provided for thermal and fugitive emissions at both the electric and gas fired kilns, as depicted to the right. There is an on/off control switch for the electric kiln ventilation to the left of the devices. The on/off controls to ventilate the gas kilns are intermingled with unit operational controls.



## 116B Welding & Other Hot Work Activities

The Hot Shop is designed to accommodate both MIG and Oxy-Acetylene welding activities (and other soldering or grinding activities) from a ventilation perspective. There is a welding bench protected by 4 adjacent wall mounted slotted bench hoods, which are operable via a switch to the left. There are also 2 multi-directional ventilation arms that may be positioned around welding work that is not performed on the welding bench, which are operable vis switches on the arms themselves. Further, welding screens are used as necessary to protect bystanders from welding flash hazards. Sculpture faculty and/or the Studio Art Operations manager are required to implement welding/hot work training as it relates to the conduct of such activities (including PPE), and conform to the College's Hot Work Program. As a part of this program, a pre-hot work check and hot work permit must be conducted in advance of any qualifying hot work, and must include designated fire watch. Further, direct supervision of such activities is required at all times. Welding/hot work should be isolated from other adjacent non-hot work activities in the studio via welding screens to ensure others are not exposed to welder's flash.



# 116C Casting Shop

The casting shop has a demarked "safety zone" that includes a fire extinguisher, emergency eyewash, first aid kit and spill kit, which must remain accessible and sanitary at all times.



# **116C Casting Shop Ventilation Control Measures**

This shop also contains two specialized local exhaust ventilation systems. The first system is a fume hood for the use of isocyanate-laden molding products. The fume hood controls are at the upper right hand side of the device. The second system is a series of 4 wall mounted slotted bench hoods to collect fugitive dusts generated during the measuring/mixing of dry material additives. The controls to this system are to the right side of hoods.



	PERSONAL PROTECTIVE EQUIPMENT (PPE)			
General	As a general recommendation, personal clothing should cover the arms, legs and torso. Wear close-toed			
Studio	shoes (no sandals, crocs). When power tools are utilized, loose clothing (ties, scarves, sleeves) is prohibited,			
Attire	long hair must be constrained, and loose jewelry must be removed or covered.			
Eye Protection	The use of equipment with flying debris hazards, and chemical solvents or other moderate hazard dry chemicals, requires safety glasses. If face/neck hazards also exist, use a faceshield plus safety glasses. For chemicals of higher toxicity or splash hazards, chemical splash goggles are required.		3	
Hand Protection	The routine handling of solvents or glazes/underglazes with toxic metallic properties requires the use of nitrile gloves for hand protection.			
Hearing Protection	The use of any powered equipment for lengths of time that exceed 5 minutes requires the use of hearing protection. Ear muffs or ear plugs are both acceptable, as long as the listed noise reduction rating (NRR) on the device meets or exceeds 24. Note that nearby personnel working in a studio where others are using powered equipment with noise hazards may be impacted by noise hazards as well, and would also be required to wear hearing protection.			
Respiratory Protection	Use ventilation controls as your first, best way to minimize exposure to respiratory hazards in the sculpture suite of studios. The use of the Soldner clay mixer requires the use of a ½ face cartridged respirator. The voluntary use of an N-95 filtering facepiece (or dustmask) is acceptable as a safe work practice when dealing with low hazard or fugitive dusts on an intermittent basis.			
MIG Welding Protection	A welder's helmet with appropriate shaded lenses (10-13 dependent upon amps and both gas/metal type) is required for eye and face protection (see <u>LINK</u> for more info). Leather long sleeve gloves and an apron are minimally required for all MIG welding activities for skin/body protection. It is also critically important to wear natural fiber clothing underneath PPE, such as cotton or wool (polyester or nylon materials are prohibited), such that no there is no exposed skin. Sturdy leather shoes are required for foot protection. If MIG welding activities are longer in duration or involve greater potential for spark/slag production, a welding jacket or coverall must be considered.			

## **ENVIRONMENTAL PROTECTION & COMPLIANCE**

#### **Sculpture Studio Waste Management**

The sculpture suite of studios 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 cans of spray paint) must be collected because they **ARE** subject to hazardous waste determinations.

# Sink Use & Disposal Rules

There are several sinks throughout the sculpture suite of studios, which convey wastewaters to the sanitary sewer for treatment and disposal. Sinks primarily provide for hand hygiene, and other tool washing/rinsing activities (even when what's being washed/rinsed was used with chemical materials). However it is never acceptable to dispose of chemical materials directly down the sink. Even if the chemical is not a regulated chemical material (like with dry plaster-ofparis), the addition of gritty material could both clog the drain and violate local sewer use ordinances.



## Hazardous Waste Generation & Satellite Accumulation Areas (SAA's)

Some of the studios within the sculpture suite have designated SAA's, which are locations at or near the point where hazardous wastes are routinely generated and stored. Hazardous waste containers must be marked with a hazardous waste label that clearly indicates the contents. The date on the label should only be filled out by the Director of EHS upon container pick up. Consider the following...

#### 116C Casting Shop **116 Sculpture** The storage cabinet underneath A 5-gallon bucket inside a secondary the fume hood is the designated containment spill pallet is the SAA for this studio, primarily designated SAA for this studio, for isocyanate hazardous primarily for aerosol spray paint can wastes. wastes. 116A Clay Mixing Shop A 5-gallon bucket inside a secondary containment spill pallet is the designated SAA for this studio, primarily for toxic metal pigments. **117 Paint Spray Booth** The flammable storage cabinet Note that most chemical containers and 5-gallon bucket inside a with toxic metals in this studio are secondary containment spill identified with special labeling, as pallet is the designated SAA for per the images below: this studio, primarily for aerosol spray paint can wastes. NUM OXID

### **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.



	Campus Safety—4000 (emergency line), 4141 (non-emergency line)		
	Physical Plant—4500		
<b>Emergency Phone #'s</b>	<u>HCEMS</u> —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.

#### Studio Use

Since the sculpture suite of studios is made up of the primary 116 studio and 5 adjacent studios, each individual studio will be addressed below...



#### Studio Use

The main sculpture classroom (116) studio is designated as a **Level 2/Moderate 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. The buddy system is required for all authorized studio users.

#### Studio Use

The sculpture clay mixing shop (116A) is designated as a Level 4/Restricted Hazard Space as per the hazard sign depicted to the left, primarily due the Soldner clay mixer. When this device is controlled/locked out, shop access/use may operate under Level 2/Moderate Hazard Space criteria. Student use of the studio and all materials contained therein is restricted to those enrolled in classes, or as authorized by department faculty/staff. The buddy system is required for all authorized studio users, unless the Soldner clay mixer is in operation, which may exclusively be used by the Studio Operations Manager.

#### Studio Use

The sculpture hot shop (116B) is designated as a **Level 4/Restricted 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. Direct supervision by faculty or staff is required for all authorized studio users.



#### Studio Use

The sculpture casting shop (116C) is designated as a Level 4/Restricted Hazard **Space** as per the hazard sign depicted to the left, primarily due to isocyanate use in the fume hood. When isocyanates are not in use, shop access/use may operate under Level 2/Moderate Hazard Space criteria. Student use of the studio and all materials contained therein is restricted to those enrolled in classes, or as authorized by department faculty/staff. The buddy system is required for all authorized studio users, unless isocyanates are in use, whereby direct supervision by faculty or staff is required for all authorized studio users.

#### Studio Use

The sculpture paint spray booth (117) is designated as a Level 2/Moderate Hazard **Space**, as per the hazard sign depicted to the left. Student use of the space and all materials contained therein is restricted to those enrolled in classes, or as authorized by department faculty/staff. While it is not practical to use the spray booth with a buddy in the room, the buddy system is still generally required for all authorized studio users engaging in spray booth activities.



#### Studio Use

The sculpture wood shop (118) is designated as a Level 4/Restricted 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. Direct supervision by faculty or staff is required for 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:			