



Alchemy Art Center

Studio Safety, Rules and Cleaning Handbook

Thank you so much for becoming a Studio Artist Member of Alchemy Art Center! You are joining a unique arts community that relies on its members to make it the best that it can be. In order for you to be a productive member of Alchemy Art Center, we ask that you familiarize yourself with the studio safety/cleaning guidelines outlined below.

Materials Hazards of Ceramics

The hazards associated with ceramics have been recognized for hundreds of years. They are related to three aspects of the process: preparing and molding the clay, glazing, and firing the clay. Carefully review the Material Safety Data Sheet (MSDS) for the products your students will use, particularly glazing compounds, which often contain some highly toxic compounds. Identify the hazardous components in each product. Teach students how to protect themselves either by reviewing the information on the MSDS or by obtaining one of the references listed on page 9 and reviewing the specific information on the materials being used.

The following table describes the potential hazards associated with different ceramic processes.

Activity	Material	Potential Hazard
Mixing dry clay	Dry clay	Clay contains crystalline silica, which if inhaled over the course of many years can lead to the debilitating lung disease silicosis. Loading and mixing dry clay in a clay mixer creates the most likely opportunity for exposure to the silica-containing clay dust.

Mixing dry clay	Talc	Talc added to clay may be contaminated with asbestos or “asbestos-like” fibers.
Mixing dry clay	Clay mixer, bulk materials	Like all mechanical equipment, clay mixers have moving parts that could catch your hand or arm if you reach into it while it is operating. Bags of dry clay and clay additives are heavy; repeated lifting can cause back injuries.
Handling wet clay	Wet clay, potter’s wheel	Wet clay is a growth medium for mold and other microorganisms that can cause allergies and infections of the skin or nail beds. Mold can aggravate some pre-existing medical conditions such as asthma. Working with clay for extended periods of time on a potter’s wheel can lead to a repetitive trauma disorder of the hand or wrist.

Glazing	Glaze	Glazes are mixtures of silica, alumina, metal fluxes (such as lead, barium, lithium, calcium, or sodium), and colorants. Some colorants contain highly toxic metals such as lead, cadmium, chromium, uranium, and arsenic. These metals should not be used in school programs if at all possible because safer substitutes are available. Many prepared glazes contain frits which are created by melting various glaze ingredients into a glass and grinding them into a powder. Frits containing toxic metals are hazardous and should be handled with caution since they can leach into the body over time and should not be used.
Firing Kiln	Clay	During the firing process, clay releases combustion products and gases whether using a fuel-fired or electric kiln. These emissions include carbon monoxide, formaldehyde, sulfur oxides, chlorine, fluorine, metal fume, and nitrogen oxides. Unless ventilation is excellent, metal fume particles such as lead and cadmium can settle and contaminate other ware and surfaces. In addition, fuel-fired kilns release the products of combustion from their fuel sources. Firing Kiln Clay Infrared radiation emanates from hot (glowing) fired ceramics and can cause cataracts after long periods of exposure. Unloading hot objects from a kiln can cause burns.

Ceramics Precautions for Studio Members

- If possible, avoid exposure to clay dust by purchasing pre-mixed clay. If you mix your own clay, the mixer should have local exhaust ventilation and be equipped with appropriate machine guards to prevent access to moving parts while operating. Consider wearing a respirator when mixing clay.
- When lifting heavy items such as bags of clay, clay additives, or glazing compounds, use appropriate lifting techniques, get help from another person, or use mechanical aids. Raise your potter's wheel so you can work in an upright position.
- Use asbestos-free talcs. Regularly wet mop the studio—particularly the dry mixing area—to remove potentially toxic dust such as silica and heavy metals. **Do not allow spilled clay to dry; it can be crumbled into an airborne dust.**
- Purchase prepared glazes without toxic components whenever possible. If you do use or mix glazes containing highly toxic metals such as lead, cadmium, arsenic, or uranium, your institution must meet the applicable OSHA regulations.
- If you mix your own glazes, wear gloves. Mix glazes under local exhaust ventilation or wear a respirator. Avoid spraying techniques that will aerosolize the glazes. Instead, brush or drip glaze on your clay. If you must use spraying techniques, use a paint spray booth.
- Because your hands become contaminated while working, do not eat, drink, or smoke in the studio. Wash your hands thoroughly when you finish working or leave the studio. Good personal hygiene is one of the most important ways you can reduce your exposure.
- Regularly apply hand cream to replace lost oils and to keep your hands from drying out. Cover cuts or other broken skin with gloves to prevent infections
- Wear a full-length smock or coveralls in the studio and do not wear them outside the studio. Wash them frequently and separately from other clothing.
- Wear a disposable smock or coveralls if working with toxic metals. Remove the smock or coveralls before leaving the studio and dispose of in your institution's designated hazardous material container.

- All kilns must be locally exhausted and vented to the outside. Keep combustible materials, particularly flammable materials, away from kilns. Small kilns should be raised at least a foot off the floor with a refractory brick placed underneath. Keep a fire extinguisher close by and know how to use it.

- Wear appropriate shaded eye protection when looking directly into the kiln. Note: If you are creating ceramics that will come into contact with food or drink, select a food-safe glaze that is periodically tested by a laboratory. Some glazes contain heavy metals such as lead and cadmium that can leach from glazed items after they have been fired. Using prepared glazes labeled “food safe” will not assure a safe product since small variations in application and firing can alter leaching characteristics. Most glazes leach their metals faster when exposed to acid solutions such as orange juice. The federal government has developed test protocols for evaluating the leachability of glazes and strict guidelines for the maximum acceptable lead/cadmium release from ceramic food ware.

SAFETY AND CLEANING RULES

As a studio member, you are responsible for your own health, the health of other studio members, and maintaining a clean and safe workspace. In order to keep the space clean while keeping membership costs down, you are asked to clean up behind yourself every time you come in the studio as well as give one hour of general cleaning time to the studio each month.

Cleaning every time you use the studio

- Exposure to clay dust can cause silicosis, a disease which can be fatal. To keep yourself and others safe from silicosis, clay dust must never be left in the studio. *Always* sponge and mop your area after working. Spills must be wiped up immediately so that they do not become dust hazards. **Do not sweep!** Sweeping gets clay particles into the air, making them more dangerous.
- Glaze Chemicals can also be harmful, especially when eaten or left to dry out and turn into dust. Always fully clean glaze off of brushes, tables, sponges, etc. and avoid eating in the studio.

- Keep personal belongings in your storage area. AAC is not responsible for anything, including clay, left in common spaces. Personal items left out can make it difficult for others to clean the studio space. If necessary, bring things home so that you have enough space on your shelf.
- Red Clay leaves stains, which can ruin the work of those who are working with white clay. Take special care to clean up all tools and tables that have been exposed to red clay to prevent cross-contamination of clays.
- Please use the designated shelves for Greenware, Bisqueware, and Glazeware. **Promptly remove your bisqueware from the shelf.** It will be thrown out if left unclaimed for more than 1 month in common space.
- Wash your tools, and put them away. Clean out the sink behind you.

ADDITIONAL CLEANING REQUIREMENTS

In addition to the above essential daily cleaning practices, we also ask Studio Artists to give an hour each month toward various studio cleaning activities. This is your studio, and the cleaner we are able keep it, the more functional and pleasant it will be for everyone!

Additional studio cleaning jobs that must be done are:

Daily

- Mopping the floor
- Sponging off the counters/cabinet faces

Weekly

- Organizing shelves and tools
- Cleaning the glaze room, kiln room, or library area
- Firing the kiln (If you are interested in helping with firing you must be trained and approved by Maria)
- Laundry (rags/towels, aprons)

Monthly

- Pugging the extra clay into usable clay
- Taking out the garbage
- Emptying the P-trap under the sink

- Making common glazes for everyone to use (if you are interested in this you must be qualified and trained)

As needed:

- Repairing and caring for the kiln and kiln shelves