SOAD Ceramics at the New York State College of Ceramics at Alfred University
Studio Protocol Orientation for safe handling of ceramic materials in the studios, the Raw Material Lab, Glaze Lab, and the Grinding Room.

Compiled for the Fall Semester of 2016

Our Health

With reasonable caution and good studio hygiene, all of the raw materials supplied by the Grinding Room and the Raw Material Lab can be handled safely. The goal is simple: avoid consuming or inhaling any of our raw materials. If you will be using chemicals which are not supplied, please seek consultation through Keith Simpson in the Grinding Room -- simpsonk@alfred.edu

Avoid consuming ceramic materials.

1) Don’t eat in the labs. Wash your hands well before eating or touching your face.

2) Do not reuse food containers in the studio.

Avoid inhaling ceramic materials.

1) In the wet state, class glazes and clays can be considered safe to work with because the risk of airborne dust is mitigated by moisture. Care should be taken to clean trim shavings and other damp debris while the material is still wet – especially debris that is on the floor where it will dry and be tracked through the studio, potentially becoming airborne.

2) Wear a university approved respirator in the labs and in the proximity of any dust that is being generated.

3) Take caution when working with dry materials to minimize the amount of dust you generate and to ensure the safety of yourself and anyone near you.

4) Clean up dry messes with plenty of water and a damp sponge. Rinse the sponge regularly. It is good practice to have a bucket of clean water and a sponge prepared and available while working in the labs.

5) Use sweeping compound to control dust. Sweeping in long, slow strokes will also help to limit airborne particulate.
More on Respirable Hazards

In the NYSCC/SOAD ceramic labs and studios we use a variety of chemicals as raw materials for our clays and glazes. These chemicals, or raw materials, come to us in powdered form. Most of these raw materials originate as minerals that are processed and ground or otherwise sorted into fine powders (e.g. clay, feldspar, silica). Other chemicals are manufactured from mineral sources and also ground to fine powders. (e.g. frits or glaze stains).

Every Chemical has unique hazard statements that can be found on their respective SDS sheets. For your personal safety it is important that you understand that it is not healthy to consume or inhale any of these raw materials.

Silica is a primary ingredient of many, if not most, clay and glaze recipes. We stock the Grinding Room and Raw Material Lab with a product called Silc-o-sil which is manufactured by processing quartz to a fine powder. Silica, Quartz, and Flint are forms of crystalline silicon dioxide or crystalline silica. Crystalline Silica is also present in most of the raw materials that we stock in the lab. Though all of the mineral powders that we stock should be considered unhealthy to breath, Silica is the perfect model of a course insoluble particle that can be just the right size to build up in the tissue of our lungs over a lifetime, causing damage and reducing the capacity of our lungs.

The important thing to understand about silica is that a percentage of the particles are small enough that they can become invisibly suspended in the air long enough that they can be drawn into your respiratory system, causing damage and increasing the likeliness of infections. Of those particles which become suspended, a small percentage are small enough to find their way to the deepest recesses of your lungs where the particles can become permanently entrapped and promote scarring which reduces lung capacity through pulmonary fibrosis (silicosis in this case) and lung cancer.
Our Community

The Raw Materials Lab, Grinding Room, and the Glaze Lab are shared work spaces. As a community member with access to these facilities you are assuming the responsibility to utilize these spaces with respect for the staff, faculty, and other students. The following guidelines will help to ensure that the studio remains safe for everyone to use.

1) Work in a manner that minimizes risk to yourself and others. Minimize the generation of dust, be sure to wear the appropriate safety attire, and be aware of individuals in your proximity that might be put at risk by your actions.

2) Label all of your mixtures properly and handle your own waste stream in accordance with the SOAD Ceramics Lab Protocol.

3) Materials in the Raw Material Lab are primarily for glazes and decorative slips. Materials for clay bodies and casting slips should be paid for through the Grinding Room. Test batches of clays and casting slips can be prepared from materials in the Raw Materials Lab. Test batches should not exceed 5000 grams – this is enough to make at least 1 gallon of casting slip or 10 lbs of a plastic claybody, which is a generous amount for testing.

4) Clean up after yourself. Wipe the counters down. Wash any lab tools that were used and return them to the rack to dry. Lay them so that water doesn’t pool and they are dry for the next person to use. Leave the space a cleaner than you found it.

5) Return tools and materials to their assigned storage. Tools that are labeled for an individual lab should not be taken out of that room.

5) Equipment such as the spray booth, ball mills, shar mixer, and V-blender should be cleaned at the end of every use. Seek assistance if you have any concerns about save use of equipment. Be sure to clean any mess in the surrounding area as well.

7) Do not store anything in the labs – if you have to leave your project for a short period of time (hours), place it somewhere out of the way and leave a note with your contact information.
Clay and Throwing Water Reclamation

Reclamation Troughs can be found throughout the studio. We attempt to recycle and reuse as much clay as we can. There are 2 different types and the goal of each is separate:

1) **Clay Reclamation Troughs**: These are the most common. The goal is to make use of clay scraps that would otherwise be in our waste stream. Use these bins to dispose of clean clay that is not contaminated with anything. The material in these bins is usually processed by students in the Grinding Room to make Mold Clay which is available through the Grinding Room for $4 a bag. Mold Clay is not intended to be fired because it is occasionally contaminated with things like bat pins or pottery tools. Since Mold Clay is a blend of all of our studio clays, it often has desirable fired characteristics (each batch is different – it is the purchasers responsibility to test it). Also, the material in the Clay Reclamation Troughs is free for the taking.

2) The second kind is a **Throwing Water Reclamation Trough**. This trough is designed to reduce sediment in the sink traps near wheel throwing classroom. The first difference is that the lid has a steel mesh. This is so that throwing water can be poured through the lid. This troughs use should be limited to throwing water that is free of chunks. Chunks or clay waste that is “yogurt thick” or thicker should go into the other troughs. Please keep the screen clear and **do not force clay through the screen or leave debris on top of the lid**.

***There is significantly less labor involved in processing dry clay waste. Whenever possible, dry your clay waste and add it to the Clay Reclamation Bins. ****
Our Environment

Some of the materials found in the Grinding Room and the Raw Material Lab can be hazardous to the environment if they are not properly disposed of. Other materials are detrimental to the local water treatment facility. It is our responsibility to control the studio waste stream in a way that addresses these hazards.

1) Label mixtures in a manner consistent with the SOAD Ceramics Lab Protocol.

2) Use a sink that is appropriately equipped for the material you are handling and avoid putting anything except clean water down the sink drains. Scrape containers and tools before rinsing them in the sink.

3) Dispose of materials in accordance with the SOAD Ceramics Disposal Protocol. Avoid generating waste by mixing only what you intend to use. Hazardous Waste should be disposed of in Hazardous Waste drums and Non Hazardous materials should be dried out and disposed of in the garbage.

SOAD Ceramics Lab Protocol for Labeling and Disposal

In the Raw Materials Lab you will find labels with warning statements that apply to ceramic powder mixtures. Please fill this label out clearly and affix it to the container (not the lid). This label should go on every container of slip, glaze, etc. that is made in the Raw Materials Lab. Mixtures made in Raw Material lab and Grinding Room are only for use in labs and studios associated with SOAD Ceramics at the New York State College of Ceramics. Here is an example of the label:

![Label Example]

Please note that the label above includes a hazard statement associated with the risk of breathing insoluble mineral dust, particularly crystalline silica. As clays and glazes dry, the risk of generating dust which may become airborne is greatly increased. Also note that the label indicates the contents are ‘safe for disposal in any garbage unless it is also labeled with a yellow “DISPOSE OF AS HAZARDOUS WASTE” sticker.’
Raw materials from the Raw Material Lab or Grinding Room that contain elements regulated by the EPA are labeled with this sticker. You will use a “DISPOSE OF AS HAZARDOUS WASTE” sticker if your mixture contains any raw material that is marked as hazardous waste. If you procure raw materials from another source please have them reviewed by the Grinding Room and appropriately labeled.

Hazardous Waste disposal drums can be found in Satellite Accumulation Areas (SAA). The primary drums can be found in the Glaze Lab and Raw Material Lab. Proper use of these disposal areas includes scraping the hazardous contents of your container into the bin followed by rinsing the container in a properly equipped sink. Do not place glaze containers in the Hazardous Waste Drums.

Sinks

Sinks are not for disposal of materials. Avoid putting anything other than clean water down any of the sinks. Excessive mineral debris will cause them to overflow, and organic material will causes the traps to develop an intolerable odor. The sinks in the studios are equipped with traps that are designed to catch particulate before it flows into the sewage line. These are not 100% effective, but they are our best tool in protecting the local water treatment facilities. Individuals employed by the university manually pump the sink traps out. It is critical that we manage the amount of debris that goes into the sinks both to protect the local water treatment facilities and to maintain a clean and functioning studio.

There are 2 types of sinks in the studios: GREEN SINKS, and HAZARDOUS WASTE SINKS – each are clearly marked.

1) **GREEN SINKS** have a green sign and are safe for rinsing nonhazardous materials only. Examples of nonhazardous materials include clay and some slips or glazes (providing they don’t contain any of the raw materials considered hazardous waste). The debris in the traps on GREEN SINKS remains safe for normal disposal in the dumpster. It is critical that these traps do not become contaminated with anything that the EPA considers hazardous waste. ***DO NOT DUMP ANYTHING OR FORCE MATERIAL DOWN THE DRAIN – REMOVE DEBRIS FROM GREEN SINKS AND PUT IT IN THE GARBAGE***

2) **HAZARDOUS WASTE SINKS** are labeled yellow and can be used to rinse tools or containers used in the preparation of materials that contain Hazardous Waste. The traps on Hazardous waste sinks have to be handled and disposed of as hazardous waste which is quite costly and labor intensive. ***DO NOT DUMP ANYTHING OR FORCE MATERIAL DOWN THE DRAIN – REMOVE DEBRIS FROM HAZARDOUS WASTE SINKS AND PUT IT IN THE HAZARDOUS WASTE DRUM***

Each time a Hazardous Waste sink trap is pumped out, or a Hazardous Waste Drum is disposed of, it costs the studio up to $500. This equates to thousands of dollars every year that could otherwise be used to benefit the program. Through considerate studio practices we can reduce this number substantially and we will all benefit from a cleaner and healthier studio.
What Makes a Material Hazardous Waste?

Some of the materials that we use contain elements that are considered Hazardous Waste by the Environmental Protection Agency (EPA). Of the regulated elements we encounter 4 of them:

1) Lead  
2) Barium  
3) Cadmium  
4) Chrome

Cadmium is found primarily in red and orange glaze stains. Lead is found in leaded frits, both of which are only available through the Grinding Room. You will find materials that contain barium and chrome in the Raw Material Labs. All of the materials with the label “DISPOSE OF AS HAZARDOUS WASTE” contain one or more of these elements. The Grinding Room carries these products in forms that lessens the risk to community members – providing measures are taken to insure that the materials is not consumed or inhaled. However, these chemicals remain an environmental liability and it is required that they are handled in accordance with federal, state, and local laws.

Right to Know

Right to Know is the legal principle that individuals have the “right to know” what chemicals they may be exposed to in their workplace or community. All of the raw material storage in the Raw Material Lab and the Grinding Room has been updated to the modern standard for hazard labeling as of 2016. This labeling will give you a summary of the hazard of each material. Here is an example of the label format we use:

![Label Example]

This system is referred to as the Global Harmonized System or GHS. The GHS outlines specific structure and phrasing to Safety Data Sheets (formerly MSDS). Section 2 of any GHS compliant SDS sheet will outline the hazards and advise precautions that should be taken with the chemical. There is a sample SDS sheet at the end of this packet.

SDS sheets for chemicals found in the Raw Materials Lab and the Grinding Room are available to you through:

[alfredgrindingroom.com/msds-sheets]