

# SUNY Oneonta Ceramics Room Guidelines

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## A. Scope

These safety guidelines are meant for use by students and staff who create, or recreate, in a limited number, largely by hand, works that may or may not have a practical use, but in which aesthetic considerations are paramount. These guidelines are meant for use in the Ceramic Studios, and as a supplement to other safety information, such as material safety data sheets or Occupational Safety and Health Administration (OSHA) hazard communication programs. However, these guidelines may not cover every safety concern found in the Studio

## B. Definitions

1. The term ceramics refers to the molding of clay and decoration of bisqueware using under glazes, glazes or acrylic paint.
2. Teachers Assistants are persons hired by the Art Department to operate the kilns and make clay.
3. Professors are instructors hired by the college to teach Ceramics.
4. The Ceramic Studio includes: Fine Arts Rooms: 234- Studio, 234A-

### **C. Hazard and Safe Use Labels**

The Material Safety Data Sheets are located in a book on the shelf in the Glazing Room. Read labels with care. In ceramics, as in all areas of human activity, proper usage of products ensures safety. Misuse of products may expose the ceramist to potentially harmful substances. Care should be taken to read all label instructions before using a product. The MSDS book will identify any hazardous ingredients and their hazards, provide first aid instructions and give recommendations on how to use safely and prevent excessive exposure. Other resources for finding the MSDS for materials used in the Ceramics Studio is:

[www.lagunaclay.com/msds/3rawmat/adry/MSDS3a.htm](http://www.lagunaclay.com/msds/3rawmat/adry/MSDS3a.htm)

In case of Emergency Contact University Police 3550

### **D. Housekeeping**

Common sense cleanup and maintenance of the work area is a must for people working with ceramics. It is strongly recommended that the following rules be observed.

1. Clean jar rims before closing to eliminate buildup of dried product.
2. Dust Control - Dust control measures are necessary for any operation which may generate dust. This includes the creation of dust from dipping glazes which have dried on work surfaces, mixing of dry ceramic materials, grinding, drilling or sanding greenware, bisqueware or working with clay to make pottery.

Keep working surfaces and shelves clean by wiping down with a wet sponge, rinsing the sponge frequently.

Clean up spills when they occur. Do not allow to dry.

Wet-mop floors to control dust; do not sweep.

Any use of Vacuuming equipment should be left to the custodial staff. The vacuum used should be equipped with HEPA-type exhausting filter that traps particles 0.3 micron in diameter or larger.

Work over a linoleum or sealed floor. All work surfaces should be non-porous. These measures allow easy cleanup of spills and dust and prevent tracking.

In order to decrease dust production, clean greenware when damp.

Alternately, use a down draft ventilated cleaning table, exhausting dust out of doors.

Work on newspaper or a paper towel for easy cleanup and disposal.

### **E. Personal Hygiene**

Ceramic products and materials can be handled very safely if we keep in mind that materials should not be ingested or dust inhaled. Do not smoke, eat or drink when working with potentially hazardous ceramic materials. Such practices can transfer hazardous substance to the mouth or leave substances such as salt and oil on the work surfaces and thus ruin your glazes.

1. Always wash hands thoroughly when you are through working with hazardous

materials, even after removing gloves. Do not use any utensils that will later be used in the kitchen. If there is an accidental ingestion, call the University Police at 3550.

2. Do not handle materials used to produce ceramics when you have open cuts or wounds.

## **F. Personal Protection**

Never work in the Studio without knowing how to properly protect yourself from hazards. Always work in the Studio with someone else present, or with permission from the instructor to be in the studio. If the Professor is not present, make sure someone knows you are working in the Studio. Do not let unauthorized persons into the Studio.

Remove jewelry and use vinyl or lined rubber work gloves when glaze dipping. Do not go near the Kilns.

### **1. Protection Against Kiln Hazards.**

Students should not go near the Kilns. Teachers Assistants and Professors must wear Insulating gloves when handling a kiln after the venting period as the handle will be hot. Never touch the outside of a kiln (other than the control panel) when it is turned on as the kiln surface temperature may be very hot.

Dark-shaded glasses from a safety supply house (shade number 1.7-3.0) are recommended when looking into kiln peepholes to protect your eyes from radiant heat. Normal sunglasses are inadequate for this purpose. Protective glasses also allow you to see witness cones more clearly.

### **2. Protection Against Dust Exposure**

Do not wear contact lenses when working in dusty environments. Dust particles may become trapped between the lens and the surface of the eye, and these small particles can scratch the eye.

Use the spray booth when spraying water-based glazes and solvent based materials.

For work with hazardous particulates, use a NIOSH approved respirator for fumes.

Maintain the spray booth according to the manufacturers directions.

## **G. Kiln Safety**

1. The only persons authorized to operate the kilns are Teachers Assistants and Professors and students who have been properly trained to use the kiln by the instructor, and have permission.

2. Do not leave papers or combustibles around the kiln, or place objects on the kiln while firing. Always unplug the kiln while making any repairs.

3. Do not try to unload the kiln until the outside of the kiln is cool to the touch and the pieces can be easily touched by hand or with gloves. Removing hot pieces presents risks of burns or fires or crazing of glazed surfaces.

4. When unloading a kiln, be careful of the stilt marks on glazed ceramic pieces. They can be sharp and should be smoothed as soon as possible with a grinding wheel or stone. Wear safety glasses while grinding off stilt marks.

## **H. Food-Safe (Dinnerware Safe) Glazes**

Many glazes are formulated to be safely used on surfaces that come in contact with food or drink.

1. If surfaces will come into contact with food or drink, use only glazes that are specifically for food or dinnerware.
2. Do not mix lead-containing food-safe glazes, as the balance of ingredients in each glaze will be disrupted. Each mixture would have to be re-tested by an approved laboratory to determine if the mixture is also food safe. Non-lead containing food or dinnerware safe glazes can be mixed.
3. Proper firing of food-safe glazes is critical. Use pyrometers or pyrometric shelf cones on the kiln shelves to ensure that the pieces are fired hot enough, even if the kiln is electronically controlled or has an automatic kiln sitter. Always fire in accordance with manufacturers instructions. If crazed or under fired, these glazes may not be food safe. Improperly fired lead-containing glazes may leach excessive levels of lead.

## **I. Lead and/or Cadmium Containing Glazes**

Lead and cadmium are used in many ceramic glazes. The cadmium is essential to produce the brilliant reds and yellows. Lead gives a brilliance to the glaze and allows the glazes to mature in the hobby firing range.

1. When excessive amounts of cadmium are inhaled, lung damage may occur. Excessive absorption may result in kidney damage, damage to the testes or risk to the developing fetus. Cadmium dust, when it is in a respirable form, is considered a human cancer agent.
2. Excessive lead absorption may result in damage to the nervous system with weakness and difficulty in thinking, kidney damage or risk to the developing fetus. Children are particularly susceptible to absorbing lead and to adverse effects associated with lead absorption. Lead is an experimental cancer-causing agent. Health risk from the use of glazes containing lead and/or cadmium are minimized when these safety guidelines are followed.
3. Children (6th grade and under) should not use lead- containing glazes or other hazardous ceramic materials and should not be present where lead-containing glazes are used for dipping or where kiln loading occurs.
4. Studios using lead-containing dipping glazes or spray-applied glazes should not be in or attached to homes. It is extremely important that dusts from ceramic studios not be tracked into environments where children may play.
5. Dipping with lead-containing glazes and kiln work areas should be in a facility or rooms separated from the studio area.
6. Pregnancy Issues

Women who are pregnant or considering pregnancy should only work with lead-containing glazes in a supervised hobby ceramics studio. Such individuals should avoid dipping lead-containing glazes or kiln loading.

Pregnant women or women contemplating pregnancy who are active ceramists should notify the physician of their work with ceramic products.

#### 7. Label for Lead or Cadmium-Containing Glazes

Labeling precautions for glazes containing lead may include the following words:

WARNING: MAY BE HARMFUL IF SWALLOWED. CANCER AGENT BASED ON EXPERIMENTAL DATA. EXPOSURE MAY CAUSE HARM TO THE DEVELOPING FETUS. EXPOSURE MAY CAUSE DAMAGE TO THE TESTES OR DIFFICULTY WITH REPRODUCTION (CHILD BEARING). EXPOSURE MAY CAUSE NERVOUS SYSTEM, KIDNEY OR BONE MARROW DAMAGE. CONTAINS: LEAD PRECAUTIONS: Do not spray apply. Wash hands immediately after use. When using do not eat, drink or smoke. Wear a work apron. Keep in original container. AVOID USING IF PREGNANT OR CONTEMPLATING PREGNANCY. NOT FOR USE IN HEALTH CARE FACILITIES. KEEP OUT OF REACH OF CHILDREN.

FIRST AID: If swallowed, get prompt medical attention. For further health information contact a poison control center.

Labeling precautions for glazes containing soluble cadmium may include the following words:

WARNING: MAY BE HARMFUL IF SWALLOWED. CANCER AGENT BY INHALATION BASED ON TESTS WITH LABORATORY ANIMALS. EXPOSURE MAY CAUSE DAMAGE TO THE KIDNEYS OR TESTES. EXPOSURE MAY CAUSE HARM TO THE DEVELOPING FETUS. EXPOSURE MAY CAUSE DAMAGE TO THE KIDNEYS OR LIVER. EXPOSURE MAY CAUSE DAMAGE TO THE HEART. CONTAINS: SOLUBLE CADMIUM. PRECAUTIONS: Do not spray apply. Avoid ingestion. Wash hands immediately after use. When using do not eat, drink or smoke. AVOID USING IF PREGNANT OR CONTEMPLATING PREGNANCY. KEEP OUT OF REACH OF CHILDREN.

FIRST AID: If swallowed, get prompt medical attention. For further health information contact a poison control center.

#### J. Sprays, Solvents & Overglazes

These products are easy to use safely and will present no problems as long as these three important rules are observed: keep out of reach of children, use in a well-ventilated area, and clean up after use. Prior to using spray aerosols, solvents or overglazes, read the warning labels and safe use instructions on the containers. Over exposure to solvent-containing ceramic materials can result in symptoms of eye or nose irritation, headaches, dizziness, nausea and confusion.

1. Containers should be kept tightly closed when not in use.

2. Aerosol sprays, solvents and solvent-based overglazes should be used out of doors, in a locally exhausting hood or spray booth or with a window exhaust fan to assure adequate cross ventilation.

3. Flammable Materials - If solvents, spray aerosols or solvent-based overglazes

are flammable, don not use them near a heat source or open flame, or close to the kiln.

Rags and paper towels or tissues used with these products should be placed in a metal container designed for disposal of flammable materials. Alternately contaminated materials can be washed or placed under water until final disposal.

If the solvents are know to be flammable, use an explosion-proof fan in any exhaust unit.

#### **K. Quartz-Containing Ceramic Materials**

As with any finely ground substance, dust control is the primary safety factor to be remembered by those who customarily mix powdered slips, clays or ceramic glazes. Slips, clays, and some ceramic glazes contain quartz. Dust exposures also occur when cutting, sanding, grinding or drilling ceramic materials.

1. Excessive inhalation of quartz dust can result in chronic lung damage. Quartz dust, when it is in a respirable (breathable) form, is considered a human cancer agent.
2. When activities potentially generate ceramic dust, use a NIOSH-approved mask for fumes and mix the materials under a locally exhausting hood.

#### **L. Spraying Glazes**

When spraying glazes, use extreme caution and follow these safety instructions. Lead or cadmium-containing Glazes should not be sprayed in hobby or contemporary ceramic studios. Glazes may contain lead, cadmium or quartz whose toxic potential increases if inhaled.

1. Use a spray booth equipped with a strong fan that exhausts all glaze mists outside of the work area.
2. Use a NIOSH-approved mask appropriate for the type of glaze being sprayed.
3. Wear protective clothing including hair covering that is removed before eating, drinking, smoking or leaving work. Wash hands thoroughly immediately after spraying and removing protective clothes. Do not smoke or eat in the work area.
4. For further information on safe spraying of ceramic glazes, see ASTM Standard Practice C1192.

#### **M. Keep these common-sense safety rules in mind and remember to observe them.**

When working in the Studio:

- Keep work surfaces and shelves clean by wiping down with a wet sponge.
- Clean up spills when they occur. Do not allow to dry.
- Try to work on a newspaper or paper towel for easy cleanup and disposal.
- Do not smoke, eat or drink when working with hazardous ceramic materials.

- Wash your hands thoroughly when you are through working.
- Use a smock when working with ceramic materials or wash clothes after.

When using solvent-containing ceramic materials:

- Work in a locally exhausting hood or with an exhaust fan.
- Do not use or store near kilns, other heat sources or an open flame.
- Dispose of used rags in an air-tight metal container or under water.

When spray applying glazes:

- Work in a spray booth.
- Use a NIOSH-approved respirator for mists.

**Try not to track dust from the studio to other areas of the building.**