

LMCS – Safe Work Procedure

POTTERY, CLAYS AND GLAZES



DO NOT use equipment unless you have been instructed in its safe use and operation and have passed the safety accreditation

PERSONAL PROTECTIVE EQUIPMENT



Safety glasses and masks must be worn when handling dry glaze ingredients and plaster



Long and loose hair must be contained at the pottery wheel and Kiln.



Hearing protection must be worn at high noise levels (only when they occur) from nearby activities.



Sturdy footwear must be worn at all times in work areas.



Short sleeve shirts, or long sleeves (retained) are required at the wheel.



Rings and jewellery are not recommended when working on the wheel.

PRE-OPERATIONAL SAFETY CHECKS

- ✓ Locate and ensure you are familiar with all machine operations and controls and emergency stops.
- ✓ Ensure the machine, power cords etc. are in safe working condition.
- ✓ Check workspaces and walkways to ensure no slip/trip hazards are present and that no one will be harmed by you operating the machine.
- ✓ Ensure table and work area is clear of all tools.
- ✓ Mix glazes in a well-ventilated area when there are no people nearby.

OPERATIONAL SAFETY CHECKS

- ✓ Plug in the machine.
- ✓ Use a safe working posture.
- ✓ Pottery wheel must be isolated from power source when being adjusted, maintained or repaired.
- ✓ Kilns and pugmill must be isolated from power source when being cleaned, adjusted, maintained or repaired.

ENDING OPERATIONS AND CLEANING UP

- ✓ Switch off the machine when work completed.
- ✓ Leave the machine and surrounding floor in a safe, clean and tidy state.

POTENTIAL HAZARDS AND INJURIES

- ⓘ Airborne dust.
- ⓘ Dry glaze ingredients.
- ⓘ Eye and hearing injuries (from nearby activities).
- ⓘ Back strain issues – use appropriate lifting strategies i.e., when placing kiln shelves, etc.
- ⓘ Kiln fumes – Do not spend un-necessary time around the kiln when it is in firing mode and ensure fume extraction and ventilation is fully operational.

DON'Ts

- ✗ Do not use operate equipment without wearing appropriate PPE.
- ✗ Do not use faulty equipment. Immediately report suspect equipment.
- ✗ Never leave the machine running unattended.

This SWP does not necessarily cover all possible hazards associated with this equipment and should be used in conjunction with other references. It is designed as a guide to be used to compliment training and as a reminder to users prior to equipment use.

This information is modified from Frontline Safety www.frontline.edu.au

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25.11.2023	Endorsement by Safety Com	R MacKenzie C de Groot B de Waard	Safety Com pending	Draft	0.5



Safe Operating Procedures

BACKGROUND INFORMATION & READING

FLOREAN GADSBY

How to Mix Pottery Glazes and How I Glaze Pots — Narrated Version

<https://www.youtube.com/watch?v=c-tbrBvgj6s&t=0s>

Please note glaze mixing is to be performed outside.

NATIONAL ASSOCIATION FOR THE VISUAL ARTS LTD

8. Occupational Health and Safety

<https://flyingarts.org.au/wp-content/uploads/NAVA-OHS.pdf>

SCHOOL OPERATIONS

Safety — Visual and Performing Arts

<https://www2.education.vic.gov.au/pal/safety-visual-and-performing-arts/procedure/3-controlling-identified-hazards>

BOXHILL INSTITUTE

OH&S Resources for Art and Design Students: Websites

<https://libguides.bhtafe.edu.au/c.php?g=762780&p=5469879>

NORTHCOTE POTTERY SUPPLIES

Safety Data Sheets

<https://www.northcotepottersupplies.com.au/safety-tips/safety-data-sheets/>

SAFER WORK PRACTICES IN THE STUDIO

Technical Tips

https://www.northcotepottersupplies.com.au/wp-content/uploads/NPS_Tips-sheet_01.pdf

SAFE WORK AUSTRALIA

Crystalline silica and silicosis

<https://www.safeworkaustralia.gov.au/safety-topic/hazards/crystalline-silica-and-silicosis>

CHOPRA

Art as Meditation: How Pottery Can Strengthen Your Mind-Body Connection

<https://chopra.com/articles/art-as-meditation-how-pottery-can-strengthen-your-mind-body-connection>

FITNESS TO OPERATE THE PUG MILL, POTTERY WHEEL AND KILN

Members are expected to refrain from operating equipment if they acknowledge their own level of physical ability inhibits them from doing so safely.

However, if assessors determine that a member has some level of physical impairment that makes it unsafe to use machines, they will have no option other than to assess the member as not having the capacity to do so safely.

LAKE MONGER COMMUNITY SHED



GENERAL RULES & TIPS

In addition to the generic safety aspects of the equipment, clays and glazes also present safety issues in particular disposal and dust considerations. These issues are captured in headings here below.

LMCS is NOT connected to deep sewage, therefore:

Clays and glazes must not be disposed of in the **left** sink; and

Glazes must not be disposed of in **either** sink.

The **right** sink contains a clay trap and therefore clays can be disposed of in that sink only.

COMMON OPERATIONS ON EQUIPMENT



Figure 1 Pottery wheels, note controls



Figure 2 Pugmill, observe spinning worm inside the feed-in area, do not interfere



Figure 3 The kilns, which must not be fired or opened without authorisation, until trained to do so.

CERAMICS HEALTH AND SAFETY

There has been concern in recent years regarding the possibility of risk to health arising from the use of certain ceramic materials.

The following guidelines are designed to promote a safe and healthy working environment.

Observance of the following will ensure safety when handling all pottery materials including plaster, clay and all glaze ingredients:

- Eating, smoking and drinking is not permitted in the pottery areas. Wash your hands thoroughly after each session.
- **It is best to prevent dust rather than attempt to control it.** The sanding of dry or fired clay is not permitted within the confines of the Shed. Care must always be taken to avoid the generation of airborne dust.

Dust hazards can be minimized by the following:

- Immediately clean up any spillage of glaze, slip etc
- Working surfaces, walls and floors should be thoroughly cleaned after use preferably by a wet method.
- Clean all equipment and utensils after use.
- Packages should be clearly labelled and securely closed to prevent particles being disturbed by draughts. They should be stored, opened and dispensed in a suitably ventilated area.
- Data sheets must be provided for all ingredients used in every glaze recipe.
- Each member must provide their own personal face mask (or P95's if deemed adequate) when mixing glazes or working with plaster.
- Eye injury – be aware position of the 'Eye wash facility' so in case of eye injury.
- Oral hygiene – no ceramic materials in or near the mouth i.e. unconsciously putting tools in the mouth.

LAKE MONGER COMMUNITY SHED



PROTECTIVE APPAREL

When working with clay it is essential that you protect yourself not only from the wet clay but also the products that you will use in conjunction with your clay. You should wear good, strong yet comfortable footwear. When working with powders or spraying liquids, it is recommended that you wear an approved dust mask, preferably one for toxic substances as it has a very fine filtering material. Rubber gloves are useful to protect your skin from powders and raw materials when making glazes.

Safety glasses or goggles are also a good item to have in your studio. They will protect your eyes from damage when handling powders.

GLOVES

For use when handling hot ware. Heat Resistant Kevlar Gloves are provided.

The following materials need particular care when handling: **barium carbonate, borax, silica, zinc oxide, antimony oxide, chromium oxide, copper carbonate, copper oxide, manganese dioxide, nickel oxide, lead bearing glazes and all on-glaze colours.**

Used packages should be carefully disposed of. With processes which cannot be controlled to eliminate dust, the following procedures are recommended:

- Protective clothing of a non-dust retentive type is recommended. Terylene overalls or coats are recommended when using dry materials and impervious garments or aprons with wet materials. They should be cleaned regularly.
- Wherever possible all dusty work, including the spraying of glazes and slips, should be done outside.
- Avoid mixing glazes during busy periods.

General Warning

Some of the materials could be poisonous if not used in the orthodox manner. The following materials have been classified as toxic. All packaging is labelled accordingly.

POISON S6 NOT TO BE TAKEN KEEP OUT OF THE REACH OF CHILDREN		S5 WARNING NOT TO BE TAKEN KEEP OUT OF THE REACH OF CHILDREN	
CODE	MATERIAL	CODE	MATERIAL
BA80	Barium Carbonate	BA130	Borax – Fine
		BA250	Copper Carbonate

Copper Compounds

When added to low lead solubility glazes, copper causes the solubility of the lead to be greatly increased, making the glaze unsuitable on vessels for use with foodstuffs and beverages.

Code	Raw Material
BA250	Copper Carbonate
BA260	Copper Oxide – Black

Lead Free Glazes are generally **all** food and drink safe.



Fritted Lead Glazes

Avoid the use of red and white lead in any glazes as it is a dangerous material. A frit is a type of glass. It is a combination of materials which are melted together to render them insoluble and resistant to acid attack. They are therefore a means of introducing certain materials into a glaze that would otherwise be toxic. Glazes based on lead bi-silicate frits produce a shiny, durable finish and give brightness and clarity of colour when used in conjunction with oxides, stains, slips, etc. Some types of glazes may release lead and other metallic compounds when attacked by certain acids, notably fruit juices, vinegar and alcohol. To reduce solubility to acceptable limits, use frits which have a very low lead solubility to meet health and safety requirements. However even a safe glaze can be made unsafe by even minor additions of certain materials, notably copper (see raw materials) or by firing them above the recommended temperatures. Some decorative glazes would fail a metal release test and should not be used on the inside surface area of utility ware.

Cadmium Selenium and Copper glazes fall into this category. To achieve bright and vivid results care should be taken with their application and firing as they are by nature more sensitive than other glazes.

Powder Code	Liquid Code	Glaze Name
ERR5185	ERG5185	Gold Lustre
EUC5131	ERC5131	Flambe Red
EUC5128	ERC5128	Bright Yellow

Note

Safe glazes must be applied and fired under conventional conditions for them to be safe. These glazes should not be ingested or used without gloves. The use of lead free glazes is strongly preferred but the decision must nevertheless rest finally with the potter in any instance where the ware is intended for use with foods or beverages, especially so in oven-to-table or cooking ware. If any doubts are felt about the glaze formulation, firing, the possibility of contamination or the addition of such materials as copper compounds then certainly the wiser choice would be to use only lead free glazes at least on the inside or any surfaces that may come in contact with food.

Silica

Silica is a glassy material that is the most important constituent of pottery glazes and is an integral part of clay and many pottery materials. It is a hazardous material and must be handled with care. People must be aware of the properties of silica.

Technical Name: Silica Flour

Chemical Name: Silicon Dioxide SiO₂

UN Number: Not Applicable

Ingredients: 96 – 100% Crystalline Silica

Risk Classifications

R20/R48 Harmful: Danger of serious damage to health by prolonged exposure through inhalation.

R36/R37 Irritating to eyes and respiratory system.

R43 May cause sensation by skin contact.

Safety

Long term exposure to respirable dust (silica) may cause lung disease e.g. Silicosis.

Respiratory protection must be to Australian Standard 1715/1716 and must be worn when handling or in close proximity.

Avoid dust contact with eyes. Safety glasses or face shield to Australian Standard 1337 must be worn at all times when handling or within close proximity.

LAKE MONGER COMMUNITY SHED



Safety Phrases

- S2 Keep out of reach of children.
- S22 Do not inhale dust.
- S36 Wear suitable protective clothing.
- S38 In case of insufficient ventilation, wear suitable respiratory protection.
- S39 Wear eye and face protection.
- S26 In case of contact with eyes, rinse immediately with plenty of potable water and seek medical advice.
- S46 If swallowed, seek medical assistance immediately and show physician the container or label.

For further information refer to Material Safety Data Sheets.

The following agency will assist you in the case of poisoning with any substance:

Australian Poisons Information Centre
24 Hour Service 13 11 26