

## SAFETY DATA SHEET

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Product:** Red Underglaze (Cone 06)  
**Product Use:** Ceramic decorating paint  
**Date Prepared:** Aug. 2 2017



**Manufacturer and Supplier:**  
The Pottery Supply House Limited  
1120 Speers Road  
Oakville, ON, Canada L6L 2X4  
Tel.: 1-800-465-8544  
Emergency Tel: Not Available

### SECTION 2. HAZARDS IDENTIFICATION



**Classification:**

Carcinogen Category 1A  
Specific Target Organ Toxicity – Repeated Exposure Category 1

**Warning:** May cause cancer by inhalation.

Causes damage to lungs through prolonged or repeated exposure by inhalation.

Do not breathe dust mist or fume.

In case of inadequate ventilation, wear respiratory protection.

Do not ingest.

**Emergency Overview:** Not acutely hazardous. Chronic exposure to respirable dusts or mists may cause lung disease.

### SECTION 3. COMPOSITION INFORMATION ON INGREDIENTS

Component	CAS#	Percentage	LD 50	LC 50
Crystalline silica (quartz)	14808-60-7	5 – 10	>22,500 mg/kg (Oral, Rat)	Not available
Frit <sup>1</sup>	65997-18-4	5 – 10	2000 mg/kg (Oral, rat)	Not available
Silicic acid, zirconium salt, cadmium pigment-encapsulated	102184-95-2	15 – 40	>2000 mg/kg (Oral, rat)	> 5.07 mg/L air (analytical)
Kaolin <sup>2</sup>	1332-58-7	3 – 7	Not available	Not available

1. Glass containing fused oxides of aluminum, boron, calcium, silicon and sodium. 2. Aluminum silicate mineral.

### SECTION 4. FIRST AID MEASURES

**Procedures Skin contact** (mechanical irritant): Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.

**Eye contact** (mechanical irritant): Wash immediately with plenty of water. If irritation persists, seek medical attention.

**Inhalation:** No specific first-aid is generally necessary since the adverse health effects associated with exposure to crystalline silica (quartz) result from chronic exposures.

**Ingestion:** Drink plenty of water. Do not induce vomiting. Consult a physician if necessary.

### SECTION 5. FIRE FIGHTING MEASURES

**Conditions of flammability:** Not flammable.

**Extinguishing media, means of extinction:** Product is not flammable, combustible or explosive. Use extinguishing media appropriate for surrounding fire.

**Hazardous combustion products:** Metal compounds. Oxides of carbon, sodium and irritating gases (<1%, total) may be liberated.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

**Procedures to be followed in case of leak or spill:** Discard any product, residue, disposable container or liner in compliance with regulatory requirements.

## SECTION 7. HANDLING AND STORAGE

**Handling procedures and equipment:** Avoid dust/mist formation. Do not breathe dust or mist. If spraying, use adequate exhaust ventilation. Keep airborne dust/mist concentrations below permissible exposure limits. In case of insufficient ventilation, wear a respirator approved for silica dust when spraying. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. To maintain protection from toxic cadmium, do not grind or mill this product. When firing, use adequate kiln ventilation.

**Storage:** No special requirement. To prevent possible container damage, keep from freezing.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure limits:** TWA (Ontario)

Crystalline silica (quartz)	0.1 mg/m <sup>3</sup> (respirable)
Frit	10 mg/m <sup>3</sup> (PNOS*)
Silicic acid, zirconium salt, cadmium pigment-encapsulated	5 mg/m <sup>3</sup> (zirconium compound, as Zr) 0.1 mg/m <sup>3</sup> (crystalline silica, respirable) 0.01mg/m <sup>3</sup> (cadmium compound, as Cd) 0.2 mg/m <sup>3</sup> (selenium compound, as Se)
Kaolin	2 mg/m <sup>3</sup>

\* PNOS: Particles (insoluble or poorly soluble) not otherwise specified

**Specific engineering controls to be used:** Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s). Ensure that eye washing facilities are nearby. If spraying, use a ventilated spray booth to minimize exposure to respirable mist. When firing, use adequate kiln ventilation.

**Personal protective equipment to be used:** In case of exposure to dust/mist, and in any case if such exposure is above regulatory limits (see above), wear a personal respirator.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid/solid suspension.

**Odour and appearance:** Opaque, red fluid with mild odour.

**Odour threshold:** Not available.

**Specific gravity:** Approximately 1.6.

**Vapour pressure:** Not available.

**Vapour density:** Not available.

**Evaporation rate:** Not available.

**Boiling point:** About 100°C for the liquid (water) portion. >1250°C for the solids portion.

**Freezing point:** About 0°C for the liquid (water) portion.

**Decomposition temperature:** Not available.

**PH:** Not available.

**Solubility:** Solids portion is insoluble in water.

**Partition coefficient:** Unavailable.

**Viscosity:** Not available

**Coefficient of water/oil distribution:** Not available.

**Flash point and method of determination:** Not applicable.

**Upper flammable limit:** Not applicable.

**Lower flammable limit:** Not applicable.

**Auto-ignition temperature:** Not applicable.

**Explosion data – sensitivity to mechanical impact:** Not explosive. Not sensitive.

**Explosion data – sensitivity to static discharge:** Not explosive. Not sensitive.

## SECTION 10. STABILITY AND REACTIVITY

**Reactivity:** Not reactive under normal use conditions.

**Chemical stability:** Stable under normal use conditions.

**Conditions to avoid:** Contact with powerful oxidizing agents may cause fires.

**Incompatible materials:** Powerful oxidizing such as fluorine, chlorine trifluoride, and oxygen difluoride.

**Hazardous decomposition products:** No decomposition if stored normally. Thermal decomposition can lead to release of irritating gases and vapors including oxides of carbon, nitrogen, and sulfur as well as toxic metal compounds.

**Possibility of Hazardous reactions:** Not under normal use conditions.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

**Route of entry Skin contact:** Prolonged skin contact may cause skin irritation.

**Skin absorption:** Not absorbed through the skin.

**Eye contact:** May cause abrasion of the cornea.

**Inhalation:** Contains about 7% crystalline silica. Chronic exposure may cause silicosis, cancer and other disorders. Dust or fumes from firing are irritating to the respiratory tract. The risk of exposure to respirable dust is low given that this product is typically applied by brush and contains a binder that reduces the risk of dusting when dry.

**Ingestion:** Not acutely hazardous. May cause gastrointestinal upset.

**Effects of acute exposure to product:** No effects expected.

**Effects of chronic exposure to product:** Excessive inhalation of fumes or dust may cause chemical pneumonitis, cyanosis, and pulmonary edema. Overexposure to cadmium may cause kidney damage through ingestion or inhalation, lung disease through inhalation, and bone disease if high levels are ingested. The cadmium compound in this product is encapsulated within acid-insoluble zircon. Respirable crystalline silica (quartz) can cause:

A. **SILICOSIS** The major concern is silicosis, caused by the inhalation and retention of respirable crystalline silica dust. Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. Symptoms, if present, are shortness of breath, wheezing, cough and sputum production and may be associated with decreased and disabling lung function and death. It may lead to heart disease secondary to the lung disease.

B. **CANCER IARC** - The International Agency for Research on Cancer ("IARC") concluded that there was "sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources"

C. **AUTOIMMUNE DISEASES** Several studies have reported excess cases of several autoimmune disorders, -- scleroderma, systemic lupus erythematosus, rheumatoid arthritis -- among silica-exposed workers.

D. **TUBERCULOSIS** Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to persons with tuberculosis.

E. **KIDNEY DISEASE** Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica-exposed workers.

F. **NON-MALIGNANT RESPIRATORY DISEASES** There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases including chronic bronchitis, emphysema and small airways disease, particularly among smokers.

**Irritancy of the product:** Not a likely irritant.

**Sensitization of the product:** No known effects.

**Carcinogenicity of the product:** Crystalline silica (quartz) inhaled from occupational sources is classified by IARC as carcinogenic to humans. Chronic overexposure to cadmium compounds may result in lung cancer, although a definite cause-effect relationship has not been fully established. Zircon contains trace quantities of naturally occurring radioactive uranium, thorium and radium (106-120 Pico curies/gram). Overexposure to respirable dusts containing radioactive uranium, thorium and radium may cause lung cancer.

**Teratogenicity:** No known effects.

**Mutagenicity:** No known effects.

**Name of toxicologically synergistic products:** None known.

**LD50:** Not established for this product. See Section 3 for information on ingredients.

**LC50:** Not established for this product. See Section 3 for information on ingredient

## **SECTION 12. ECOLOGICAL INFORMATION**

No data available for this product. No specific adverse effect known.

## **SECTION 13. DISPOSAL CONSIDERATIONS**

**Waste Disposal:** Waste must be disposed of in accordance with federal, provincial and local environmental control regulations. Where possible recycling is preferred to disposal or incineration.

#### **SECTION 14. TRANSPORT INFORMATION**

**Special shipping information:** None.

#### **SECTION 15. REGULATORY INFORMATION**

This product has been classified

**Carcinogen Category 1A**

**Specific Target Organ Toxicity – Repeated Exposure Category 1**

in accordance with the hazard criteria of WHMIS 2015 and the SDS contains all of the information required by those regulations.

#### **SECTION 16. OTHER INFORMATION**

This product contains a cadmium pigment encapsulated in zircon. Although the protective zircon coating is thermally very stable, resisting degradation when used under a wide range of high and low temperature glazes, it is not perfectly resistant to the solvent action of silicate melts nor is it equally resistant to all such melts. To be certain that decorated ware is food safe, metal release testing is necessary to establish that cadmium release levels are below legal limits.

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