

## SAFETY DATA SHEET

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Product:** Pumpernickel Glaze  
**Product Use:** A cone 6 ceramic glaze for use on porcelain and stoneware clay bodies.  
**Date Prepared:** February 17, 2015



**Manufacturer and Supplier:**  
The Pottery Supply House Limited  
1120 Speers Road  
Oakville, ON, Canada L6L 2X4  
Emergency Tel.: 1-800-465-8544

### SECTION 2. HAZARDS IDENTIFICATION

**Emergency Overview:** Individuals sensitive to cobalt compounds may experience respiratory irritation with possible obstruction of the airways. Chronic exposure to respirable mists or particulates may cause lung disease.

**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:** Chronic exposure may cause silicosis, cancer and other disorders. Dust or fumes from firing are irritating to the respiratory tract. Prolonged inhalation of dust or metal dust, and fume or mist containing cobalt may cause serious respiratory illness. May cause an irritation of respiratory organs of cobalt-sensitive persons resulting in obstruction of airways with shortness of breath.  
**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. Respirable crystalline silica (quartz) can cause:

- a. Silicosis, a fibrosis (scarring) of the lungs. Silicosis may be progressive; it may lead to disability and death.
- b. Lung Cancer: Crystalline silica (quartz) inhaled from occupational sources is classified by IARC as carcinogenic to humans.
- c. Tuberculosis: Silicosis increases the risk of tuberculosis.
- d. Autoimmune and Chronic Kidney Diseases.
- e. Non-Malignant Respiratory Diseases (other than silicosis).

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

**Sensitization of the product:** Prolonged and intimate skin contact with nickel oxide can cause an allergic skin rash in previously sensitized individuals. Compounds containing cobalt may cause allergic skin reaction.

**Carcinogenicity of the product:** Inhalation of respirable mists or dusts may cause cancer after prolonged exposure (crystalline silica). The IARC has concluded that nickel compounds are carcinogenic to humans through inhalation. Nickel oxide has caused tumors at the site of injection in rodents. Titanium dioxide is possibly carcinogenic to humans through inhalation (IARC classification Group 2B).

**Reproductive toxicity:** No known effects.

**Teratogenicity:** No known effects.

**Mutagenicity:** No known effects.

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

### SECTION 3. COMPOSITION INFORMATION ON INGREDIENTS

Component	CAS#	Percentage	LD 50	LC 50
Crystalline silica (quartz)	14808-60-7	3– 7	>22,500 mg/kg (Oral, Rat)	Not available
Frit <sup>1</sup>	65997-18-4	15 – 40	2000 mg/kg (Oral, rat)	Not available
Kaolin <sup>2</sup>	1332-58-7	5– 10	Not available	Not available
Titanium dioxide	13463-67-7	1 – 5	>10000 mg/kg Oral, Rat	Not Available
Nickel Oxide	1313-99-1	0.5 – 1.5	>5000 mg/kg Oral, Rat	Not Available
Glaze stain <sup>3</sup>	68187-40-6	0.1 – 1.0	1600 mg/kg (Oral, rat)	Not available

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

### SECTION 4. FIRST AID MEASURES

**Procedures Skin contact:** Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. Cleanse wounds thoroughly to remove any particles. If symptoms persist, call a physician.

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

**Inhalation:** Move to fresh air and seek medical attention as required.

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

### SECTION 5. FIRE FIGHTING MEASURES

**Conditions of flammability:** Not flammable.

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

**Upper flammable limit:** Not applicable.

**Lower 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.

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

**Hazardous combustion products:** Metal compounds.

### 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. 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)

Frit	10 mg/m <sup>3</sup> (PNOS*)
Crystalline silica (quartz)	0.1 mg/m <sup>3</sup> (respirable)
Kaolin	2 mg/m <sup>3</sup>
Titanium dioxide	10 mg/m <sup>3</sup>
Nickel Oxide	0.2 mg/m <sup>3</sup> (insoluble nickel compound)
Glaze stain (olivine)	.02 mg/m <sup>3</sup> (inorganic cobalt compound)

\* 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, pale grey 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.

**PH:** Not available.

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

## SECTION 10. STABILITY AND REACTIVITY

**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. Silica will dissolve in hydrofluoric acid and produce the corrosive gas silicon tetrafluoride (SiF<sub>4</sub>). 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:** Unlikely in normal use.

## SECTION 11. TOXICOLOGICAL INFORMATION

**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 ingredients.

The method of exposure that can lead to the adverse health effects described below is inhalation.

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.

## **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 D2A in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

## **SECTION 16. OTHER INFORMATION**

**Preparation information:** Prepared by Jon Walls.

**Contact information:** Jon Walls.

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