



# Material Safety Data Sheet

Material Name: P-25-P

ID: PM-0640

## \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

**Chemical Name:** Ceramic Powder

**Chemical Family:** Ceramic Product

**Manufacturer Information**

PEMCO CORPORATION

5601 Eastern Avenue

Baltimore, MD 21224-2791

Phone: (410) 633-9550

Emergency # CHEMTREC: 1-800-424-9300

NOTE: CHEMTREC telephone number is to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

## \*\*\* Section 2 - Composition / Information on Ingredients \*\*\*

CAS #	Component	Percent
12136-45-7	Potassium oxide	Proprietary
1344-28-1	Aluminum oxide	Proprietary
1313-59-3	Sodium oxide	Proprietary
1303-86-2	Boron oxide	Proprietary
7631-86-9	Silicon dioxide, amorphous	Proprietary

### Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Aluminum (7429-90-5).

### Component Information/Information on Non-Hazardous Components

Frits (CAS# 65997-18-4) are a mixture of inorganic compounds that are melted together, rapidly cooled to produce flakes and may then be milled to form powders. This product contains the above hazardous components, however due to the essentially insoluble nature of this substance, the availability and hazards of the ingredients are greatly diminished.

## \*\*\* Section 3 - Hazards Identification \*\*\*

### Emergency Overview

This is a non-combustible, non-reactive solid material. It is supplied in the form of a glass powder or glass flake. Exposure to dust may be irritating to eyes, nose, and throat. At very high exposure levels the dust may have an effect on the lungs. Upon inhalation of dusts or fumes, the metallic oxides in this product may dissolve out and become biologically available, however, this process is expected to occur very slowly. Combustion products can include irritating and toxic fumes, gases and metallic oxides. Exposure to dusts may cause allergic skin and lung sensitization reactions.

### Hazard Statements

May be irritating to the eyes, skin and respiratory tract. May be harmful if swallowed or inhaled. May cause allergic skin and lung sensitization reactions.

### Potential Health Effects: Eyes

Dust or powder containing the metal oxides in this product may irritate eye tissue. Rubbing may cause abrasion of cornea. Symptoms can include irritation, redness, scratching of the cornea, and tearing.

### Potential Health Effects: Skin

Dust or powder containing the metal oxides in this product may irritate or abrade the skin. Mechanical rubbing may increase skin irritation. Prolonged or repeated contact may cause allergic skin reactions.



# Material Safety Data Sheet

**Material Name: P-25-P**

**ID: PM-0640**

**Potential Health Effects: Ingestion**

Dust or powder containing the metal oxides in this product may cause temporary irritation of the throat, stomach, and gastrointestinal tract. Upon ingestion, the ingredients can dissolve out of the product, however, this is anticipated to occur very slowly.

**Potential Health Effects: Inhalation**

Dusts of this product may cause irritation of the nose, throat, and respiratory tract. Upon inhalation of dusts or fumes, the metallic oxides in this product may dissolve out and become biologically available, however, this process is expected to occur very slowly. Repeated inhalation of dusts may produce allergic asthma-like sensitization reactions.

**HMIS Ratings: Health: 2\* Fire: 0 Reactivity: 0 Pers. Prot.:** safety glasses, work gloves

**Hazard Scale:** 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

**\*\*\* Section 4 - First Aid Measures \*\*\***

**First Aid: Eyes**

Flush immediately with water for at least 15 minutes. Do not rub eyes. Eye injuries from glass particles should be treated by a physician immediately.

**First Aid: Skin**

Cuts or abrasions should be treated promptly with thorough cleansing of the affected area. Seek medical attention if irritation develops or persists.

**First Aid: Ingestion**

Seek medical attention if material is ingested.

**First Aid: Inhalation**

Move person to non-contaminated air. Call a physician if symptoms persist.

**First Aid: Notes to Physician**

None.

**\*\*\* Section 5 - Fire Fighting Measures \*\*\***

**Flash Point:** Not applicable

**Upper Flammable Limit (UFL):** Not applicable

**Auto Ignition:** Not applicable

**Rate of Burning:** Not applicable

**General Fire Hazards**

This material will not burn.

**Hazardous Combustion Products**

If heated to excess temperatures, this material will proceed to a liquid and will form irritating and toxic gaseous metallic oxides at extremely high temperatures.

**Extinguishing Media**

Use methods for the surrounding fire.

**Fire Fighting Equipment/Instructions**

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

**NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0 Other: None**

**Hazard Scale:** 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**\*\*\* Section 6 - Accidental Release Measures \*\*\***

**Containment Procedures**

None necessary.

**Method Used:** Not applicable

**Lower Flammable Limit (LFL):** Not applicable

**Flammability Classification:** Non-flammable



# Material Safety Data Sheet

**Material Name: P-25-P**

**ID: PM-0640**

## Clean-Up Procedures

Collect spill using a vacuum cleaner with a HEPA filter. Place in a closed container. Clean-up personnel should wear suitable protective equipment.

## Evacuation Procedures

None necessary.

## Special Procedures

Regulations vary. Clean up and dispose of waste in accordance with all federal, state, and local environmental regulations.

## \* \* \* Section 7 - Handling and Storage \* \* \*

### Handling Procedures

Avoid inhalation of dusts. Avoid contact with skin and eyes. Prevent the buildup of dusts from this product. Wash thoroughly after handling. Keep container closed and dry.

### Storage Procedures

Store in a closed container in a cool, dry area.

## \* \* \* Section 8 - Exposure Controls / Personal Protection \* \* \*

### Exposure Guidelines

#### A: General Product Information

The OSHA air contaminants exposure limits (PELs) are those provided in the 1989 update to 29 CFR 1910.1000. These limits were vacated by OSHA and may not be enforceable.

#### B: Component Exposure Limits

##### Silicon dioxide, amorphous (7631-86-9)

NIOSH: 6 mg/m<sup>3</sup> TWA

##### Boron oxide (1303-86-2)

ACGIH: 10 mg/m<sup>3</sup> TWA

OSHA: 10 mg/m<sup>3</sup> TWA (total dust)

NIOSH: 10 mg/m<sup>3</sup> TWA

##### Aluminum oxide (1344-28-1)

ACGIH: 10 mg/m<sup>3</sup> TWA (as Al, particulate matter containing no asbestos and < 1% crystalline silica)

OSHA: 10 mg/m<sup>3</sup> TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)

NIOSH: 10 mg/m<sup>3</sup> TWA (total); 5 mg/m<sup>3</sup> TWA (respirable dust); 5 mg/m<sup>3</sup> TWA (pyro powders and welding fumes) (related to Aluminum)

### Engineering Controls

Ventilation should be sufficient to prevent the buildup of airborne dusts and particulates from this product.

### PERSONAL PROTECTIVE EQUIPMENT

#### Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields.

#### Personal Protective Equipment: Skin

Wear leather or other appropriate work gloves, if necessary for type of operation.

#### Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively keep dust concentrations below established limits, appropriate NIOSH/MSHA approved respiratory protection must be provided.

#### Personal Protective Equipment: General

Use good hygiene practices when handling this material including changing and laundering work clothing after use.

## \* \* \* Section 9 - Physical & Chemical Properties \* \* \*



# Material Safety Data Sheet

**Material Name: P-25-P**

**ID: PM-0640**

**Appearance:** Glass powder  
**Physical State:** Solid  
**Vapor Pressure:** Not available  
**Boiling Point:** Not available  
**Solubility (H<sub>2</sub>O):** Not available  
**Softening Point:** Not available

**Odor:** None  
**pH:** Not available  
**Vapor Density:** Not available  
**Melting Point:** Not available  
**Specific Gravity:** Not available

**Physical Properties: Additional Information**  
No information available.

## \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

**Chemical Stability**  
Stable.

**Chemical Stability: Conditions to Avoid**  
None identified.

**Incompatibility**  
None identified.

**Hazardous Decomposition**  
At very high temperatures irritating and toxic gaseous metallic oxides can be formed.

**Hazardous Polymerization**  
Will not occur.

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute Toxicity

#### A: General Product Information

No information available. As supplied, the metallic elements in this product have limited bioavailability, however upon ingestion or inhalation, these elements may slowly dissolve out. The potential health effects for these metallic elements are as follows:

Silicon dioxide (amorphous) dust seems to have little adverse effect on lungs and does not appear to produce significant organic disease or toxic effects when exposures are kept under reasonable control.

Ingestion of boron in humans can cause gastrointestinal effects. There are also reports of effects of boron on the liver and kidney.

Aluminum metal accumulation has been shown to cause bone disease, lung disease and respiratory distress. Inhalation of aluminum oxide seems to present only the hazards of nuisance dusts including irritation of the respiratory tract, however, concentrations of aluminum in the blood and urine may be elevated.

#### B: Component Analysis - LD<sub>50</sub>/LC<sub>50</sub>

##### Boron oxide (1303-86-2)

Oral LD<sub>50</sub> Mouse: 3163 mg/kg

### Carcinogenicity

#### A: General Product Information

No information available.

#### B: Component Carcinogenicity

##### Silicon dioxide, amorphous (7631-86-9)

IARC: Monograph 68, 1997 (Group 3 (not classifiable))

##### Aluminum oxide (1344-28-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen



# Material Safety Data Sheet

**Material Name: P-25-P**

**ID: PM-0640**

**Epidemiology**

No information available.

**Neurotoxicity**

Some reports of neurological effects due to boron (ingested by infants as boric acid) have been reported.

**Mutagenicity**

No information available.

**Teratogenicity**

Chronic ingestion of boron has been reported to cause male and female reproductive damage in experimental animals.

**Other Toxicological Information**

Under normal conditions of use for glass products, the likelihood of inhaling or ingesting amounts necessary for these effects to occur is very small. Persons with preexisting eye and skin conditions or impaired pulmonary function may be more susceptible to this product. Silicon dioxide (amorphous) dust seems to have little adverse effect on lungs and does not appear to produce significant organic disease or toxic effects when exposures are kept under reasonable control.

**\*\*\* Section 12 - Ecological Information \*\*\***

**Ecotoxicity**

No information available.

**Environmental Fate**

No information available.

**\*\*\* Section 13 - Disposal Considerations \*\*\***

**US EPA Waste Number & Descriptions**

**A: General Product Information**

You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

**B: Component Waste Numbers**

No EPA Waste Numbers are applicable for this product's components.

**Disposal Instructions**

Waste must be handled in accordance with all applicable regulations. Glass products may be recycled.

**\*\*\* Section 14 - Transportation Information \*\*\***

**US DOT Information**

**Shipping Name:** Not regulated as dangerous goods.

**Hazard Class:** None

**UN/NA #:** None

**Packing Group:** None

**Required Label(s):** None

**Additional Info.:** None

**International Transportation Regulations**

This product is not regulated as a hazardous material by the United States (DOT) or Canadian (TDG) transportation regulations.

**\*\*\* Section 15 - Regulatory Information \*\*\***

**US Federal Regulations**

**A: General Product Information**

No additional information.



# Material Safety Data Sheet

**Material Name: P-25-P**

**ID: PM-0640**

**B: Component Analysis**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Aluminum oxide (1344-28-1)**

SARA 313: form R reporting required for 1.0% de minimis concentration (fibrous form only)

**State Regulations**

**A: General Product Information**

Other state regulations may apply. Check individual state requirements.

**B: Component Analysis - State**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Silicon dioxide, amorphous	7631-86-9	Yes	Yes	Yes	Yes	Yes	Yes
Boron oxide	1303-86-2	Yes	Yes	Yes	Yes	Yes	Yes
Aluminum oxide (¹related to Aluminum metal and oxide) (²related to Aluminum)	1344-28-1	Yes¹	Yes²	Yes	Yes	Yes	Yes
Potassium oxide	12136-45-7	No	No	No	No	Yes	No

**Other Regulations**

**A: General Product Information**

None identified.

**B: Component Analysis - Inventory**

Component	CAS #	TSCA	DSL	EINECS
Silicon dioxide, amorphous	7631-86-9	Yes	Yes	Yes
Boron oxide	1303-86-2	Yes	Yes	Yes
Sodium oxide	1313-59-3	Yes	Yes	Yes
Aluminum oxide	1344-28-1	Yes	Yes	Yes
Potassium oxide	12136-45-7	Yes	Yes	Yes

**C: Component Analysis - WHMIS IDL**

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Silicon dioxide, amorphous	7631-86-9	1%; English Item 1403; French Item 1488
Boron oxide	1303-86-2	1%; English Item 205; French Item 228
Aluminum oxide	1344-28-1	1%; English Item 44; French Item 195

**\*\*\* Section 16 - Other Information \*\*\***

**Other Information**

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of PEMCO Corporation. The data on this sheet relates only to the specific material designated herein. PEMCO Corporation assumes no legal responsibility for use or reliance upon these data.



## Material Safety Data Sheet

**Material Name: P-25-P**

**ID: PM-0640**

**Key/Legend**

EPA = U.S. Environmental Protection Agency. CERCLA = Comprehensive Environmental Response, Compensation and Liability Act. SARA = Superfund Amendment Reauthorization Act. ACGIH = American Conference of Governmental Industrial Hygienists. TLV = Threshold Limit Value. NIOSH = National Institute of Occupational Safety and Health. NTP = National Toxicology Program. OSHA = Occupational Safety and Health Administration. NFPA = National Fire Protection Association. HMIS = Hazardous Material Information System. CFR = Code of Federal Regulations.

**Contact:** H.E.S. Manager

**Contact Phone:** (410) 633-9550

This is the end of MSDS # PM-0640