

# MATERIAL SAFETY DATA SHEET

## for Portland Cement



Effective Date: August 2001

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### 1. PRODUCT/COMPANY IDENTIFICATION

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**Manufacturer's Name & Address:**

Titan Florida  
11000 NW 121 Way  
Medley, FL 33178

**Trade Name:**

Portland Cement

**Chemical Name and Synonyms**

Gypsum Hydraulic cement, portland cement silicate.

**Telephone Number for Information:**

**1.800.458.4250**

**Emergency Telephone:**

**1.800.965.9896**

**Department of Transportation Identification No.:**

None

\*Composition varies, may contains crystalline silica

### 2. COMPOSITION INFORMATION

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**Major Compounds**

<u>Chemical Name</u>	<u>CAS Registry Number</u>	<u>% in this cement product</u>
Portland Cement*	65997-15-1	95
Gypsum (calcium sulfate)	13397-24-5	5
* May contain crystalline silica	14808-60-7	> .1

### 3. PHYSICAL/CHEMICAL CHARACTERISTICS

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Boiling Point	N/A
Specific Gravity (H <sub>2</sub> O = 1)	3.15
Vapor Pressure (mm Hg)	N/A
Melting Point	N/A
Vapor Density (AIR-1)	N/A
Evaporation Rate	N/A
Solubility in Water	Slightly soluble (0.1 to 1.0 %)
pH (in water) (ASTM D 1293-95)	12 to 13
Appearance & Odor	White or grey powder; no odor

### 4. FIRE AND EXPLOSION HAZARD DATA

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Flash Point	N/A
Extinguishing Media	N/A
Special Fire Fighting Procedures	None
Unusual Fire & Explosion Hazards:	None
Flammable Limits	N/A
LEL	N/A
UEL	N/A

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## 5. REACTIVITY DATA

- Stability:** Stable. Avoid unintentional contact with water and incompatible materials.
- Incompatibility:** Wet portland cement is alkaline. It is incompatible with acids, ammonium salts and aluminum metal.
- Hazardous Decomposition or Byproducts:** Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide. Respirable dust particles may occur from handling dry material.
- Hazardous Polymerization:** Will not occur. No conditions to avoid.

## 6. HEALTH HAZARD DATA AND FIRST AID

### EXPOSURE LIMITS:

Unless specified otherwise, limits are expressed as a time-weighted average (TWA) concentration for an 8-hour work shift of a 40-hour workweek. Limits for cristobalite and tridymite (other forms of crystalline silica) are equal to one-half the limits for quartz.

### ABBREVIATIONS:

- ACGIH TLV:** Threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH).
- mg/m<sup>3</sup>:** Milligrams of substance per cubic meter of air.
- NIOSH REL:** Recommended exposure limit of the National Institute for Occupational Safety and Health (NIOSH), expressed as a TWA concentration for up to a 10-hour work-day during a 40-hour workweek.
- OSHA PEL:** Permissible exposure limit of the federal Occupational Safety and Health Administration (OSHA).

**Portland Cement:** OSHA PEL (respirable fraction) 5 mg/m<sup>3</sup>, (total dust) 15 mg/m<sup>3</sup>, ACGIH TLV (total dust) 10 mg/m<sup>3</sup>, NIOSH REL (respirable) 5 mg/m<sup>3</sup> (total) 10 mg/m<sup>3</sup>.

**Gypsum (Calcium sulfate):** OSHA PELs (respirable fraction) 5 mg/m<sup>3</sup>, (total dust) 15 mg/m<sup>3</sup>, ACGIH TLV (total dust) 10mg/m<sup>3</sup>.

**Crystalline Silica SiO<sub>2</sub>:** OSHA PELs (respirable fraction)  $[10 \text{ mg/m}^3 \div (\% \text{ SiO}_2+2)]$ , (total dust)  $[30 \text{ mg/m}^3 \div (\% \text{ SiO}_2+2)]$ , ACGIH TLV (respirable fraction) 0.05 mg/m<sup>3</sup>; NIOSH REL (respirable fraction) 0.05 mg/m<sup>3</sup>.

**Other Particulates:** OSHA PEL (total particulate, not otherwise regulated) 15 mg/m<sup>3</sup>, (respirable particulate, not otherwise regulated) 5 mg/m<sup>3</sup>, ACGIH TLV (nuisance particulates ) 10 mg/m<sup>3</sup> (inhalable); 5 mg/m<sup>3</sup> (respirable).

### HEALTH HAZARDS:

#### Primary Route(s) of Entry:

- Inhalation:** Yes
- Skin:** Yes
- Ingestion:** No

#### Acute:

- Eye Contact:** Direct contact with dust may cause irritation. Direct contact by larger amounts of dry powder or splashes of wet portland cement may cause effects ranging from moderate eye irritation to chemical burns and blindness.
- Skin Contact:** Exposure to dry portland cement may cause drying of the skin with consequent mild irritation. Dry portland cement contacting wet skin or exposure to moist or wet portland cement may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns. Some individuals may exhibit an allergic response upon exposure to portland cement, possibly due to trace amounts of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers.

**Skin Absorption:** Not expected to be a significant exposure route.

- Ingestion:** Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are consumed. Portland cement should not be ingested.
- Inhalation:** Dusts may irritate the nose, throat, and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure limits.

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## Chronic:

**Inhalation:** Chronic exposure to respirable dust in excess of appropriate exposure limits may cause lung disease. Silicosis may result from excessive exposure to respirable silica dust for prolonged periods. Not all individuals with silicosis will exhibit symptoms. Silicosis is progressive and symptoms can appear at any time, even after exposure has ceased. Symptoms may include shortness of breath, coughing, or right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Tobacco smoking may increase the risk of developing lung disorders, including emphysema and lung cancer.

**Carcinogenicity:** Portland cement is not listed as a carcinogen by the National Toxicology Program (NTP), OSHA or the International Agency for Research on Cancer (IARC). It may, however, contain trace amounts of substances listed as carcinogens by these organizations. Crystalline silica, a potential trace level contaminant in Portland cement, is classified by the IARC as a carcinogenic to humans (Group 1). The NTP has characterized respirable silica as "known to be a human carcinogen". Prolonged and repeated breathing of silica may cause lung cancer.

## Signs & Symptoms

**of Exposure:** Irritation of eyes, skin and/or respiratory system.

## Medical Conditions

### Generally

### Aggravated

**by Exposure:** Inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions such as emphysema or asthma and may aggravate existing skin and/or eye conditions.

## EMERGENCY & FIRST AID PROCEDURES:

**Eyes:** Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

**Skin:** Wash skin with cool water and pH-neutral soap or mild detergent intended for use on skin. Seek medical treatment in all cases of prolonged direct exposure to wet cement, cement mixtures, liquids from fresh cement products, or prolonged wet skin exposure to dry cement.

**Ingestion:** Do not induce vomiting. If person is conscious, give large quantity of water. Get immediate medical attention.

**Inhalation:** Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

## 7. PERSONAL PROTECTION AND CONTROL MEASURES

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**Ventilation:** Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.

**Other:** Respirable dust and silica levels should be monitored regularly. Dust and silica levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) ventilation, process enclosure, and enclosed employee work stations.

### Respiratory

**Protection:** When dust or silica levels exceed or are likely to exceed appropriate exposure limits, follow MSHA or OSHA regulations, as appropriate, for use of NIOSH-approved respiratory protection equipment.

**Skin Protection:** Protective gloves, shoes and protective clothing that are impervious to water should be worn to avoid contact with skin.

**Eye Protection:** Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessive (visible) dust conditions are present or anticipated. Contact lenses should not be worn when working with this product.

**Hygiene:** Periodically wash exposed skin with a pH-neutral soap. Wash again before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use. If clothing becomes saturated with wet cement, it should be removed and replaced with clean, dry clothing.

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## 8. STORAGE AND HANDLING PRECAUTIONS

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Respirable silica and dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section VII of the MSDS should be applied as appropriate.

Keep portland cement dry until used.

Do not store or handle near food and beverages or smoking materials.

## 9. SPILL, LEAK AND DISPOSAL PRACTICES

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The personal protection and controls identified in Section VII of the MSDS should be applied as appropriate.

**Steps to Be Taken if Material Is Released or Spilled:** Use dry clean-up methods which do not disperse dust into the air. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment. Scrape up wet material and place in an appropriate container. Allow the material to "dry" before disposal.

**Waste Disposal Method:** Do not attempt to wash portland cement down drains. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

NOTICE: Based on research of available data, Titan Florida believes that the information contained in this Material Safety Data Sheet is accurate. The suggested procedures are based on data and experience as of the date of preparation of the MSDS. The suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements. Titan Florida's voluntary preparation of this MSDS should not be construed, in any way, as an agreement to be subject to MSHA/OSHA jurisdiction, as applicable.