



ROYAL WHITE CEMENT

## **Royal White Cement, INC.**

**8316 East Freeway  
Houston, TX 77029  
Tel: 1-866-W-CEMENT  
Fax: 713-676-1081**

**White Portland Cement  
MATERIAL SAFETY DATA SHEET**

**Section 1 – IDENTIFICATION**

**Product Name:** White Portland cement (Portland cement, Hydraulic Cement).

**Supplier/Manufacturer:** ROYAL WHITE CEMENT, INC. 8316 East Freeway Houston, TX 77029, USA.

**Telephone Number for Information:** 1-866-WCEMENT (8:30 a.m. - 5:00 p.m.) Central.

**Fax Number:** 713-676-1081.

**Emergency Number:** 832-452-4500.

**Section 2 – COMPONENTS**

Name	CAS#	OSHA PEL (8-Hour TWA)	ACGIH TLV-TWA	MSHA PEL
Portland Cement	65997-15-1	5 mg respirable dust/m <sup>3</sup> 15 mg total dust/m <sup>3</sup>	10 mg total dust/m <sup>3</sup>	10 mg total dust/m <sup>3</sup>
Calcium sulfate	7778-18-9	5 mg respirable dust/m <sup>3</sup> 15 mg total dust/m <sup>3</sup>	10 mg total dust/m <sup>3</sup>	
Magnesium Oxide	1309-48-4	15 mg total dust/m <sup>3</sup>	10 mg total dust/m <sup>3</sup>	
Crystalline silica	14808-60-7	10/(% SiO <sub>2</sub> + 2) mg of respirable dust/m <sup>3</sup> 30/(% SiO <sub>2</sub> + 2) mg of total dust/m <sup>3</sup>	0.10 mg respirable quartz/m <sup>3</sup>	10/(% SiO <sub>2</sub> + 2) mg of respirable dust/m <sup>3</sup> 30/(% SiO <sub>2</sub> + 2) mg of total dust/m <sup>3</sup>

**ACGIH:** American Conference of Governmental Industrial Hygienists.

**TLV:** Threshold Limit Value.

**TWA:** Time Weighted Average.

**MSHA:** Mine Safety and Health Administration.

**OSHA:** Occupational Safety and Health Administration.

**PEL:** Permissible Exposure Limit.

**CAS:** Chemical Abstract Service.

**Section 3 – HAZARDS IDENTIFICATION/TOXICOLOGICAL INFORMATION**

**Potential Health Effects: NOTE:** Potential health effects may vary depending upon the duration and degree of exposure. To reduce or eliminate health hazards associated with this product, use exposure controls or personal protection methods as described in Section 14.

**Eye Contact: (Acute/Chronic)** Exposure to airborne dust may cause immediate or delayed irritation or inflammation of the cornea. Eye 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: (Acute)** Exposure to dry Portland cement may cause drying of the skin with consequent mild irritation or more significant effects attributable to aggravation of other conditions. Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure.

**(Chronic)** Dry Portland cement coming in contact with wet skin or exposure to 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 chemical (caustic) burns.

**(Acute/Chronic)** Some individuals may exhibit an allergic response upon exposure to Portland cement. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers.

**Inhalation: (Acute)** Exposure to Portland cement may cause irritation to the moist mucous membranes of the nose, throat and upper respiratory system. Pre-existing upper respiratory and lung diseases may be aggravated by inhalation of Portland cement.

**(Chronic)** Inhalation exposure to free crystalline silica may cause delayed lung injury including silicosis, a disabling and potentially fatal lung disease, and/or cause or aggravate other lung diseases or conditions.

**Ingestion: (Acute/Chronic)** Internal discomfort or ill effects are possible if large quantities are swallowed.

**Carcinogenic Potential:** Portland cement is not recognized as a carcinogen by NTP, OSHA, or IARC. However, it may contain trace amounts of heavy metals recognized as carcinogens by these organizations. In addition, IARC classifies crystalline silica, a trace constituent, as a known human carcinogen (Group I). NTP has characterized respirable silica as "reasonably anticipated to be a carcinogen." (See also Section 13.)

## Section 4 – FIRST AID

**Emergency Information:** White Portland cement is a light white powder. It has no odor. Inhalation may cause irritation to the moist mucous, membranes of the nose, throat and upper respiratory system. Inhalation may cause certain lung disease. When in contact with moisture in eyes or on skin, Portland cement becomes highly caustic and will damage or burn the skin or eyes. Use exposure control protection methods which are described in section 13.

**Eyes:** Flush immediately eye thoroughly with clean water. Continue flushing eye for at least 15 minutes, including under lids to remove all particles. Consult a physician immediately if irritation persists.

**Skin:** Wash affected areas with neutral soap and clean, cool water for at least 15 minutes. For reddened or blistered skin, consult a physician immediately.

**Inhalation:** Remove exposed person to fresh air and support breathing as needed. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician immediately if irritation persists. Inhalation of large amounts of Portland cement requires immediate medical attention. Consult a physician immediately.

**Ingestion:** If the material is ingested, have the conscious person drink plenty of water or milk. Never give anything by mouth to an unconscious or convulsing person. Consult a physician immediately.

## Section 5 – FIRE & EXPLOSION DATA

Fire & Explosion Data	
Flash Point	None
Lower Explosive Limit	None
Upper Explosive Limit	None
Auto Ignition Temperature	Not combustible
Extinguishing Media	Not combustible
Special Fire Fighting Procedures	None*
Hazardous Combustion Products	None
Unusual Fire and Explosion Hazards	None

\* (Although Portland cement poses no fire-related hazards, a self-contained breathing apparatus is recommended to limit exposure to combustion products when fighting any fire.)

## Section 6 – ACCIDENTAL RELEASE MEASURES

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment as described in Section 8. Scrape up wet material and place in an appropriate container. Allow the material to “dry” before disposal. Do not attempt to wash Portland cement down drains. Dispose of waste material according to local, state and federal regulations.

## Section 7 – HANDLING AND STORAGE

**Handling and Storage:** Keep dry until used. Handle and store in a manner so that airborne dust does not exceed applicable exposure limits. Use adequate ventilation and dust collection. Use exposure control and personal protection methods as described in Section 8.

**Spill:** Use dry clean-up methods that do not disperse dust into the air or entry into surface water. Material can be used if not contaminated. Place in an appropriate container for disposal or use. Avoid inhalation of dust and contact with skin and eyes. Use exposure control and personal protection methods as described in Section 8.

## Section 8 – EXPOSURE CONTROL/PERSONAL PROTECTION

**Respiratory Protection:** Use local exhaust or general dilution ventilation to control dust levels below applicable exposure limits. Minimize dispersal of dust into the air. If local or general ventilation is not adequate to control dust levels below applicable exposure limits or when dust causes irritation or discomfort, use MSHA/NIOSH approved respirators.

**Eye Protection:** Wear safety glasses with side shields or goggles to avoid contact with the eyes. In extremely dusty environments and unpredictable environments, wear tight-fitting unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when handling cement or cement containing products.

**Skin Protection:** Wear impervious abrasion- and alkali-resistant gloves, boots, long-sleeved shirt, long pants or other protective clothing to prevent skin contact. Promptly remove clothing dusty with dry Portland cement or clothing dampened with moisture mixed with Portland cement, and launder before re-use. If contact occurs, wash areas contacted by material with pH neutral soap and water.

## Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical And Chemical Properties	
Appearance	Gray, White and colored powder
Odor	No distinct odor
Physical state	Solid (powder)
pH (in water)(ASTM D 1293-95)	12 to 13
Solubility in water	Slightly soluble (0.1 to 1.0%)
Vapor pressure	Not applicable
Vapor density	Not applicable
Boiling point	Not applicable (i.e. > 1000_C)
Melting point	Not applicable
Specific gravity	(H2O = 1.0) 3.15
Evaporation rate	Not applicable

## Section 10 – STABILITY AND REACTIVITY

**Stability:** Product is stable. Keep dry until used.

**Conditions To Avoid:** Unintentional contact with water. Contact with water will result in hydration and produces (caustic) calcium hydroxide.

**Incompatibility:** Wet Portland cement is alkaline. As such, it is incompatible with acids, ammonium salts and aluminum metal.

**Hazardous Decomposition:** Will not occur.

**Hazardous Polymerization:** Will not occur.

## Section 11 – TOXICOLOGICAL INFORMATION

### Information on toxicological effects

**Acute toxicity:** Portland Cement LD50/LC50 = Not available

**Irritation/Corrosion:** Skin: May cause skin irritation. May cause serious burns in the presence of moisture.

Eyes: Causes serious eye damage. May cause burns in the presence of Moisture.

Respiratory: May cause respiratory tract irritation.

**Sensitization:** May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

**Mutagenicity:** There are no data available.

**Carcinogenicity:** **May cause Cancer (inhalation)**

**Reproductive toxicity:** There are no data available.

**Teratogenicity:** There are no data available.

### Specific target organ toxicity (single exposure)

Aspiration hazard: There are no data available.

Information on the likely routes of exposure

Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential acute health effects:** Eye contact: Causes serious eye damage.

Inhalation: May cause respiratory irritation.

Skin contact: Causes severe burns. May cause an allergic skin reaction.

Ingestion: May cause burns to mouth, throat and stomach.

### Symptoms related to the physical and chemical and toxicological characteristics.

**Eye contact:** Adverse symptoms may include the following: pain, watering, redness

**Inhalation:** Adverse symptoms may include the following: respiratory tract irritation, coughing

**Skin contact:** Adverse symptoms may include the following: pain or irritation, redness

**Ingestion:** Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

Potential immediate effects: No known significant effects or critical hazards.

Potential delayed effects: No known significant effects or critical hazards.

#### Long term exposure

Potential immediate effects: No known significant effects or critical hazards.

Potential delayed effects: No known significant effects or critical hazards.

**Potential chronic health effects:** General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity:** Portland cement is not classifiable as a human carcinogen. Crystalline silica is considered a hazard by inhalation. IARC has classified crystalline silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to crystalline silica can cause silicosis, a non-cancerous lung disease.

**Mutagenicity:** No known significant effects or critical hazards.

**Teratogenicity:** No known significant effects or critical hazards.

**Developmental effects:** No known significant effects or critical hazards.

**Fertility effects:** No known significant effects or critical hazards.

**Numerical measures of toxicity:** Acute toxicity estimates: There are no data available.

#### LD50 and LC50 Data

##### Quartz (14808-60-7)

LD50 Oral Rat > 5000 mg/kg

LD50 Dermal Rat > 5000 mg/kg

##### Calcium oxide (1305-78-8)

LD50 Oral Rat > 2000 mg/kg

LD50 Dermal Rabbit > 2500 mg/kg

##### Quartz (14808-60-7)

IARC Group 1

National Toxicology Program (NTP) Status Known Human Carcinogens

## Section 12 – ECOLOGICAL INFORMATION

**Ecotoxicity:** No recognized unusual toxicity to plants or animals.

**Relevant Physical and Chemical Properties** (See Section 9).

## Section 13 – DISPOSAL

Comply with all applicable local, state and federal regulations for disposal of unusable or contaminated materials. Dispose of packaging/containers according to local, state and federal regulations.

## Section 14 – TRANSPORTATION DATA

**Hazardous Materials Description/Proper Shipping Name:** Portland cement is not hazardous under U.S. Department of Transportation (DOT) or TDG regulations.

## Section 15 – OTHER REGULATORY INFORMATION

**Status under the Federal Hazardous Substances Act:** Portland cement is a hazardous substance subject to statutes promulgated under the subject act.

**Status under TSCA (as of May 1997):** Some substances in Portland cement are on the TSCA inventory list \*\*

**Status under US OSHA Hazard Communication Rule 29 CFR 1910.1200:** Portland cement is considered a hazardous chemical under this regulation and should be included in the employer's hazard communication program.

\*\* Cement is made from materials mined from the earth, some trace chemicals not listed may be detected during chemical analysis. Cement may also contain traces of calcium oxide, magnesium oxide, potassium and sodium sulfate compounds, nickel compounds and other trace elements.

**Section 16 – OTHER INFORMATION/ABBREVIATIONS**

**Prepared By:** ROYAL WHITE CEMENT, INC. - 8316 East Freeway - Houston, TX 77029

**ACGIH:** American Conference of Governmental Industrial Hygienists.

**ASTM:** American Society for Testing and Materials.

**CAS:** Chemical Abstract Service.

**CERCLA:** Comprehensive Environmental Response, Compensation and Liability Act.

**CFR:** Code of Federal Regulations.

**ft<sup>3</sup>:** Cubic foot.

**IARC:** International Agency for Research on Cancer.

**m<sup>3</sup>:** Cubic meter.

**mg:** Milligram.

**MSHA:** Mine Safety and Health Administration.

**NIOSH:** National Institute for Occupational Safety and Health.

**NTP:** National Toxicology Program.

**OSHA:** Occupational Safety and Health Administration.

**PEL:** Permissible Exposure Limit.

**REL:** Recommended Exposure Limit.

**SARA:** Superfund Amendments and Reauthorization Act.

**TDG:** Transportation of Dangerous Goods.

**TLV:** Threshold Limit Value.

**TSCA:** Toxic Substance Control Act.

**TWA:** Time Weighted Average.

**WHMIS:** Workplace Hazardous Materials Information System.

This MSDS provides information on various types of Portland cement products. A particular product's composition may vary from sample to sample. The information provided herein is believed by Royal White Cement Company to be accurate at the time of preparation or prepared from sources believed to be reliable. Health and safety precautions in this data sheet may not be adequate for all individuals or situations. Users have the responsibility to comply with all laws and procedures applicable to the safe handling and use of the product, to determine the suitability of the product for its intended use, and to understand possible hazards associated with mixing Portland cement with other materials. **SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY ROYAL WHITE CEMENT COMPANY.**

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