



MSDS CERTIFICATE

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1. Product and Company Identification

Material Identity (Synonyms):

White Portland cement (Portland cement, Hydraulic Cement)

Supplier Name & Address:

Royal White Cement, Inc.
8316 East Freeway.
Houston, Texas 77029
USA

Telephone Number for Information:

1-866-WCEMENT (8:30 a.m. - 5:00 p.m.) Central

Fax Number: 713-676-1081 Emergency#: 832-452-4500

2. Emergency and 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 9.

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 any thing by mouth to an unconscious or convulsing person. Consult a physician immediately.

3. Hazardous Ingredients/Identity

Hazardous Components	OSHA PEL (8-Hour TWA)	ACGIH TLV-TWA	MSHA PEL
Portland Cement (CAS #65997-15-1) 100%	5 mg respirable dust/m ³ 15 mg total dust/m ³	10 mg total dust/m ³	10 mg total dust/m ³
Calcium Sulfate (CAS #7778-18-9) [Gypsum] 5 to 7%	5 mg respirable dust/m ³ 15 mg total dust/m ³	10 mg total dust/m ³	
Magnesium Oxide (CAS #1309-48-4) 0.5 to 2%	15 mg total dust/m ³	10 mg total dust/m ³	
Crystalline Silica (CAS #14808-60-7) 0 to 0.05%	10/(% SiO ₂ + 2) mg of respirable dust/m ³ 30/(% SiO ₂ + 2) mg of total dust/m ³	0.10 mg respirable quartz/m ³	10/(% SiO ₂ + 2) mg of respirable dust/m ³ 30/(% SiO ₂ + 2) mg of total dust/m ³

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

4. Physical and Chemical Characteristics

<u>APPEARANCE/ODOR:</u>	Gray, white or colored powder, odorless	<u>PHYSICAL STATE:</u>	Solid (Powder)
<u>BOILING POINT:</u>	> 1000fC	<u>MELTING POINT:</u>	Not applicable
<u>VAPOR PRESSURE:</u>	Not applicable	<u>VAPOR DENSITY:</u>	Not applicable
<u>pH (IN WATER) (ASTM D 1293-95)</u>	12 to 13	<u>SOLUBILITY IN WATER:</u>	Slightly soluble (0.1% to 1.0%)
<u>SPECIFIC GRAVITY (H₂O = 1.0):</u>	3.15	<u>EVAPORATION RATE:</u>	Not applicable

5. Health Hazard Identification

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 10.

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 1). NTP has characterized respirable silica as "reasonably anticipated to be a carcinogen." (See also Section 13.)

6. Precautions for Handling, Storage and Disposal

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 9.

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 9.

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.

7. Fire and Explosion

FLASH POINT: Not Combustible

LOWER EXPLOSIVE LIMIT: None

UPPER EXPLOSIVE LIMIT: None

FLAMMABLE LIMITS: Not Applicable

EXTINGUISHING MEDIA: Not Combustible

HAZARDOUS COMBUSTION PRODUCTS: None

SPECIAL FIRE FIGHTING PROCEDURES: Be Aware of runoff from fire control methods. Do not release material or waterways, as product reacts with water and hardness within 1 to 6 hours. Hardened material may clog sewers and waterways

8. Stability and Reactivity Data

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.

9. Exposure Controls and 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.

10. Transportation Information

Portland cement is not hazardous under U.S. DOT or TDG regulations.

11. 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.

12. Other Information

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.

13. Abbreviations

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

ft³: Cubic foot

IARC: International Agency for Research on Cancer

m³: 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

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