



ROYAL WHITE CEMENT

Royal White Cement, INC.

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Houston, TX 77029

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Grey Portland Cement Type I-II

SAFETY DATA SHEET

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

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Date of issue: 06/01/2006 Revision date: 08/19/2016

Section 1 – IDENTIFICATION OF MATERIAL

GHS PRODUCT IDENTIFIER: Grey Portland cement Type I-II (Portland cement, Hydraulic Cement).

USE OF MATERIAL: Cement Mixes, Mortars, Concrete

SUPPLIER OF SDS: ROYAL WHITE CEMENT, INC. 8316 East Freeway Houston, TX 77029, USA

TELEPHONE NUMBER: 713-676-0000

EMERGENCY TELEPHONE NUMBER: 832-452-4500 | Website: www.royalwhitecement.com

Section 2 – HAZARDS IDENTIFICATION/TOXICOLOGICAL INFORMATION

OSHA/HCS Status: This material is considered hazardous by the OSHA Hazard Communication Standard 29 CFR 1910.1200

GHS-US Hazard Classification: SKIN CORROSION/IRRITATION – Category 1A
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1
SKIN SENSITIZATION – Category 1
CARCINOGENICITY – Category 1A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(RESPIRATORY TRACT IRRITATION) – Category 3

Signal Word (GHS-US)	Danger
Hazard Statement (GHS-US)	Exposure may cause skin drying, dermal irritation, severe burns, respiratory sensitivity, internal discomfort if swallowed, eye burns, inflammation of the cornea and it may contain elements known to cause cancer.

GHS-US Labeling
Hazard Pictograms (GHS-US)



GHS05



GHS07



GHS08

Precautionary Statements

Prevention: Keep out of the reach of children. Wear eye, face protection and protective gloves at all times. Use only outdoors or in a well ventilated area, avoid breathing dust. Wash hands thoroughly after handling. Long term exposure to wet or dry cement may cause chemical burns.

Response: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty soap and water. Take off contaminated clothing. If skin irritation or rash occurs: get medical attention. Symptoms of allergic reactions may include reddening of the skin, rash, and irritation. Drying, thickening, and cracking of the skin and nails may also occur. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Exposure to dust may cause immediate or delayed irritation or inflammation. Eye contact by larger amount of dry power or splashes of wet Masonry cement may cause effects ranging from moderate eye irritation to chemical burns or blindness. Immediately call a POISON CENTER or physician. IF INGESTED: Irritating to mouth, throat and stomach. Ingestion of large quantities may cause severe irritation and chemical burns of the mouth, throat, stomach and digestive tract. Do not ingest Masonry cement. Get immediate medical attention.
See Sections 4 and 7 for more information.



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Storage: Keep containers tightly close in a dry and well ventilated area.

Disposal: Dispose of content and container according with all local, state and federal regulations

Hazards not otherwise classified: Not applicable

Section 3 – COMPONENTS

Substance: Mixture
Other means of identification: Portland cement, cement, hydraulic cement.

Name	Product Identifier	%*	GHS-US Classification
Cement, portland, chemicals	CAS # 6597-15-1	100%	Skin Irritation 2, H315 Eye Damage 1, H318 Skin Sensitivity 1, H317 STOT SE 3, H335
Portland cement's structure may contain the following in some concentration ranges			
Calcium oxide	CAS # 1305-78-8	≤ 5	Acute Toxicity 4 (Oral), H302 Skin Irritation 2, H315 Eye Damage 1, H318 STOT SE 3, H335
Quartz	CAS # 14808-60-7	≤ 3	Acute Toxicity. 4 (Oral), H302 Carcinogenicity 1A, H350 STOT RE 1, H372
Hexavalent Chromium**	CAS # 18450-29-9	Trace	
The elements below though part of the cement matrix, are not classified as hazards under Title 29 CFR 1910.1200, and they are not required to be listed in this section			
Gypsum	CAS # 7778-18-9	2 - 10	Not classified
Magnesium oxide	CAS # 1309-48-4	0 - 4	Not classified
Limestone	CAS # 1317-65-3	≤ 5	Not classified

** All the concentrations shown as range may be protected as secrets or due to process variations.

** Hexavalent Chromium is included because it may be present in trace amounts, and it is associated to dermal sensitivity.

Section 4 – FIRST AID MEASURES

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, and 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 8.

Eyes: Immediately thoroughly flush eyes with clean water. Continue flushing eyes for at least 15 minutes, including under lids to remove all particles. Consult a physician immediately. Remove contact lenses.

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



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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. **DO NOT INDUCE VOMITING.** Consult a physician immediately.

Most important symptoms/effects, acute and delayed 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.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following: pain, watering and redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion: Adverse symptoms may include the following: stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments: Not applicable.
Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Section 5 – FIRE & EXPLOSION DATA

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: Do not use water jet or water-based fire extinguishers.

Specific hazards arising from the chemical: No specific fire or explosion hazard.

Hazardous thermal decomposition products: Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides

Special protective actions for fire-fighters: Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.



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Section 6 – ACCIDENTAL RELEASE MEASURES

Spill: Use dry clean-up methods that do not disperse dust into the air or entry into surface water. 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.

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. Keep out of reach of children.

Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Quartz (14808-60-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	(30)/(%SiO ₂ + 2) mg/m ³ TWA, total dust (250)/(%SiO ₂ + 5) mppcf TWA, respirable fraction (10)/(%SiO ₂ + 2) mg/m ³ TWA, respirable fraction
Calcium Oxide (1305-78-8)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
Limestone (1317-65-3)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ TWA, total dust 5 mg/m ³ TWA, respirable fraction
Cement, Portland, chemicals (65997-15-1)		
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³ TWA, respirable fraction
Calcium Sulfate, gypsum		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ TWA, total dust 5 mg/m ³ TWA, respirable fraction
Magnesium Oxide (1309-48-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ TWA

Exposure Controls

Appropriate Engineering Controls: Use adequate ventilation to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand Protection: Wear suitable gloves



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- 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 and Body 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.
- Respiratory protection:** A NIOSH approved dust mas or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2)
- Environmental Exposure Controls:** Maintain levels below Community environmental protection thresholds.
- Other Information:** Handle according to established industrial safety practices.

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
Relative Density	2.9 – 3.1
Explosive Limits	Not applicable
Viscosity	Not applicable
Oxidizing properties	Not applicable
VOC content	Not applicable
Viscosity	Not Applicable

Section 10 – STABILITY AND REACTIVITY

Reactivity:	No dangerous reactions known under normal use. Reacts slowly with water forming hydrate compounds, releasing heat and producing a strong alkali solution until the reactions is substantially complete.
Chemical Stability:	Product is stable. Keep dry until used.
Possibility of Hazardous reaction:	No dangerous reactions known under normal use. Do not mix with or expose to other chemicals.
Conditions To Avoid:	Unintentional contact with water. Contact with water will result in hydration and produces (caustic) calcium hydroxide.
Incompatibility:	Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Masonry cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.
Hazardous Decomposition Products:	None Known

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)

Product / Ingredient Name	OSHA	IARC	ACGIH	NTP
Cement, Portland, chemicals	----	----	A4	----
Quartz	----	1	A2	Known to be a human carcinogen

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

Specific target organ toxicity (single exposure)

Product / Ingredient Name	Category	Route of Exposure	Target Organs
Calcium Oxide	Category 3	Inhalation and skin contact	Respiratory tract irritation, skin irritation
Cement, Portland, chemicals	Category 3	Inhalation and skin contact	Respiratory tract irritation, skin irritation

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Specific target organ toxicity (repeated exposure)

Product / Ingredient Name	Category	Route of Exposure	Target Organs
Quartz	Category 1	Inhalation	Respiratory tract and kidneys

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 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.



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Toxicity

- Ecology – General:** No recognized unusual toxicity to plants or animals. Do not flush to sewer or allow to enter waterways
- Persistency and degradability:** There are no data available
- Bioaccumulative potential:** There are no data available
- Mobility in soil:** There are no data available
- Other adverse effect:** There are no data available

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 – TRANSPORT INFORMATION

	DOT Classification	IMDG	IATA
UN Number	Not regulated	Not regulated	Not regulated
UN Proper shipping name	----	----	----
Transport hazard class(es)	----	----	----
Packing group	----	----	----
Environmental hazards	None	None	None
Additional information	----	----	----

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

US Federal Regulations

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.

United States inventory (TSCA 8b): Portland cements are considered to be statutory mixtures under TSCA. CAS 65997-15-1 is included on the TSCA inventory.

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

** 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.

Quartz (14808-60-7): Listed on the United States TSCA (Toxic Substances Control Act) inventory
Calcium Oxide (1305-78-8): Listed on the United States TSCA (Toxic Substances Control Act) inventory
Limestone (1317-65-3): Listed on the United States TSCA (Toxic Substances Control Act) inventory
Magnesium Oxide (1309-48-4): Listed on the United States TSCA (Toxic Substances Control Act) inventory

US Proposition 65 list: Quartz



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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.

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.

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.

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