Royal White Cement, INC

8316 East Freeway
Houston, TX 77029
Tel: 1-866-W-CEMENT

CALCIUM ALUMINATE CEMENT

(CAC)

MATERIAL SAFETY DATA SHEET

Section 1 – IDENTIFICATION

Product Name: CAC Cement.

Chemical Name: Calcium Aluminate Cement.

Chemical Family: Calcium Compounds with aluminum, iron, sulfur and silica oxides make up the majority of this product.

Major compounds		CAS#
CaO (40% to 50%)	Calcium Oxide or lime	1305-78-8
Al_2O_3 (15% to 40%)	Aluminum Oxide or alumina	1344-28-1
SO_3 (15% to 25%)	Sulfate crystals	10043-01-3
4CaO_Al2O3_Fe2O3	Tetracalcium aluminoferrite	12068-35-8
CaSO4_2H2O	Calcium sulfate dihydrate or Gypsum	7778-18-9
CaCO3	Calcium carbonate or limestone	1317-65-3

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

Emergency Contact Information:
Safety Director: 713-676-0000 EXT. 104
Quality Control Manager: 713-676-0000 EXT. 104

Section 2 – COMPONENTS

Name	Components
Silica Sand (Quartz) (CAS #14808-60-7)	0.4%
ACGIH TLV-TWA (1995-1996)	0.10 mg respirable quartz dust/m^3
OSHA PEL-TWA	(15 mg total dust/m^3)/(% SiO_2 + 2)
OSHA PEL-TWA	(5 mg respirable dust/m^3)/(% SiO_2 + 2)
NIOSH PEL-TWA	0.05 mg respirable quartz dust/m^3

Trace Elements: CAC Cement is made from materials mined from the earth and processed using energy provided by the burning of fuels. CAC Cement functions as a catalyst in the rapid hardening process of Concrete. Trace amounts of naturally occurring; potentially harmful chemicals might be detected during chemical analysis. Trace constituents may include, but not necessarily limited to, magnesium, potassium, and sodium oxides.

Section 3 – HAZARDS IDENTIFICATION/TOXICOLOGICAL INFORMATION

Emergency Overview: CAC Cement is a gray powder that poses little immediate hazard. A single short-term exposure to the dry powder is not likely to cause serious harm. However, exposure of sufficient duration to wet cement can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns, including third degree burns. The same type of tissue destruction can occur if wet or moist areas of the body are exposed for sufficient duration to dry cement products.

Potential Health Effects:

- **Relevant Routes of Exposure:** Eye contact, skin contact, inhalation, and ingestion.

- **Effects resulting from eye contact:** Exposure to airborne dust may cause immediate or delayed irritation or inflammation. Eye contact by larger amounts of dry powder or splashes of wet cement may cause effects ranging from moderate eye irritation to chemical burns and blindness. Such exposures require immediate first aid (see Section 4) and medical attention.

- **Effects resulting from skin contact:** The most effective means of avoiding skin injury or illness involves minimizing skin contact, particularly contact with wet cement. Exposed persons may not feel discomfort until hours after the exposure has ended and significant injury has occurred.
  Exposure to dry cement may cause drying of the skin with consequent mild irritation or more significant effects attributable to aggravation of other conditions. Dry CAC Cement in prolonged contact with wet skin or prolonged exposure to moist or wet cement may cause more severe skin effects including thickening, cracking, fissuring of the skin, or severe skin damage in the form of (caustic) chemical burns.
  Some individuals may exhibit an allergic response upon exposure to CAC 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. Persons already sensitized may react to their first contact with the product. Other persons may experience a delayed effect after years of contact with cementitious products.

- **Effects resulting from inhalation:** Mild exposure to CAC Cement may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system. It may also leave unpleasant deposits in the nose. CAC Cement contains free crystalline silica. Prolonged exposure to respirable free crystalline silica may aggravate other lung conditions. It may also cause delayed lung injury, including silicosis, cancer, tuberculosis, and/or other diseases.

- **Effects resulting from ingestion:** Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are consumed. CAC Cement should not be ingested.

- **Carcinogenic potential:** Cement is not listed as a carcinogen by NTP, OSHA, or IARC. It does however; contain amounts of substances, such as crystalline silica, listed as carcinogens by these organizations.

- **Medical conditions which may be aggravated by inhalation or dermal exposure:** Pre-existing upper respiratory and lung diseases.

Section 4 – FIRST AID

Eyes: Immediately flush eyes thoroughly with water. Continue flushing eyes for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

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

Inhalation of Airborne Dust: Remove to fresh air. Seek medical help if coughing and other symptoms do not subside. (Inhalation of gross amounts of masonry cement requires immediate medical attention.)

Ingestion: Do not induce vomiting. If conscious, have the victim drink plenty of water and call 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 CAC 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 masonry cement down drains. Dispose of waste material according to local, state and federal regulations.

Section 7 – HANDLING AND STORAGE

Keep cement dry until used. Normal temperature and pressure do not affect the materials.
Promptly remove dusty clothing or clothing which is wet with cement fluids and launder before reuse.
Wash thoroughly after exposure to dust or wet cement mixture or fluids.

Section 8 – EXPOSURE CONTROL/PERSONAL PROTECTION

Skin Protection: Prevention is essential to avoiding potential skin injury. Avoid contact with unhardened (wet) cement products. If contact occurs, promptly wash affected area with soap and water. Where prolonged exposure to unhardened cement products might occur, wear impervious clothing and gloves to eliminate skin contact. Where required, wear boots that are impervious to water to eliminate foot and ankle exposure.

Do not rely on barrier creams; barrier creams should not be used in place of gloves.

Periodically wash areas contacted by dry cement or by wet cement or concrete fluids with a pH neutral soap. If irritation occurs, immediately wash the affected area and seek treatment, as appropriate. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

Respiratory Protection: Avoid actions that cause dust to become airborne. Use local or general ventilation to control exposures below applicable exposure limits. Use NIOSH/MSHA-approved respirators in poorly ventilated areas when dust causes discomfort or irritation, or where there is an applicable exposure limit (Advisory: Respirators and filters purchased after July 10, 1998 must be certified under 42 CFR 84).
Ventilation: Use local exhaust or general dilution ventilation to control exposure below applicable limits.

Eye Protection: When engaged in activities where cement dust or wet cement or concrete could contact the eye, wear safety glasses with side shields or goggles. In extremely dusty environments and unpredictable environments,

wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with masonry cement or fresh cement products.

Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical And Chemical Properties	
Appearance	Gray or White 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 (H20 = 1.0)	2.75 to 3.00
Evaporation rate	Not applicable

Section 10 – STABILITY AND REACTIVITY

Stability: Stable.
Conditions To Avoid: Unintentional contact with water.
Incompatibility: Wet masonry cement is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.
Hazardous Decomposition: Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide.
Hazardous Polymerization: Will not occur.

Section 12 – ECOLOGICAL INFORMATION

Ecotoxicity: No recognized unusual toxicity to plants or animals.
Relevant Physical and Chemical Properties (See Sections 9 and 10)

Section 13 – TOXICOLOGICAL INFORMATION

For a description of available, more detailed toxicological information, contact the supplier of the manufacturer.

Section 14 – DISPOSAL

Dispose of waste material, including bags, according to local, state, and federal regulations. (Since dry cement is stable, uncontaminated material may be saved for future use.)

Section 14 – TRANSPORTATION DATA

Hazardous Materials Description/Proper Shipping Name: CAC cement is not hazardous under U.S. Department of Transportation (DOT) regulations.
Hazard Class: Not applicable.
Identification Number: Not applicable.

Required Label Text: Not applicable.
Hazardous Substances/Reportable Quantities (RO): Not applicable.

Section 15 – OTHER REGULATORY INFORMATION

Status Under USDOL-OSHA Hazard Communication Rule 29 CFR 1910.1200: CAC Cement may contain hazardous chemicals identified under this regulation, and should be incorporated.

Hazard Category Under SARA (Title III) Section 311 and 312: CAC Cement qualifies as a "hazardous substance" with delayed health effects.

Status Under TSCA (as of May 1997): CAC Cement may contain certain substances identified under the TSCA inventory list, and should be incorporated as appropriate.

Status Under the Federal Hazardous Substances Act: CAC Cement may contain certain constituents that may be defined as a "hazardous substance" subject to statutes promulgated under the subject act.

Status Under WHMIS: CAC Cement is considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products regulations (class E - corrosive material) and is therefore subject to the labeling and SDS requirements of the workplace hazardous materials information system (WHMIS).

California Proposition 65: CAC Cement contains Silica and Chromium (hexavalent compounds) that are known by the State of California to cause cancer and birth defects or other reproductive harm.

Section 16 – OTHER INFORMATION

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

Revision Date: June 10, 2013.

Date of previous SDS: June 1, 2012.

Other Important Information: CAC Cement should only be used by knowledgeable persons. A key to using the product safely requires the user to recognize that cement chemically reacts with water, and that some of the intermediate products of this reaction (that is, those present while the cement product is "setting") pose a far greater hazard than dry cement.
While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of CAC Cement as it is commonly used, the sheet cannot anticipate and provide the all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.
In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with CAC Cement. Users should review other relevant material safety data sheets before working with this cement or working on CAC Cement products.

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