

MATERIAL SAFETY DATA SHEET (MSDS)
FOR
CSA CEMENT

SECTION I - IDENTIFICATION

Manufacturer

Heartland Cement Sales Company
An Affiliate of Buzzi Unicem USA Inc.
100 Brodhead Road, Suite 230
Bethlehem, PA 18017

Emergency Contact

(610) 882-5000
Main Office

Chemical Name and/or Synonyms

Crystal Modified Cementitious Accelerator

Product Name/Synonyms

CSA CEMENT

Chemical Family

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

Major Compounds

CaO (40% to 50%)	Calcium Oxide or lime	CAS #1305-78-8
Al ₂ O ₃ (15% to 25%)	Aluminum Oxide or alumina	CAS #1344-28-1
SO ₃ (15% to 25%)	Sulfate crystals	CAS #10043-01-3
SiO ₂ (5% to 10%)	Crystalline Silica or quartz	CAS #14808-60-7
Fe ₂ O ₃ (1% to 5%)	Ferric Oxide	CAS #1309-37-1

SECTION 2 - COMPONENTS

Hazardous Ingredients

Silica Sand (Quartz) (CAS #14808-60-7) - 0.4%

ACGIH TLV-TWA (1995-1996) = 0.10 mg respirable quartz dust/m³

OSHA PEL-TWA = (30 mg total dust/m³)/(% SiO₂ + 2)

OSHA PEL-TWA = (10 mg respirable dust/m³)/(% SiO₂ + 2)

NIOSH PEL-TWA = 0.05 mg respirable quartz dust/m³

Trace Elements

CSA Cement is made from materials mined from the earth and processed using energy provided by the burning of fuels. CSA 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

Emergency Overview

CSA 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 CSA 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 CSA 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 CSA 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.

CSA 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. CSA 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 eye 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 exposure to dry cement.

Inhalation of Airborne Dust

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside.

Ingestion

Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

SECTION 5 - FIRE & EXPLOSION DATA

Flash point [<i>provide method used</i>]	None
Lower Explosive Limit.....	None
Upper Explosive Limit	None
Auto ignition temperature.....	Not combustible
Extinguishing media.....	Not combustible
Special firefighting procedures.....	None. (Although CSA Cement poses no fire-related hazards, a self-contained breathing apparatus is recommended to limit exposure to combustion products when fighting any fire.)
Hazardous combustion products.....	None
Unusual fire and explosion hazards.....	None

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 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 temperatures and pressures do not affect the material.

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 mixtures 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 (under 30 CFR 11) or NIOSH-approved (under 42 CFR 84) respirators in poorly ventilated areas, if an applicable exposure limit may be exceeded, or when dust causes discomfort or irritation. (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 within 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 environments with the potential for significant, and/or unpredictable amounts of airborne Portland cement, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with cement or fresh cement products.

SECTION 9 - 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 (H ₂ O - 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 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 11 - TOXICOLOGICAL INFORMATION

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

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 - DISPOSAL

Dispose of waste material 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

CSA 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

Cement may contain hazardous chemicals identified under this regulation, and should be incorporated as appropriate.

Hazard Category under SARA (Title III), Sections 311 and 312

Cement qualifies as a “hazardous substance” with delayed health effects.

Status under TSCA (as of May 1997)

Cement may contain certain substances identified under the TSCA inventory list, and should be incorporated as appropriate.

Status under the Federal Hazardous Substances Act

Cement may contain certain constituents that may be defined as a “hazardous substance” subject to statutes promulgated under the subject act.

Status under WHMIS

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 MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS).

California Proposition 65

This 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

Revision date

June 10, 2013

Date of previous MSDS

June 1, 2012

Other important information

CSA 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 CSA 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 CSA Cement. Users should review other relevant material safety data sheets before working with this cement or working on CSA Cement products.

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