



CEMENT & CONCRETE PRODUCTS™

C2: Portland Cement Based Concrete Products

SAFETY DATA SHEET

(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30305

Emergency Telephone Number
(770) 216-9580
Information Telephone Number
(770) 216-9580

SDS C2
Revision: Feb-16

QUIKRETE® Product Name	Item #(s)
Shotcrete	1228
Shotcrete – Coarse Wet Process	1228-56
Shotcrete – Fine Wet Process	1228-57
Shotcrete MS – Coarse Wet Process	1228-58
Shotcrete MS – Fine Wet Process	1228-59
Shotcrete MS	1229
Shotcrete MS Coarse	1229-88
Fibercrete	1009-00
Superstick Special Grade I	NR861375
Shotcrete MS w/CI (Corrosion Inhibitor)	NR86045

Product Use: Machine-applied Portland cement-based repair material.

SECTION II - HAZARD IDENTIFICATION

Hazard-determining components of labeling: Silica, Portland cement

2.1 Classification of the substance or mixture

Carcinogen – Category 1A

Skin Corrosion – Category 1B

Skin Sensitization – Category 1B

Specific Target Organ Toxicity Repeat Exposure – Category 1

Specific Target Organ Toxicity: Single Exposure – Category 3

2.2a Signal word DANGER!

2.2b Hazard Statements

May cause cancer through chronic inhalation

**CEMENT & CONCRETE PRODUCTS™**

Causes severe skin burns and serious eye damage
May cause an allergic skin reaction
Causes damage to lungs through prolonged or repeated inhalation
May cause respiratory irritation

2.2c Pictograms**2.2d Precautionary statements**

Do not handle until all safety precautions have been read and understood.
Wear impervious gloves, such as nitrile. Wear eye protection, and protective clothing.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Use only in a well-ventilated area.
Do not breathe dust.

If swallowed: Rinse mouth. Do NOT induce vomiting.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin (or hair): Remove immediately all contaminated clothing and wash before re-use. Rinse skin or hair with water.
If significant skin irritation or rash occurs: get medical advice or attention.

Immediately seek medical advice or attention if symptoms are significant or persist.

Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/containers in accordance with all regulations.

2.3 Additional Information

The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water.

**CEMENT & CONCRETE PRODUCTS™**

If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr(VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

2.3a HNOC – Hazards not otherwise classified: Not applicable

2.3b Unknown Acute Toxicity: None

2.3C WHMIS Classification

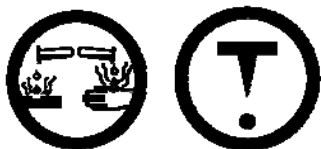
Class D2B – Skin/Eye Irritant

Class D2A – Chronic Toxic Effects – Carcinogen

Class E – Corrosive Material

2.3d Label Elements According To WHMIS

Hazard Symbols



Signal Word

DANGER!

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION



CEMENT & CONCRETE PRODUCTS™

Hazardous Components	CAS No.	% by Weight
Sand, Silica, Quartz	14808-60-7	40-70*
Portland Cement	65997 15 1	10-30*
Amorphous Silica	07631-86-9	5-10*

*The concentrations ranges are provided due to batch-to-batch variability.
None of the constituents of this material are of unknown toxicity.

SECTION IV – FIRST AID MEASURES

4.1 Description of the first-aid measures

General information:

After inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Wash skin with cool water and pH-neutral soap or a mild detergent. If significant skin irritation or rash occurs: get medical advice or attention. Precautions must be observed because burns occur with little warning -- little heat is sensed.

After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

**CEMENT & CONCRETE PRODUCTS™**

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr(VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treatment needed:

Immediately seek medical advice or attention if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

5.1 Flammability of the Product: Non-flammable and non-combustible

5.2 Suitable extinguishing agents: Treat for surrounding material

5.3 Special hazards arising from the substance or mixture: None

5.3a Products of Combustion: None

5.3b Explosion Hazards in Presence of Various Substances: Non-explosive in presence of shocks

SECTION VI – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and material for containment and cleaning up:

Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

7.1 Handling



CEMENT & CONCRETE PRODUCTS™

Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8). Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

7.2 Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep out of the reach of children. Keep container tightly closed and prevent exposure to humidity. Do not allow water to contact the product until time of use to preserve product utility.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M ³	TLV (ACGIH) mg/M ³
Silica Sand, crystalline	14808-60-7	0.1	0.025 (resp)
Portland Cement	65997-15-1	5 (resp) 15 (total)	10 (resp)
Amorphous Silica	07631-86-9	80 / %SiO ₂	6 (TWA)

8.2 Exposure Controls

Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

8.3a Personal protective equipment

Protection of hands:

Wear gloves of adequate length to offer appropriate skin protection from splashes. Nitrile, Butyl and PVC gloves have been found to offer adequate protection for incidental contact. Precautions must be observed because burns occur with little warning -- little heat is sensed.

Eye protection:

Wear approved eye protection (properly fitted dust- or splash-proof chemical safety glasses).



CEMENT & CONCRETE PRODUCTS™

Respiratory protection:

A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by 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).

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

General Information

Appearance	Form: Granular Solid Color: Gray to gray-brown colored Odor: None
pH-value at 20°C (68 °F):	13 (10%)
Boiling point/Boiling range:	Not applicable
Flash point:	Not applicable
Auto igniting:	Product is not self-igniting
Vapor pressure at 21°C (70°F)	Not available
Density at 25°C (77 °F):	2.6 to 3.15

Solubility in / Miscibility with

Water:	Insoluble
VOC content:	0 g/L VOC

SECTION X – STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal storage conditions. Keep in dry storage.

10.3 Possibility of hazardous reaction

No dangerous reaction known under conditions of normal use.

10.4 Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

10.5 Incompatible materials

Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

10.6 Hazardous Decomposition or By-products

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

SECTION XI – TOXICOLOGICAL INFORMATION

11.1 Exposure Routes: Skin contact, skin adsorption, eye contact, inhalation, or ingestion.

**CEMENT & CONCRETE PRODUCTS™****11.2 Symptoms related to physical/chemical/toxicological characteristics:**

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause sensitization by skin contact. Product becomes extremely alkaline when exposed to moisture, and can cause alkali burns and affect the mucous membranes.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: Harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

11.3 Delayed, immediate and chronic effects of short-term and long-term exposure**Short Term**

Skin Corrosion/Irritation: Causes severe skin burns.

Serious Eye Damage/Irritation: Causes severe eye damage.

Respiratory Sensitization: Not available

Skin Sensitization: May cause an allergic skin reaction.

Specific Target Organ Toxicity-Single Exposure: (Category 3) May cause respiratory irritation.

Aspiration Hazard: Not available

Long Term

Carcinogenicity: May cause cancer through chronic inhalation.

Germ Cell Mutagenicity: Not available

Reproductive Toxicity: Not available

Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure

Synergistic/Antagonistic Effects: Not available.

SECTION XII – ECOLOGICAL INFORMATION

12.1 Ecotoxicity

May cause long-term adverse effects to the aquatic environment. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or un-neutralized

12.2 Persistence and degradability

No further relevant information available.



CEMENT & CONCRETE PRODUCTS™

12.3 Bioaccumulative potential:

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Other Adverse Effects

No further relevant information available.

SECTION XIII – DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method

The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

13.2 Other disposal considerations**Uncleaned packaging****Recommendation:** Disposal must be made in accordance with local, state and federal regulations.**Recommended cleansing agent:** Water, if necessary with cleansing agents.

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

14.1 Environmental hazards:

Not Available

14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code

Not available

14.3 Special precautions for user

Do not handle until all safety precautions have been read and understood.



CEMENT & CONCRETE PRODUCTS™

SECTION XV – OTHER REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical

Canada

WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

15.2 US Federal Information

SARA 302/311/312/313 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.

OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws

California Prop. 65 Components

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

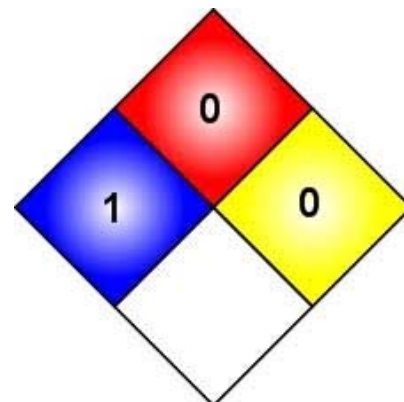
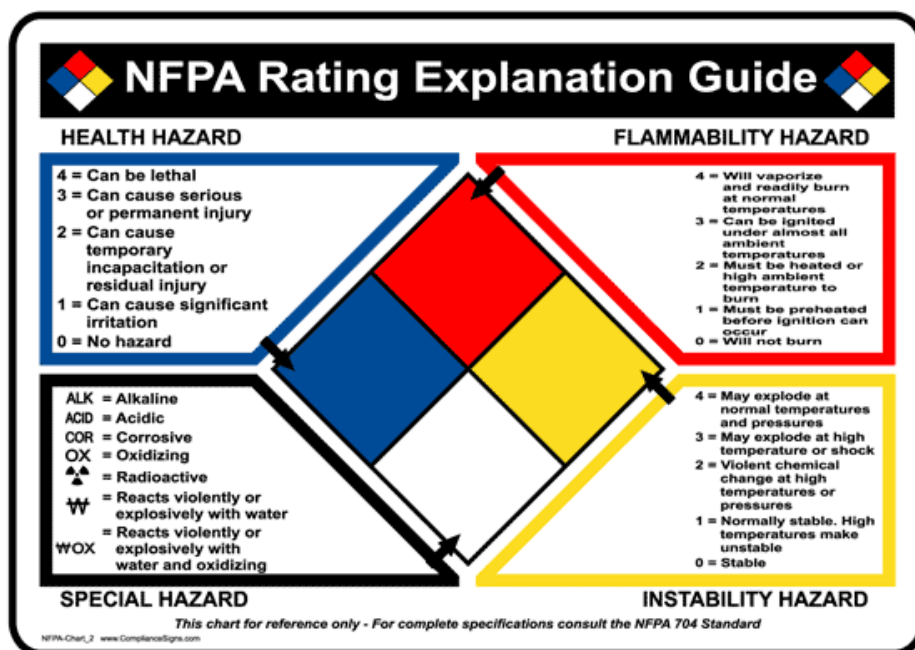
CEMENT & CONCRETE PRODUCTS™

15.4 Global Inventories

DSL All components of this product are on the Canadian DSL list.

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

15.5 NFPA Ratings



SECTION XVI – OTHER INFORMATION

Last Updated: February 18, 2016

**CEMENT & CONCRETE PRODUCTS™**

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by

The QUIKRETE® Companies
Phone (800) 282-5828
www.QUIKRETE.com

End of SDS