

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Ready Mix Concrete

Synonyms: Freshly Mixed Unhardened Concrete

1.2. Intended Use of the Product

Use of the Substance/Mixture: Ready Mix Concrete is used as a construction material.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Ralph Clayton & Sons
1355 Campus Parkway, Suite 200
Wall Township, NJ 07753

1.4. Emergency Number

- The Office Number is 732-751-7600 M-F 8Am to 5PM – Ask for the Safety Dept.
- The 24/7 Emergency Number is CHEMTREC (800) 424-9300 (CCN)1021371

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US Classification

Skin corrosion/irritation Category 1C	H314
Serious eye damage/eye irritation Category 1	H318
Skin sensitization, Category 1	H317
Carcinogenicity Category 1A	H350
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Specific target organ toxicity (repeated exposure) Category 1	H372

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H350 - May cause cancer (inhalation).
H372 - Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation).

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P321 - Specific treatment (see section 4 on this SDS).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Clothing saturated with wet product can result in delayed, serious alkali skin burns. Portland cement pulls water away from the skin, resulting in dryness, dermatitis, and skin burns. Cement burns do not cause immediate pain or discomfort, do not rely on pain or discomfort as a signal of burns.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Synonyms	Product Identifier	%	GHS US classification
Quartz	Quartz (SiO ₂) Silica, crystalline, quartz Crystalline silica, quartz .alpha.-Quartz Silica, crystalline, .alpha.-quartz QUARTZ Crystalline silica in the form of quartz Quartz, silica Quartz (respirable fraction) Silica dust Silica, crystalline-.alpha.quartz Silica, .alpha.-quartz Silicon dioxide Silica, quartz Silica, crystalline Quartz (crystalline silica) Silica dust, crystalline QUARTZ POWDER Silica, crystalline (quartz)	(CAS-No.) 14808-60-7	1 – 100	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Cement, portland, chemicals	Portland cement Silicate, portland cement Cement (Portland) Cement kiln dust Cement Portland	(CAS-No.) 65997-15-1	< 70	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335
Water	AQUA	(CAS-No.) 7732-18-5	< 30	Not classified.
Slags, ferrous metal, blast furnace	Slags, ferrous metal, blast furnace (The fused substance formed by the action of a flux upon the gangue of the iron-bearing materials charged to a blast furnace and upon the oxidized impurities in the iron produced. Depending upon the particular blast furnace operation, the slag is composed primarily of sulfur and oxides of aluminum, calcium, magnesium, and silicon.) Slags (ferrous metal) blast furnace	(CAS-No.) 65996-69-2	< 20	Not classified.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Ashes, residues	Ashes (residues) Ceramic microspheres Coal ash by-product Furnace residues Oil ash, by-product Ashes Ash Ashes from fluidized bed combustion Fly ash Bottom ash Coal fly ash Ashes, residues (The residuum from the burning of a combination of carbonaceous materials. The following elements may be present as oxides: aluminum, calcium, iron, magnesium, nickel, phosphorus, potassium, silicon, sulfur, titanium, and vanadium.) Coal ash Ash coals Podmoskovny, Pechorsky, Kuznetsky, Donetsk, Ekibastuzsky, brand B1 of Babaevsky and Tyulgansky deposits Ashes(residues),coal	(CAS-No.) 68131-74-8	< 20	Not classified.
Silica, amorphous	Amorphous silica Silica Silica, amorphous, fumed Silica, colloidal Silicon dioxide Silicon dioxide, amorphous SILICA Silicon(IV) oxide Un-crystalline silica Pigment White 27 Silicon dioxide (amorphous) Silicon dioxide amorphous Fumed silica SOLUM DIATOMEAE silicon dioxide Hydrated silica	(CAS-No.) 7631-86-9	< 20	Not classified.
Fumes, silica	Silica fume (amorphous) Fumes, silica (Amorphous silicon dioxide particles from the volatilization and vaporization of furnace feed materials in the manufacture of ferrosilicon and silicon.) Silica - fume Silica, fumes Silica, fume Silica fume Silica, amorphous fume Silica, amorphous (fume)	(CAS-No.) 69012-64-2	< 2	Not classified.

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid Measures After Skin Contact: Immediately remove contaminated clothing. Immediately flush skin with plenty of water for at least 30 minutes. Get immediate medical advice/attention. Wash contaminated clothing before reuse.

First-aid Measures After Eye Contact: Immediately rinse with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: Health effects from silica exposures include: silicosis, a disabling, non-reversible and sometimes fatal lung disease; other non-malignant respiratory diseases, such as chronic bronchitis; lung cancer; and kidney disease, including nephritis and end-stage renal disease. Causes severe skin burns and eye damage. Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation). Skin sensitization. May cause respiratory irritation. May cause cancer by inhalation.

Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes. Cough, dyspnea (breathing difficulty), wheezing; decreased pulmonary function, progressive respiratory symptoms (silicosis). The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures. May be corrosive to the respiratory tract.

Symptoms/Injuries After Skin Contact: Cement may cause dry skin, discomfort, irritation, severe burns, and dermatitis. Exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort. Cement is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of cement including alkalinity and abrasion. Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in cement. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with cement. Others may develop allergic dermatitis after years of repeated contact with cement. Causes severe irritation which will progress to chemical burns. May cause an allergic skin reaction. Symptoms may be delayed.

Symptoms/Injuries After Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of clinker dust, dry cement powder or with wet cement can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye. Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: This product contains crystalline silica. Long term exposure to respirable crystalline silica results in a significant risk of developing silicosis; a seriously disabling and fatal lung disease, and other non-malignant respiratory disease, lung cancer, kidney effects, and immune system effects. Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation). Repeated and prolonged exposure may cause an allergic skin reaction. Long term exposure to respirable crystalline silica results in a significant risk of developing silicosis and other non-malignant respiratory disease, lung cancer, kidney effects, and immune system effects. Pulmonary function may be reduced and pre-existing lung diseases such as: emphysema or asthma may be aggravated by inhalation exposure to dusts. Smoking aggravates the effects of exposure. Inhalation may lead to a progressive massive fibrosis which may be accompanied by right heart enlargement, heart failure, pulmonary failure of the lung and susceptibility to pulmonary tuberculosis. Dry sawing or grinding of concrete masonry products may result in the release of respirable crystalline quartz. Prolonged exposure to respirable crystalline quartz may cause delayed (chronic) lung injury (silicosis). Acute or rapidly developing silicosis may occur in a short period of time in heavy exposure. Silicosis is a form of disabling pulmonary fibrosis which can be progressive and may lead to death. May cause cancer by inhalation.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand. Treatment will be based on severity and prognosis of disease.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Reactivity: Wet concrete is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride. May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction. Silicates dissolve in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride. Slag is incompatible with acids, ammonium salts and aluminum metal. Slag and cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Slag and cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not breathe fumes from fires or vapors from decomposition. Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870°C (1598 °F), it can change to a form of crystalline silica known as tridymite, and if crystalline silica (quartz) is heated to more than 1470°C (2678 °F), it can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as tridymite and cristobalite is one-half of the OSHA PEL for crystalline silica (quartz). Carbon oxides (CO, CO₂). Nitrogen oxides. Metal oxides. Silica compounds.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not handle until all safety precautions have been read and understood. Do not breathe vapor, mist or spray. Do not get in eyes, on skin, or on clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Absorb and/or contain spill with inert material. Contact competent authorities after a spill. Cautiously neutralize spilled liquid. Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8. For wet cement: Remove product by scooping or shoveling into suitable containers for recycling or disposal, utilize appropriate PPE (see Section 8). For dry cement, or if it becomes hardened: Avoid generation of dust. Vacuum cleanup is preferred, if sweeping is required use a dust suppressant, do not dry sweep. Utilize appropriate PPE (see Section 8).

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Wet cement is corrosive. Take appropriate precautions to prevent unnecessary contact. Cutting, crushing or grinding crystalline silica-bearing materials may release respirable crystalline silica, a known carcinogen. Use all appropriate measures of dust control or suppression and personal protective equipment. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry. May release corrosive vapors.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Handle empty containers with care because they may still present a hazard. Avoid creating or spreading dust.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hygiene Measures: Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Stack in a stable manner. Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area. Store in original container or corrosive resistant and/or lined container.

Incompatible Materials: Strong acids, strong bases, strong oxidizers. Wet cement and cement clinker is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

7.3. Specific End Use(s)

Ready Mix Concrete is used as a construction material.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Cement, portland, chemicals (65997-15-1)		
USA ACGIH	ACGIH OEL TWA	1 mg/m ³ (particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA IDLH	IDLH	5000 mg/m ³
USA OSHA	OSHA PEL TWA	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA OSHA	OSHA PEL TWA	50 mppcf (<1% Crystalline silica) (See 29 CFR 1910.1000 TABLE Z-3)
Quartz (14808-60-7)		
USA ACGIH	ACGIH OEL TWA	0.025 mg/m ³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	Suspected Human Carcinogen
USA NIOSH	NIOSH REL (TWA)	0.05 mg/m ³ (respirable dust)
USA IDLH	IDLH	50 mg/m ³ (respirable dust)
USA OSHA	OSHA PEL TWA	50 µg/m ³ (Respirable crystalline silica)
USA OSHA	OSHA PEL TWA	(250)/(%SiO ₂ +5) mppcf TWA (respirable fraction) (10)/(%SiO ₂ +2) mg/m ³ TWA (respirable fraction) (For any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or otherwise not in effect, See 20 CFR 1910.1000 TABLE Z-3)
Silica, amorphous (7631-86-9)		
USA NIOSH	NIOSH REL (TWA)	6 mg/m ³
USA IDLH	IDLH	3000 mg/m ³
USA OSHA	OSHA PEL TWA	6 mg/m ³
USA OSHA	OSHA PEL TWA	20 mppcf (80mg/m ³ /%SiO ₂)

8.2. Exposure Controls

Appropriate Engineering Controls

: Maintain sufficient mechanical or natural ventilation to assure silica concentrations remain below PEL/TLV. Use local exhaust if necessary. Power equipment should be equipped with properly designed dust collection devices. If product needs to be altered, use wet processing techniques if possible to minimize generation of dust. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Face shield.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Corrosion-proof clothing.

Hand Protection

: Wear protective gloves.

Eye and Face Protection

: Chemical safety goggles and face shield.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Gray, flowable material
Odor	: No data available
Odor Threshold	: No data available
pH	: 9 – 13 (mixed)
Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapor Pressure	: No data available
Relative Vapor Density at 20°C	: No data available
Relative Density	: No data available
Solubility	: Water: Insoluble
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

9.2. Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Wet concrete is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride. May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction. Silicates dissolve in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride. Slag is incompatible with acids, ammonium salts and aluminum metal. Slag and cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Slag and cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

10.2. Chemical Stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

10.4. Conditions to Avoid

Incompatible materials. Avoid creating or spreading dust. Direct sunlight, extremely high or low temperatures, and incompatible materials.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.5. Incompatible Materials

Strong acids, strong bases, strong oxidizers. Wet cement and cement clinker is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870°C (1598 °F), it can change to a form of crystalline silica known as tridymite, and if crystalline silica (quartz) is heated to more than 1470°C (2678 °F), it can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as tridymite and cristobalite is one-half of the OSHA PEL for crystalline silica (quartz). Corrosive vapors. Metal oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity (Oral): Not classified.

Acute Toxicity (Dermal): Not classified.

Acute Toxicity (Inhalation): Not classified.

Slags, ferrous metal, blast furnace (65996-69-2)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rat	> 4000 mg/kg
LC50 Inhalation Rat	> 5235 mg/m ³ (Exposure time: 4 h Source: ECHA_API)
Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
Ashes, residues (68131-74-8)	
LD50 Oral Rat	> 2000 mg/kg (Source: IUCLID)
Water (7732-18-5)	
LD50 Oral Rat	> 90 ml/kg (Source: FOOD_JOURN)
Silica, amorphous (7631-86-9)	
LD50 Oral Rat	7900 mg/kg (Source: ATSDR)
LD50 Dermal Rabbit	> 2000 mg/kg (No deaths)
LC50 Inhalation Rat	> 58.8 mg/l/4h

Skin Corrosion/Irritation: Causes severe skin burns.

pH: 9 – 13

Serious Eye Damage/Irritation: Causes serious eye damage.

pH: 9 – 13

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified.

Carcinogenicity: May cause cancer.

Quartz (14808-60-7)	
IARC group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Silica, amorphous (7631-86-9)	
IARC group	3

Reproductive Toxicity: Not classified.

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

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Not classified.

Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes. Cough, dyspnea (breathing difficulty), wheezing; decreased pulmonary function, progressive respiratory symptoms (silicosis). The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures. May be corrosive to the respiratory tract.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Symptoms/Injuries After Skin Contact: Cement may cause dry skin, discomfort, irritation, severe burns, and dermatitis. Exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort. Cement is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of cement including alkalinity and abrasion. Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in cement. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with cement. Others may develop allergic dermatitis after years of repeated contact with cement. Causes severe irritation which will progress to chemical burns. May cause an allergic skin reaction. Symptoms may be delayed.

Symptoms/Injuries After Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of clinker dust, dry cement powder or with wet cement can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye. Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: This product contains crystalline silica. Long term exposure to respirable crystalline silica results in a significant risk of developing silicosis; a seriously disabling and fatal lung disease, and other non-malignant respiratory disease, lung cancer, kidney effects, and immune system effects. Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation). Repeated and prolonged exposure may cause an allergic skin reaction. Long term exposure to respirable crystalline silica results in a significant risk of developing silicosis and other non-malignant respiratory disease, lung cancer, kidney effects, and immune system effects. Pulmonary function may be reduced and pre-existing lung diseases such as: emphysema or asthma may be aggravated by inhalation exposure to dusts. Smoking aggravates the effects of exposure. Inhalation may lead to a progressive massive fibrosis which may be accompanied by right heart enlargement, heart failure, pulmonary failure of the lung and susceptibility to pulmonary tuberculosis. Dry sawing or grinding of concrete masonry products may result in the release of respirable crystalline quartz. Prolonged exposure to respirable crystalline quartz may cause delayed (chronic) lung injury (silicosis). Acute or rapidly developing silicosis may occur in a short period of time in heavy exposure. Silicosis is a form of disabling pulmonary fibrosis which can be progressive and may lead to death. May cause cancer by inhalation.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

Fumes, silica (69012-64-2)	
LC50 Fish 1	> 100 mg/l (Exposure time: 96 h - Species: Danio rerio [semi-static] Source: ECHA)
Silica, amorphous (7631-86-9)	
LC50 Fish 1	5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static] Source: IUCLID)
EC50 - Crustacea [1]	7600 mg/l (Exposure time: 48 h - Species: Ceriodaphnia dubia)

12.2. Persistence and Degradability

Ready Mix Concrete	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Ready Mix Concrete	
Bioaccumulative Potential	Not established.
Silica, amorphous (7631-86-9)	
BCF Fish 1	(no bioaccumulation expected)

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Recycle the material as far as possible. Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment.

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Not regulated for transport

14.2. In Accordance with IMDG

Not regulated for transport

14.3. In Accordance with IATA

Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Ready Mix Concrete	
SARA Section 311/312 Hazard Classes	Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation Health hazard - Respiratory or skin sensitization Health hazard - Carcinogenicity Health hazard - Specific target organ toxicity (single or repeated exposure)
Cement, portland, chemicals (65997-15-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Slags, ferrous metal, blast furnace (65996-69-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Ashes, residues (68131-74-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Fumes, silica (69012-64-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
Silica, amorphous (7631-86-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	

15.2. US State Regulations

Cement, portland, chemicals (65997-15-1)
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List RTK - U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Minnesota - Hazardous Substance List RTK - U.S. - Massachusetts - Right To Know List U.S. - Tennessee - Occupational Exposure Limits - TWAs U.S. - Vermont - Permissible Exposure Limits - TWAs U.S. - Washington - Permissible Exposure Limits - TWAs U.S. - Washington - Permissible Exposure Limits - STELs U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs) U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - New York - Occupational Exposure Limits - TWAs U.S. - Michigan - Occupational Exposure Limits - TWAs U.S. - Minnesota - Permissible Exposure Limits - TWAs U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts U.S. - Oregon - Permissible Exposure Limits - TWAs U.S. - Texas - Effects Screening Levels - Long Term U.S. - Texas - Effects Screening Levels - Short Term U.S. - New York - Occupational Exposure Limits - Mineral Dusts U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
Quartz (14808-60-7)

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
 RTK - U.S. - Pennsylvania - RTK (Right to Know) List
 U.S. - Minnesota - Hazardous Substance List
 RTK - U.S. - Massachusetts - Right To Know List
 U.S. - New Jersey - Special Health Hazards Substances List
 U.S. - Illinois - Toxic Air Contaminants
 U.S. - Tennessee - Occupational Exposure Limits - TWAs
 U.S. - Vermont - Permissible Exposure Limits - TWAs
 U.S. - Washington - Permissible Exposure Limits - TWAs
 U.S. - Washington - Permissible Exposure Limits - STELs
 U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
 U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
 U.S. - Illinois - Toxic Air Contaminant Carcinogens
 U.S. - New York - Occupational Exposure Limits - TWAs
 U.S. - Michigan - Occupational Exposure Limits - TWAs
 U.S. - Minnesota - Permissible Exposure Limits - TWAs
 U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts
 U.S. - Oregon - Permissible Exposure Limits - TWAs
 U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term
 U.S. - New York - Occupational Exposure Limits - Mineral Dusts
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
 U.S. - Maine - Chemicals of Concern
 U.S. - Minnesota - Chemicals of High Concern
 U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups

Ashes, residues (68131-74-8)

U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term

Fumes, silica (69012-64-2)

RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - Minnesota - Hazardous Substance List
 RTK - U.S. - Massachusetts - Right To Know List
 U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term

Silica, amorphous (7631-86-9)

RTK - U.S. - Pennsylvania - RTK (Right to Know) List
 U.S. - Minnesota - Hazardous Substance List
 RTK - U.S. - Massachusetts - Right To Know List
 U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
 U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
 U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
 U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts
 U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term

California Proposition 65



WARNING: This product can expose you to Quartz, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Quartz (14808-60-7)	X			

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 03/11/2025
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

Ready Mix Concrete

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

GHS Full Text Phrases:

H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure

Glossary of Data Source Abbreviations

ATSDR: Agency for Toxic Substances and Disease Registry (U.S. Department of Health and Human Services)

AU_WES: Australia WES

CHEMVIEW: ChemView (U.S. Environmental Protection Agency)

EC_RAR: European Commission Renewal Assessment Report

EC_SCOEL: European Commission Scientific Committee on Occupational Exposure Limits

ECETOC: European Centre for Ecotoxicology and Toxicology of Chemicals Reports

ECHA_API: European Chemicals Agency API

ECHA_RAC: ECHA Committee for Risk Assessment

EFTA: European Food Safety Authority

EPA: U.S. Environmental Protection Agency

EPA_AEGL: Acute Exposure Guideline Levels (U.S. Environmental Protection Agency)

EPA_FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act

Reregistration Eligibility Decision (U.S. Environmental Protection Agency)

EPA_HPVC: High Production Volume Chemicals (U.S. Environmental Protection Agency)

EPA_TRED: Risk Assessment for Tolerance Reassessment Eligibility Decision (U.S. Environmental Protection Agency)

EU_CLH: European Union Harmonised Classification and Labelling Proposal

EU_RAR: European Union Risk Assessment Report

FOOD_JOURN: Food Research Journal (1956)

IARC: The International Agency for Research on Cancer

IDLH: National Institute for Occupational Health and Safety Immediately Dangerous to Life or Health Value Profiles

IUCLID: International Uniform Chemical Information Database

JAPAN_GHS: Japan GHS Basis for Classification Data

JP_J-CHECK: Japan J-Check

KR_NIER: South Korea National Institute of Environmental Research Evaluations

NICNAS: Australia National Industrial Chemicals Notification and Assessment Scheme

NIOSH: National Institute for Occupational Health and Safety (U.S. Department of Health and Human Services)

NLM_CIP: National Library of Medicine ChemID plus database

NLM_HSDB: National Library of Medicine Hazardous Substance Data Bank

NLM_PUBMED: National Library of Medicine PubMed database

NTP: National Toxicology Program

NZ_CCID: New Zealand Chemical Classification and Information Database

OECD_EHSP: Environment, Health, and Safety Publication (Organisation for Economic Co-operation and Development)

OECD_SIDS: Screening Information Data Sets (Organisation for Economic Co-operation and Development)

WHO: World Health Organization

The information and recommendations contained herein are based upon data believed to be up to date and correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. Ralph Clayton & Sons and all associated entities accept no responsibility and disclaim all liability for the use of any Ralph Clayton & Sons Safety Data Sheet for any Silica containing products or harmful effects that may be caused by purchase, resale, use or exposure to our silica containing material or products. Customers and users of products containing silica in any form must comply with all applicable health and safety laws, orders or regulations for its use and exposure and insure that they properly determine what laws, rules or regulations specifically apply to their industry wherever they should operate. In particular, they are under an obligation to carry out a risk assessment for any work places where silica containing products are present and to perform adequate risk management measures and procedures in accordance with any applicable law or regulation. They must also insure that they implement all necessary protective measures and engineering controls as required by all applicable laws, regulations and orders.

SDS US (GHS HazCom)