Portland Cement (ASTM C150 including but not limited to: Type I/II Type III, Type V, and C595 Type IL, IP, IS, and IT; ASTM C 91 Masonry; ASTM C 1328 Plastic; Class G)

Safety Data Sheet

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SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Portland Cement (ASTM C150 including but not limited to: Type I/II Type III, Type V, and C595 Type IL, IP, IS, and IT; ASTM C 91 Masonry; ASTM C 1328 Plastic; Class G)

Synonyms: Portland Cement; also known as Cement or Hydraulic Cement

1.2 Recommended Use and Restrictions on Use

Use Of The Substance/Mixture : No use is specified.

Restrictions On Use : No additional information available

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

Company

CalPortland Company
10655 W Park Run Drive
Suite 275
Las Vegas, NV 89144
T: 626-852-6200
Website: www.calportland
Email: environmental@calportland.com

1.4. Emergency Telephone Number

Emergency Number : 626-852-6200

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 2	H371
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) :

GHS05 GHS07 GHS08

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.
H350 - May cause cancer.
H371 - May cause damage to organs (corrosive to the respiratory tract if inhaled).
H372 - Causes damage to organs (lung/respiratory system) 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 face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.

P280 - Wear eye protection, protective clothing, protective gloves.
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.
P310 - Immediately call a poison center or doctor.
P314 - Get medical advice or attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3 Hazards associated with known or reasonably anticipated uses

If this product is used in unforeseeable chemical processes and not used as intended or reasonable, the hazards listed in Section 2.3 cannot cover all chemistries. Therefore, a Process Hazard Analysis (PHA) or other hazard assessment for additional specific end uses should be performed to ensure that hazards are fully understood, and adequate safety measures are in place. See Section 10 for relevant reactivity and stability information. Under normal and/or expected conditions of use (mixture with water), the following hazards may occur: Causes severe skin burns and eye damage - Skin corrosion/irritation, Category 1.)

2.4. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.5. 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
Cement, portland, chemicals	Portland cement / Silicate, portland cement / Cement (Portland) / Cement kiln dust	(CAS-No.) 65997-15-1	46.8 – 95	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 2, H371
Silica, amorphous[1]	Amorphous silica / Silica / Silica, amorphous, fumed / Silica, colloidal / Silicon dioxide / Silicon dioxide, amorphous / Silicon(IV) oxide / Un-crystalline silica / Pigment White 27 / Fumed silica / SOLUM DIATOMEAE / Hydrated silica / Colloidal anhydrous silica	(CAS-No.) 7631-86-9	0.1 – 30	Not classified.
Limestone	Chalk / Limestone (A noncombustible solid characteristic of sedimentary rock. It consists primarily of calcium carbonate.) / Natural calcium carbonate / Marble / Calcium carbonate / Limestone (sedimentary rock) / Calcite / Limestone ground / Acetate, 4-methyl-2-propyl-2H-tetrahydropyran-4-yl / Ground limestone	(CAS-No.) 1317-65-3	≤ 25	Not classified.

Quartz	Quartz (SiO2) / Silica, crystalline, quartz / Crystalline silica, quartz / .alpha.-Quartz / Silica, crystalline, .alpha.-quartz / Silica, .alpha.-quartz / Silicon dioxide / Silica, quartz / Silica, crystalline / Quartz (respirable fraction) / Quartz, silica	(CAS-No.) 14808-60-7	0.3 – 20.3	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Aluminum oxide (Al_2O_3)[1]	Aluminum oxide / .alpha.-Alumina / Alumina / Aluminium oxide / .alpha.-Aluminum oxide / Alundum / Dialuminum trioxide	(CAS-No.) 1344-28-1	0.1 – 20	Not classified.
Gypsum ($Ca(SO_4).2H_2O$)	Gypsum / Calcium sulfate hydrate	(CAS-No.) 13397-24-5	3 – 7	Not classified.
Cristobalite (SiO_2)[1]	Cristobalite / Cristobalite (SiO_2) / Silica, crystalline, cristobalite / Cristobalite (Silica) / Crystalline SiO_2, cristobalite / Crystalline silica in the form of cristobalite / Silica / Silica, crystalline	(CAS-No.) 14464-46-1	≤ 2	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Calcium oxide[1]	Lime / Quicklime / Quicklime (CaO) / Calcium oxide (CaO) / Lime (calcium oxide)	(CAS-No.) 1305-78-8	≤ 2	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 2, H371 Aquatic Acute 3, H402 Aquatic Chronic 3, H412
Potassium oxide (K_2O)[1]	Potassium oxide / Dipotassium oxide / Potassium monoxide	(CAS-No.) 12136-45-7	≤ 2	Resp. Corr. Skin Corr. 1A, H314 Eye Dam. 1, H318
Sodium oxide (Na_2O)[1]	Disodium oxide / Sodium oxide / Sodium monoxide	(CAS-No.) 1313-59-3	≤ 2	Resp. Corr. Skin Corr. 1B, H314 Eye Dam. 1, H318
Iron oxide (Fe_2O_3)[1]	C.I. 77491 / C.I. Pigment Red 101 / Diiron trioxide / Ferric oxide / Iron sesquioxide / Iron(III) oxide / Rouge / Iron trioxide / Sienna / Red iron oxide / Red iron oxide pigment / Diiron(III) trioxide / Iron oxide / Ferric oxide red / Iron oxide, red / Iron oxide fume	(CAS-No.) 1309-37-1	≤ 2	Combustible Dust
Titanium dioxide[1]	C.I. 77891 / C.I. Pigment White 6 / Titanium oxide (TiO_2) / Titanium(IV) oxide / C.I. Pigment White 7 / Titanium oxide	(CAS-No.) 13463-67-7	< 0.4	Carc. 2, H351

Full text of H-phrases: see section 16

Composition is variable.

[1] Present only in IP and IT cements.

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: Using proper respiratory protection, immediately move the exposed person to fresh air. Encourage exposed person to cough, spit out, and blow nose to remove dust. 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.

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.

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: Causes skin irritation. May cause respiratory irritation. Skin sensitization. May cause cancer by inhalation. . Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation). Corrosive to the respiratory tract, if inhaled. Causes serious eye damage. For wetted product: Causes severe skin burns and eye damage.

Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes. May be corrosive to the respiratory tract. Cough, dyspnea (breathing difficulty), wheezing; decreased pulmonary function, progressive respiratory symptoms (silicosis). Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. Silicosis increases the risk of tuberculosis. Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica. The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. 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.

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.

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.

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

Chronic Symptoms: Repeated and prolonged exposure may cause an allergic skin reaction. 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. 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.

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 high powered water stream. Use of a high powered stream may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Product is not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Wet cement 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. 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.

5.3. Advice for Firefighters

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

Firefighting Instructions: Do not get water inside containers. Do not apply water stream directly at source of leak.

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

Hazardous Combustion Products: None.

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 get in eyes, on skin, or on clothing. Do not breathe dust.

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: As an immediate precautionary measure, isolate spill or leak area in all directions. Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.

Methods for Cleaning Up: 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. Allow liquid material to solidify before cleaning up. Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

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: Keep bulk and bagged cement dry until used. Stack bagged material in a secure manner to prevent falling. Bagged cement is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate control measures. Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains cement. Cement can buildup or adhere to the walls of a confined space. The cement can release, collapse or fall unexpectedly. Properly ground all pneumatic conveyance systems. The potential exists for static build-up and static discharge when moving cement powders through a plastic, non-conductive, or non-grounded pneumatic conveyance system. The static discharge may result in damage to equipment and injury to workers. Cutting, crushing or grinding hardened cement, concrete or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below. 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.

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

Hygiene Measures: 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 place. Protect from moisture. Keep container closed when not in use.

Incompatible Materials: Acids. Aluminum. Ammonium salts. Oxidizers. Water.

7.3. Specific End Use(s)

No use is specified.

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® TLV® TWA	1 mg/m³ (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/m³ (total dust) 5 mg/m³ (respirable dust)
USA IDLH	IDLH	5000 mg/m³
USA OSHA	OSHA PEL TWA	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
USA OSHA	OSHA PEL TWA	50 mppcf (<1% Crystalline silica) (See 29 CFR 1910.1000 TABLE Z-3)

Gypsum (Ca(SO4).2H2O) (13397-24-5)		
USA ACGIH	ACGIH® TLV® TWA	10 mg/m³ (inhalable particulate matter (Calcium sulfate)
USA NIOSH	NIOSH REL TWA	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)
USA OSHA	OSHA PEL TWA	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)

Quartz (14808-60-7)		
USA ACGIH	ACGIH® TLV® TWA	0.025 mg/m³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	Suspected Human Carcinogen
USA NIOSH	NIOSH REL TWA	0.05 mg/m³ (respirable dust)
USA IDLH	IDLH	50 mg/m³ (respirable dust)
USA OSHA	OSHA PEL TWA	50 µg/m³ (Respirable crystalline silica)
USA OSHA	OSHA PEL TWA	(250)/(%SiO_2+5) mppcf TWA (respirable fraction) (10)/(%SiO_2+2) mg/m³ 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/m³
USA IDLH	IDLH	3000 mg/m³
USA OSHA	OSHA PEL TWA	6 mg/m³
USA OSHA	OSHA PEL TWA	20 mppcf (80mg/m³/%SiO_2)

Aluminum oxide (Al2O3) (1344-28-1)		
USA ACGIH	ACGIH® TLV® TWA	10 mg/m³
USA OSHA	OSHA PEL TWA	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)

Cristobalite (SiO2) (14464-46-1)		
USA ACGIH	ACGIH® TLV® TWA	0.025 mg/m³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	Suspected Human Carcinogen
USA NIOSH	NIOSH REL TWA	0.05 mg/m³ (respirable dust)
USA IDLH	IDLH	25 mg/m³ (respirable dust)
USA OSHA	OSHA PEL TWA	50 µg/m³ (Respirable crystalline silica)
USA OSHA	OSHA PEL TWA	(1/2)(250)/(%SiO_2+5) mppcf (respirable fraction) (1/2)(10)/(%SiO_2+2) mg/m³ (respirable fraction) (For any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or otherwise not in effect, See 29 CFR 1910.1000 TABLE Z-3)

Calcium oxide (1305-78-8)		
USA ACGIH	ACGIH® TLV® TWA	2 mg/m³
USA NIOSH	NIOSH REL TWA	2 mg/m³
USA IDLH	IDLH	25 mg/m³
USA OSHA	OSHA PEL TWA	5 mg/m³

Titanium dioxide (13463-67-7)		
USA ACGIH	ACGIH® TLV® TWA	0.2 mg/m³ (nanoscale respirable particulate matter) 2.5 mg/m³ (finescale respirable particulate matter)
USA ACGIH	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA NIOSH	NIOSH REL TWA	2.4 mg/m³ (CIB 63-fine) 0.3 mg/m³ (CIB 63-ultrafine, including engineered nanoscale)
USA IDLH	IDLH	5000 mg/m³
USA OSHA	OSHA PEL TWA	15 mg/m³ (total dust)

Iron oxide (Fe2O3) (1309-37-1)		
USA ACGIH	ACGIH® TLV® TWA	5 mg/m³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL TWA	5 mg/m³ (dust and fume)
USA IDLH	IDLH	2500 mg/m³ (dust and fume)
USA OSHA	OSHA PEL TWA	10 mg/m³ (fume) 15 mg/m³ (total dust (Rouge) 5 mg/m³ (respirable fraction (Rouge)

Limestone (1317-65-3)		
USA NIOSH	NIOSH REL TWA	10 mg/m³ (total dust) 5 mg/m³ (respirable dust)
USA OSHA	OSHA PEL TWA	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)

8.2. Exposure Controls

Appropriate Engineering Controls : 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. 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.

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

Hand Protection : Wear gloves impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves.

Eye and Face Protection : Wear ANSI approved glasses or safety goggles when handling wet concrete to prevent contact with eyes. Wearing contact lenses, when using concrete, is not recommended. In case of excessive dust production, safety goggles are recommended.

Skin and Body Protection : Wear gloves, boot covers and protective clothing impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves.

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	: Solid
Color	: Gray powder
Odor	: None
pH	: 12 – 13 (in water)
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)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20°C	: No data available
Relative Density	: No data available
Specific Gravity	: 3.15
Solubility	: Slightly soluble in water.
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity, Kinematic	: No data available
Particle Size	: No data available
Particle Size Distribution	: No data available
Particle Shape	: No data available
Particle Aspect Ratio	: No data available
Particle Aggregation State	: No data available
Particle Agglomeration State	: No data available
Particle Specific Surface Area	: No data available
Particle Dustiness	: No data available

9.2. Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Wet cement 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. 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.

10.2. Chemical Stability

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

10.3. Possibility of Hazardous Reactions, Including those Associated with Foreseeable Emergencies

Hazardous polymerization will not occur.

10.4. Conditions to Avoid

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

10.5. Incompatible Materials

Acids. Aluminum. Ammonium salts. Oxidizers. Water.

10.6. Hazardous Decomposition Products

None.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Likely Routes of Exposure: Dermal, Eye Contact, Inhalation, Oral

Acute Toxicity (Oral): Not classified.

Acute Toxicity (Dermal): Not classified.

Acute Toxicity (Inhalation): Not classified.

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg

Silica, amorphous (7631-86-9)	
LD50 Oral Rat	7900 mg/kg (Source: ATSDR)
LD50 Dermal Rabbit	> 2000 mg/kg (No deaths)
LC50 Inhalation Rat	> 5.01 mg/l/4h

Aluminum oxide (Al2O3) (1344-28-1)	
LD50 Oral Rat	> 15900 mg/kg

Calcium oxide (1305-78-8)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rat	> 2500 mg/kg (Source: ECHA)
LD50 Dermal Rabbit	> 2500 mg/kg
LC50 Inhalation Rat	> 6.04 mg/l/4h

Titanium dioxide (13463-67-7)	
LD50 Oral Rat	> 2000 mg/kg (Source: ECHA)
LC50 Inhalation Rat	> 5.09 mg/l/4h

Iron oxide (Fe2O3) (1309-37-1)	
LD50 Oral Rat	> 10000 mg/kg (Source: ECHA)
LC50 Inhalation Rat	5.05 mg/l/4h

Skin Corrosion/Irritation: Causes severe skin burns.

pH: 12 – 13 (in water)

Serious Eye Damage/Irritation: Causes serious eye damage.

pH: 12 – 13 (in water)

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.

Cristobalite (SiO2) (14464-46-1)	
IARC group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Titanium dioxide (13463-67-7)	
IARC group	2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Reproductive Toxicity: Not classified.

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation. May be corrosive to the respiratory tract if inhaled.

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation).

Aspiration Hazard: Not classified.

Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes. May be corrosive to the respiratory tract. Cough, dyspnea (breathing difficulty), wheezing; decreased pulmonary function, progressive respiratory symptoms (silicosis). Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. Silicosis increases the risk of tuberculosis. Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica. The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. 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.

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.

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.

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

Chronic Symptoms: Repeated and prolonged exposure may cause an allergic skin reaction. 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. 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.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Not classified.

Silica, amorphous (7631-86-9)	
LC50 Fish	5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static] Source: IUCLID)
EC50 Crustacea	7600 mg/l (Exposure time: 48 h - Species: Ceriodaphnia dubia)

Aluminum oxide (Al2O3) (1344-28-1)	
LC50 Fish	> 100 mg/l
EC50 Crustacea	> 100 mg/l
ErC50 Algae	> 100 mg/l
NOEC (Acute)	> 50 mg/l

Calcium oxide (1305-78-8)	
LC50 Fish	50.6 mg/l

Iron oxide (Fe2O3) (1309-37-1)	
LC50 Fish	100000 mg/l (Exposure time: 96 h - Species: Danio rerio [static] Source: ECHA)

12.2. Persistence and Degradability

Portland Cement (ASTM C150 including but not limited to: Type I/II Type III, Type V, and C595 Type IL, IP, IS, and IT; ASTM C 91 Masonry; ASTM C 1328 Plastic; Class G)	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Portland Cement (ASTM C150 including but not limited to: Type I/II Type III, Type V, and C595 Type IL, IP, IS, and IT; ASTM C 91 Masonry; ASTM C 1328 Plastic; Class G)	
Bioaccumulative Potential	Not established.

Silica, amorphous (7631-86-9)	
BCF Fish	No bioaccumulation expected.

Calcium oxide (1305-78-8)	
BCF Fish	No bioaccumulation.

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: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment.

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

Portland Cement (ASTM C150 including but not limited to: Type I/II Type III, Type V, and C595 Type IL, IP, IS, and IT; ASTM C 91 Masonry; ASTM C 1328 Plastic; Class G)	
SARA Section 311/312 Hazard Classes	Health hazard - Carcinogenicity Health hazard - Respiratory or skin sensitization Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation 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

Quartz (14808-60-7)
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

Aluminum oxide (Al2O3) (1344-28-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 % (fibrous forms)

Cristobalite (SiO2) (14464-46-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Calcium oxide (1305-78-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Potassium oxide (K2O) (12136-45-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Sodium oxide (Na2O) (1313-59-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Titanium dioxide (13463-67-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Iron oxide (Fe2O3) (1309-37-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Limestone (1317-65-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

15.2. US State Regulations

WARNING: This product can expose you to chemicals, including Silica, crystalline (airborne particles of respirable size), which is known to the State of California to cause cancer; and chromium (hexavalent compounds), which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Cement, portland, chemicals (65997-15-1)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Gypsum (Ca(SO4).2H2O) (13397-24-5)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Quartz (14808-60-7)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Silica, amorphous (7631-86-9)
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Aluminum oxide (Al2O3) (1344-28-1)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Cristobalite (SiO2) (14464-46-1)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Calcium oxide (1305-78-8)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Potassium oxide (K2O) (12136-45-7)
U.S. - New Jersey - Right to Know Hazardous Substance List

Titanium dioxide (13463-67-7)
U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

Iron oxide (Fe2O3) (1309-37-1)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Limestone (1317-65-3)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right To Know List

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

Date of Preparation or Latest Revision : 09/18/2025

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

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.
H351	Suspected of causing cancer.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

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
EFSA: 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_HPV: 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

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)