Safety Data Sheet

* * * Section 1 - Product and Company Identification * * *

Material Name: Portland Cement (ASTM Type I/II, ASTM Type III, ASTM Type V, ASTM C595 Type IL, Masonry, Block, Plastic, Class G)
Synonyms: Portland Cement; also known as Cement or Hydraulic Cement

Manufacturer Information

CALPORTLAND COMPANY
2025 E. Financial Way
Glendora, CA 91741
Phone: 626-852-6200
www.calportland.com

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Skin Corrosion/Irritation - Category 1C
Eye Damage - Category 1
Skin Sensitization - Category 1
Carcinogenicity - Category 1A
Specific Target Organ Toxicity Single Exposure - Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Danger

Hazard Statements

Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause cancer.
May cause respiratory irritation.

Precautionary Statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe vapors, mist, or spray.
Wash hands, forearms, and other exposed areas thoroughly after handling.

Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye protection, face protection, respiratory protection.

Response

If swallowed: rinse mouth. Do not induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If inhaled: Remove person to fresh air and keep at rest in a position 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 exposed or concerned: Get medical advice/attention.
Immediately call a poison center or doctor.
Specific treatment (see section 4 on this SDS).
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/international regulations.

Other Hazards

Inhalation can cause serious, potentially irreversible lung/respiratory tract tissue damage due to chemical (caustic) burns, including third degree burns. Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) or sensitivity to hexavalent chromium can be aggravated by exposure.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
65997-15-1	Cement, portland, chemicals	78-95
1317-65-3	Limestone	0-15
13397-24-5	Gypsum (Ca(SO4).2H2O)	5-7
14808-60-7	Quartz	0-0.3

Component Information/Information on Non-Hazardous Components

General Product Information

Trace Elements: Portland cement is made from materials mined from the earth and is processed using energy provided by fuels. Trace amounts of naturally occurring, potentially harmful chemical might be detected during chemical analysis. For example, Portland cement may contain up to 1.50 % insoluble residue, some of which may be free crystalline silica. Other trace constituents may include calcium oxide, free magnesium oxide, potassium and sodium sulfate compounds, and trace metal compounds.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

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

First Aid: Skin

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

First Aid: Ingestion

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

First Aid: Inhalation

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

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Non-combustible.

Hazardous Combustion Products

None

Extinguishing Media

Use appropriate extinguishing media for surrounding fire.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Firefighters should wear full protective gear.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Stop the flow of material, if this is without risk.

Materials and Methods for Clean-Up

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Scrape up wet material and place in an appropriate container. Allow the material to dry before disposal.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Wear appropriate personal protective equipment as described in Section 8.

Environmental Precautions

Do not attempt to wash Portland cement down sewers or storm drains.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid prolonged or repeated breathing of dust. Avoid contact with eyes and skin. Promptly remove dusty clothing or clothing which is wet with cement fluids and launder before reuse. Wash thoroughly after exposure to dust or wet cement mixtures.

Storage Procedures

Store product in a cool, dry, ventilated area. Protect against physical damage and moisture. Keep cement dry until used. Normal temperature and pressures do not affect the material.

Incompatibilities

Wet Portland cement is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Cement, portland, chemicals (65997-15-1)

ACGIH:	1 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)
OSHA (Final):	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
OSHA (Vacated):	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
NIOSH:	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Alberta:	10 mg/m3 TWA
British Columbia:	10 mg/m3 TWA (total particulate matter containing no Asbestos and <1% Crystalline silica, total particulate); 3 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate)
Manitoba:	1 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction)
New Brunswick:	10 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica)
NW Territories:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Nova Scotia:	1 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction)
Nunavut:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Ontario:	10 mg/m3 TWA (containing no Asbestos and <1% Crystalline silica, total dust)
Quebec:	10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, total dust); 5 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, respirable dust)
Saskatchewan:	10 mg/m3 TWA 20 mg/m3 STEL
Yukon:	30 mppcf TWA; 10 mg/m3 TWA 20 mg/m3 STEL

Limestone (1317-65-3)

OSHA (Final):	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
OSHA (Vacated):	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
NIOSH:	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Alberta:	10 mg/m3 TWA
British Columbia:	10 mg/m3 TWA (total dust); 3 mg/m3 TWA (respirable fraction) 20 mg/m3 STEL
New Brunswick:	10 mg/m3 TWA (particulate matter containing no Asbestos and <1% Crystalline silica)
NW Territories:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Nunavut:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Quebec:	10 mg/m3 TWAEV (Limestone, containing no Asbestos and <1% Crystalline silica, total dust)
Saskatchewan:	10 mg/m3 TWA 20 mg/m3 STEL
Yukon:	30 mppcf TWA; 10 mg/m3 TWA 20 mg/m3 STEL

Gypsum (Ca(SO4).2H2O) (13397-24-5)

ACGIH:	10 mg/m3 TWA (inhalable fraction, listed under Calcium sulfate)
OSHA (Final):	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
OSHA (Vacated):	15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
NIOSH:	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)
Alberta:	10 mg/m3 TWA (listed under Calcium sulphate)
British Columbia:	10 mg/m3 TWA (total dust); 3 mg/m3 TWA (respirable fraction) 20 mg/m3 STEL
Manitoba:	10 mg/m3 TWA (inhalable fraction, listed under Calcium sulfate)
NW Territories:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Nova Scotia:	10 mg/m3 TWA (inhalable fraction, listed under Calcium sulfate)
Nunavut:	5 mg/m3 TWA (respirable mass); 10 mg/m3 TWA (total mass)
Ontario:	10 mg/m3 TWA (inhalable, listed under Calcium sulfate)
Quebec:	10 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, total dust); 5 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, respirable dust)
Saskatchewan:	10 mg/m3 TWA 20 mg/m3 STEL
Yukon:	30 mppcf TWA; 10 mg/m3 TWA 20 mg/m3 STEL

Quartz (14808-60-7)

ACGIH:	0.025 mg/m3 TWA (respirable fraction)
OSHA (Vacated):	0.1 mg/m3 TWA (respirable dust)
NIOSH:	0.05 mg/m3 TWA (respirable dust)
Alberta:	0.025 mg/m3 TWA (respirable particulate)
British Columbia:	ACGIH Category A2 - Suspected Human Carcinogen; IARC Category 1 - Human Carcinogen 0.025 mg/m3 TWA (respirable)
Manitoba:	0.025 mg/m3 TWA (respirable fraction)
New Brunswick:	0.1 mg/m3 TWA (respirable fraction)
NW Territories:	0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)
Nova Scotia:	0.025 mg/m3 TWA (respirable fraction)
Nunavut:	0.1 mg/m3 TWA (respirable mass); 0.3 mg/m3 TWA (total mass)
Ontario:	0.10 mg/m3 TWA (respirable fraction) 0.10 mg/m3 TWA (designated substance regulation, respirable)
Quebec:	0.1 mg/m3 TWAEV (respirable dust)
Saskatchewan:	0.05 mg/m3 TWA (respirable fraction, listed under Silica - crystalline)
Yukon:	300 particle/mL TWA (listed under Silica)

Engineering Measures

Avoid actions that cause dust to become airborne. Use local exhaust or general dilution ventilation to control exposure within applicable limits.

Personal Protective Equipment: Respiratory

Use local or general ventilation to control exposures below applicable exposure limits. NIOSH or MSHA approved particulate filter respirators should be used in the context of respiratory protection program meeting the requirements of the OSHA respiratory protection standard [29 CFR 1910.134] to control exposures when ventilation or other controls are inadequate or discomfort or irritation is experienced. Respirator and/or filter cartridge selection should be based on American National Standards Institute (ANSI) Standards Z88.2 Practices for Respiratory Protection.

Personal Protective Equipment: Hands

Where prolonged exposure to unhardened concrete products might occur, wear impervious gloves to eliminate skin contact. Do not rely on barrier creams; barrier creams should not be used in place of gloves. Periodically wash areas contacted by wet cement or its dry ingredients with a pH neutral soap and water. Wash again at the end of the work. If irritation occurs, immediately wash the affected area and seek treatment.

Personal Protective Equipment: Eyes

When engaged in activities where wet concrete or its dry ingredients could contact the eye, wear safety glasses with side shields or goggles. In extremely dusty environments and unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with Portland cement or fresh cement products.

Personal Protective Equipment: Skin and Body

Where prolonged exposure to unhardened concrete products might occur, wear impervious clothing to eliminate skin contact. Where required, wear boots that are impervious to water to eliminate foot and ankle exposure. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Gray powder.	**Odor:**	None
Physical State:	Solid	**pH:**	12-13 (in water)
Vapor Pressure:	Not Applicable	**Vapor Density:**	Not Applicable
Boiling Point:	Not Applicable	**Melting Point:**	Not Applicable
Solubility (H2O):	Slightly soluble	**Specific Gravity:**	3.15
Evaporation Rate:	Not Applicable	**VOC:**	Not Determined
Octanol/H2O Coeff.:	Not Determined	**Flash Point:**	None
Flash Point Method:	None	**Upper Flammability Limit (UFL):**	None
Lower Flammability Limit (LFL):	None	**Burning Rate:**	None
Auto Ignition:	Not Combustible		

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Unintentional contact with water.

Incompatible Products

Wet Portland cement is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.

Hazardous Decomposition Products

Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

Component Analysis - LD50/LC50

Quartz (14808-60-7)

Oral LD50 Rat >5000 mg/kg

Dermal LD50 Rat >5000 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

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.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry 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.

Potential Health Effects: Ingestion

May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Potential Health Effects: Inhalation

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. 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. Corrosive to the respiratory tract.

Respiratory Organs Sensitization/Skin Sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Some individuals may exhibit an allergic response upon exposure to wet concrete. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may first experience this effect after years of contact with Portland cement products.

Generative Cell Mutagenicity

This product is not reported to have any mutagenic effects.

Carcinogenicity

A: General Product Information

May cause cancer.

Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease and/or lung cancer. IARC states that crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

B: Component Carcinogenicity

Cement, portland, chemicals (65997-15-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Quartz (14808-60-7)

ACGIH: A2 - Suspected Human Carcinogen
NIOSH: potential occupational carcinogen
NTP: Known Human Carcinogen (respirable size) (Select Carcinogen)
IARC: Monograph 100C [2012] (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources); Monograph 68 [1997] (Group 1 (carcinogenic to humans))

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any single exposure specific target organ toxicity effects.

Specified Target Organ General Toxicity: Repeated Exposure

Causes damage to organs through prolonged or repeated exposure (lungs).

Aspiration Respiratory Organs Hazard

This product is not reported to have any aspiration hazards.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

This product is not reported to have any ecotoxicity effects.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

DOT/TDG Information

Shipping Name: Not Regulated.

* * * Section 15 - Regulatory Information * * *

Regulatory Information

US Federal Regulations

Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Cement, portland, chemicals	65997-15-1	No	Yes	Yes	Yes	Yes	No
Limestone	1317-65-3	No	Yes	Yes	Yes	Yes	No
Gypsum (Ca(SO4).2H2O)	13397-24-5	No	No	Yes	Yes	Yes	No
Quartz	14808-60-7	No	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Status under Workplace Hazardous Materials Information System (WHMIS), Canada

Unhardened Ready-Mix concrete is considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class E - Corrosive Material) and is therefore subject to the labeling and MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS).

Status under Canadian Environmental Protection Act

Not Listed

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC

Cement, portland, chemicals	65997-15-1	Yes	DSL	EINECS
Limestone	1317-65-3	Yes	NDSL	EINECS
Gypsum (Ca(SO4).2H2O)	13397-24-5	No	DSL	No
Quartz	14808-60-7	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

Hazardous Material Information System (HMIS):	**Health**	**1**
	Flammability	**0**
	Physical Hazard	**0**
	Personal Protection	**B**

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
Protective Equipment: Safety glasses, gloves

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

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End of Sheet