

# MATERIAL SAFETY DATA SHEET

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**Product Name(s):** Portland Cement

**Product Identities:** Cement, Portland Cement, Type I Cement, Type II Cement, Type III Cement, Type V Cement, Type II/V Cement, Type I, Type II, Type II/V, Type III, Type V, Block Cement, Plastic Cement, Hydraulic Cement

**Supplier:**  
 Diversified Minerals Inc.  
 1135 E. Wooley Road  
 Oxnard CA, 93030  
**Information:**  
 (888) 364-9595

**Poison Control System:**  
**(800) 222-1222**

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS RN	ACGIH TLV (mg/m <sup>3</sup> )	OSHA-PEL (mg/m <sup>3</sup> )
Portland Cement	65997-15-1	1(R)	5(R) 15(T)
Calcium Sulfate	13397-24-5	10(T)	5(R) 15(T)
Calcium Carbonate	1317-65-3	3(R) 10(T)	5(R) 15(T)
Calcium Oxide	1305-78-8	2(T)	5(T)
Magnesium Oxide	1309-48-4	10(T)	15(T)
Silica	14808-60-7	0.1	10(R) 30(T)
Inert or nuisance dust	- - -	10	5(R) 15(T)

Cement is made sintered and ground earth materials. Trace amounts of chemicals may be detected due to the naturally variable chemical compositions of earth materials.

## SECTION 3: HAZARD IDENTIFICATION

	WARNING	 Respiratory Protection  Eye Protection
	<p>Irritant: Causes eye, skin and inhalation irritation</p> <p>Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to wet or dry product.</p> <p>Read MSDS for details.</p>	

### SECTION 3: HAZARD IDENTIFICATION (continued)

**Emergency Overview:** Cement is a solid, gray, off-white or white, dry, odorless powder. A single, short-term exposure to the dry powder presents little or no hazard. Exposure of sufficient duration to wet Cement, or to dry Cement on moist areas of the body, can cause serious, potentially irreversible tissue (skin, eye, respiratory tract) damage due to chemical (caustic) burns.

#### **Potential Health Effects:**

**Eye Contact:** Airborne dust may cause immediate or delayed irritation. Eye contact with large amounts of Cement can cause moderate eye irritation, redness and burning. Eye exposures require immediate first aid to prevent damage to eye.

**Skin Contact:** Cement may cause dry skin, discomfort, irritation and dermatitis.

Dermatitis: Cement is capable of causing dermatitis by irritation. Skin affected by dermatitis may include symptoms of redness, itching, rash, scaling and cracking. Irritant dermatitis is caused by the physical properties of Cement including moisture and abrasion.

**Inhalation (acute):** Breathing dust may cause nose, throat and/or lung irritation, including coughing or choking, depending on the degree of exposure.

**Inhalation (chronic):** The risk of injury depends on the duration and level of exposure.

Silicosis: The product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica can cause silicosis, a seriously disabling and fatal lung disease. See Note to Physicians in Section 4 for further information.

Carcinogenicity: Cement is not listed as a carcinogen by IARC to NTP; however Cement may contain trace amounts of crystalline silica and/or metals that are classified by IARC and NTP as known human carcinogens.

Autoimmune Disease: Some studies show that exposure to respirable crystalline silica (without silicosis) or Disease: 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.

Tuberculosis: Silicosis increases the risk of tuberculosis.

Renal Disease: Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.

**Ingestion:** Do not ingest Cement. Although ingestion of small quantities of Cement is not known to be harmful, ingestion of large quantities may cause an obstruction causing pain and distress in the digestive tract.

**Medical Conditions Aggravated by Exposure:** Individuals with lung disease (e.g. bronchitis, asthma, emphysema, COPD, pulmonary disease) can be aggravated by exposure.

## SECTION 4: FIRST-AID MEASURES

- Eye Contact:** Rinse eyes thoroughly with water for at least 15 minutes, including under lids to remove all particles. Seek medical attention for discomfort or if irritation or other symptoms do not subside.
- Skin Contact:** Wash with cool water and pH neutral soap or a mild skin detergent. Seek medical attention for rash, irritation, dermatitis and prolonged unprotected exposures to wet Cement.
- Inhalation:** Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.
- Ingestion:** Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control immediately.

**Note to Physicians:**

The three types of silicosis include:

- Simple chronic silicosis – 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).
- Accelerated silicosis – Occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years). Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis.
- 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.

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.

## SECTION 5: FIRE-FIGHTING MEASURES

- Flashpoint & Method:** Non-combustible
- General Hazard:** Avoid breathing dust. Wet cement is caustic.
- Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.
- Firefighting Equipment:** Cement poses no fire-related hazard.
- Combustion Products:** In excess of 1000°C compounds will break down into their constituent oxides.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

- General:** Place spilled material into a container. Avoid actions that cause the Cement to become airborne. Avoid inhalation of Cement and contact with skin. Wear appropriate Personal Protective Equipment (PPE) as described in Section 8 below. Scrape wet cement into a container. Allow material to dry or solidify before disposal. Do not wash cement down sewage and drainage systems or into bodies of water (e.g. streams).
- Waste Disposal:** Dispose of Cement according to Federal, State, Provincial and local regulations.

## SECTION 7: HANDLING AND STORAGE

- General:** Keep dry until used. 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.
- 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.
- 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 build up or adhere to the walls of a confined space. The Cement can suddenly release, collapse, or fall unexpectedly.
- Usage:** Cutting, crushing, sanding or grinding drywall, 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.
- Housekeeping:** Avoid actions that cause Cement 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 below.
- Storage Temperature:** Unlimited.
- Storage Pressure:** Unlimited.
- Storage Moisture:** Keep dry.
- Clothing:** Promptly remove and launder clothing that is dusty or wet with Cement. Thoroughly wash skin after exposure to Cement.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Use local exhaust and general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.

### Personal Protective Equipment (PPE):

Respiratory Protection: Under ordinary circumstances no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.

Eye Protection: Wear ANSI approved glasses or safety goggles when handling dust or wet Cement to prevent contact with eyes. Wearing contact lenses when using Cement, under dusty conditions, is not recommended.

Skin 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. Remove clothing and PPE that become saturated with wet Cement and immediately wash exposed areas.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Solid (powder)	<b>Evaporation Rate:</b>	NA
<b>Appearance:</b>	Gray, off-white or white	<b>pH (in water):</b>	12-13
<b>Odor:</b>	None	<b>Boiling Point:</b>	>1000°C
<b>Vapor Pressure:</b>	NA	<b>Freezing Point:</b>	None, solid
<b>Vapor Density:</b>	NA	<b>Viscosity:</b>	None, solid
<b>Specific Gravity</b>	3.1-3.2	<b>Solubility in water:</b>	Slight (0.1-1%)

## SECTION 10: STABILITY AND REACTIVITY

**Stability:** Stable. Keep dry until use. These products may react with water, resulting in a slight release of heat, depending upon the amount of lime (Calcium oxide) present. Avoid contact with incompatible materials.

**Incompatibility:** 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.

**Hazardous Polymerization:** None.

**Hazardous Decompositions:** Will not spontaneously occur. Avoid exposure to acids. Product exposed directly to acids may release hydrogen sulfide. Hydrogen sulfide is a hazardous, toxic and poisonous gas.

## SECTION 11 AND 12: TOXICOLOGICAL AND ECOLOGICAL INFORMATION

For questions regarding toxicological and ecological information refer to contact information in Section 1.

## SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of waste and containers in compliance with Federal, State, Provincial and Local regulations.

## SECTION 14: TRANSPORT INFORMATION

This product is not classified as a Hazardous material under US D.O.T or Canadian TDG regulations.

## SECTION 15: REGULATORY INFORMATION

**OSHA/MSHA Hazard Communication:** This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program

**CERCLA/Superfund:** This product is not listed as a CERCLA hazardous substance.

**EPCRA SARA Title III:** This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered a "hazardous substance" and a delayed health hazard.

**EPCRA SARA Section 313:** This product does not contain any of the substance subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

**California Proposition 65:** WARNING: This material may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## SECTION 16: OTHER INFORMATION

### General Abbreviations:

>	Greater than	NFPA	National Fire Protection Association
<	Lesser than	NIOSH	National Institute for Occupational Safety and Health
ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS RN	Chemical Abstracts Reference Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensations and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	pH	Negative log of hydrogen ion
CL	Ceiling Limit	PPE	Personal Protective Equipment
DOT	Department of Transportation	R	Respirable Particulate
g/cm <sup>3</sup>	Grams per cubic centimeter	RCRA	Resource Conservation and Reauthorization Act
HEPA	High-Efficiency Particulate Air	SARA	Superfund Amendments and Reauthorization Act
HMIS	Hazardous Materials Identification Systems	T	Total Particulate
IARC	International Agency for Research on Cancer	TDG	Transportation of Dangerous Goods

SECTION 16: OTHER INFORMATION (continued)

mg/m <sup>3</sup>	Milligrams per cubic meter	TLV	Threshold Limit Value
MSDS	Material Safety Data Sheet	TWA	Time Weighted Average (8 hour)
MSHA	Mine Safety and Health Administration	WHMIS	Workplace Hazardous Materials Information System
NA	Not Applicable	---	---

This MSDS (Section 1-16) was revised on January 14, 2013.

An electronic version of this MSDS is available at: [www.dmicement.com](http://www.dmicement.com)

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