

Material Safety Data Sheet

Section 1



Product Name(s): Ordinary Portland Cement

Product Use: Cement is used as a binder in concrete and mortars that are widely used in construction. Cement is distributed in bags and bulk shipment.

Note: This MSDS covers the Ordinary Portland cement.

Cement is made from materials mined from the earth and is processed using energy provided by fuels. Trace amounts of chemicals may be detected during chemical analysis. For example, cement may contain trace amounts of calcium oxide (also known as free lime or quick lime), free magnesium oxide, potassium and sodium sulfate compounds, chromium compounds, nickel compounds, and other trace compounds.

Section 2: HAZARD IDENTIFICATION

	WARNING	 <p>Respiratory Protection Eye Protection</p> <p>Waterproof Gloves Waterproof Boots</p>
	<p>Corrosive - Causes severe burns. Toxic - Harmful by inhalation. (Contains crystalline silica)</p> <p>Use proper engineering controls, work practices, and personal protective equipment to prevent</p>	

Section 3

Emergency Overview: Cement is a solid, grey, off white, or white odorless powder. It is not combustible or explosive. 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, including third degree burns.

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Section 4

Potential Health Effects

- Eye Contact:** 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.
- Skin Contact:** Cement may cause dry skin, discomfort, irritation, severe burns, and dermatitis.
- Burns: 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.
- Dermatitis: 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.
- Inhalation (acute):** Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure. Inhalation of high levels of dust can cause chemical burns to the nose, throat and lungs.
- Inhalation (chronic):** Risk of injury depends on duration and level of exposure.
- Silicosis: This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product 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 in general; however, cement contains trace amounts of crystalline silica and hexavalent chromium which are classified as known human carcinogens.
- Autoimmune 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.

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Ingestion:	Do not ingest cement. Although ingestion of small quantities of cement is not known to be harmful, large quantities can cause chemical burns in the mouth, throat, stomach, and digestive tract.
Medical Conditions	Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) or sensitivity to hexavalent chromium can be aggravated by exposure.

Section 5

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 abrasions and burns.
Skin Contact:	Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical attention for rash, burns, irritation, dermatitis, and prolonged unprotected exposures to wet cement, cement mixtures or liquids from 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 center immediately.
Note to Physician:	<p>The three types of silicosis include:</p> <ul style="list-style-type: none">• 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).• 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.

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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 protective equipment as described in PPE Section below. Scrape wet cement and place in 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 Method:** Dispose of cement according to Federal, State, Provincial and Local regulations.

Section 7

HANDLING AND STORAGE

- General:** 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.

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- Usage:** 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 below.
- Housekeeping:** Avoid actions that cause the 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 below.
- Storage Temperature:** Below 120° C
- Storage Pressure:** Unlimited.
- Clothing:** Promptly remove and launder clothing that is dusty or wet with cement. Thoroughly wash skin after exposure to dust or wet cement.

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EXPOSURE CONTROLS AND PERSONAL PROTECTION

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

Personal Protective Equipment (PPE):

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

Eye Protection: Wear 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 protective equipment that becomes saturated with wet cement and immediately wash exposed areas.

Section 10

PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid (powder).	Evaporation Rate:	NA.
Appearance:	Gray.	pH (in water):	12 – 13
Odor:	None.	Boiling Point:	>1000° C
Vapor Pressure:	NA.	Freezing Point:	None, solid. Vapor
Density:	NA.	Viscosity:	None, solid.
Specific Gravity:	3.15	Solubility in Water:	Slightly (0.1 - 1.0%)

Section 11

STABILITY AND REACTIVITY

Stability: Stable. Keep dry until use. 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 Decomposition: None.

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Section 12 & 13

TOXICOLOGICAL AND ECOLOGICAL INFORMATION

For questions regarding toxicological and ecological information refer to Hazard Identification above.

Section 14

DISPOSAL CONSIDERATIONS

Dispose of waste and containers in compliance with applicable Local regulations.

Section 15

TRANSPORT INFORMATION

This product is not classified as a Hazardous Material under State of Qatar regulations.

Section 16

Contact Information
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