

Safety Data Sheet (SDS)



Section 1: Product & Company Identification

Product Name: Fresh Unhardened Concrete

Product Identifiers: Ready mixed concrete, freshly mixed concrete, Portland cement concrete, grout, stucco, flowable fill, permeable concrete, roller compacted concrete, colored concrete, fiber reinforced concrete.

Manufacturer: SPEEDWAY - Fort Wayne, Indiana

Telephone Number: (260) 203-9806

Product use: Concrete is widely used as a structural component in Construction applications.

Note: This safety data sheet covers many types (variations) of concrete. Individual composition of hazardous constituents will vary between the types of concrete.

Section 2: Hazard(s) Identification


Emergency Overview:	Unhardened concrete is an odorless semi-fluid, flowable, granular paste of varying color and texture. It is not combustible or explosive. Exposure of sufficient duration to wet concrete can cause serious, potentially irreversible tissue (skin, eye, respiratory tract) damage due to chemical (caustic) burns, including third degree burns.
Potential Health Effects:	
Eye Contact (Acute):	Concrete may Immediate or delayed irritation or inflammation. Eye contact with wet concrete 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 (acute):	Concrete may cause dry skin, discomfort, irritation, severe burns, dermatitis

Burns:	Exposure of sufficient duration to wet concrete can cause serious potentially irreversible damage to skin, skin eye, respiratory and digestive tracts due to chemical (caustic) burns. A skin exposure may be hazardous even if there is no pain or discomfort
Dermatitis:	Unhardened concrete 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 concrete including alkalinity and abrasion
Sensitization:	Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in concrete. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with wet concrete. Others may develop allergic dermatitis after years of contact with wet concrete
Inhalation (acute):	Breathing dust may cause nose, throat lung or mucus membrane irritation, including choking depending on the degree of exposure. Inhalation of high levels of dust can cause chemical burns to the nose throat or 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:	Concrete is not listed as a carcinogen by IARC or NTP; however concrete contains trace amounts of crystalline silica and hexavalent chromium which are classified by IARC and NTP as known human carcinogens.
Autoimmune Disease:	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.
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.

Section 3: Composition/Information on Ingredients

CAS Number	OSHA PEL-TWA (mg/m3)	ACGIH TLV TWA (mg/m3)	LD 50 (mouse)	LC 50
14808-60-7	[(10)/(SiO ₂ +2)] (R)	0.025 (R)	NA	NA
1317-65-3	[(30)/(SiO ₂ +2)] (T)	3 (R) ; 10 O(T)	NA	NA
65997-15-1	15 (T) ; 5 (R)	1 (R)	NA	NA
1305-62-0	15 (T) ; 5 (R)	5 (T)	7300 mg/kg (oral)	NA
68131-74-8	NA	NA	NA	NA
1305-78-8	5 (T)	2 (T)	3059 mg/kg (intraperitoneal)	NA
1309-48-4	15 (T) ; 5(R)	10 (I)	NA	NA
13397-24-5	15 (T) ; 5 (R)	10 (I)	NA	NA
NA	15 (T) ; 5 (R)	10 (T) ; 3(R)	NA	NA

Note: Exposure limits for components noted with a * contain no asbestos and <1% crystalline silica. Concrete contains cement which is manufactured from materials mined from the earth and is processed by energy provided by fuels. Trace amounts of chemicals may be detected during chemical analysis such as: potassium and sodium sulfate compounds, nickel compounds and other trace compounds.




WARNING

Corrosive - Causes severe burns.
Toxic - Harmful by inhalation.
(Contains crystalline silica)

Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to wet or dry product.

Read MSDS for details.



Respiratory Protection Eye Protection

Waterproof Gloves Waterproof Boots

Section 4: First Aid Measures

Eye Contact:	Rinse eyes thoroughly with water for at least 15 minutes, including under the eyelids to remove all particles. Seek medical attention for abrasions and burns.
Skin Contact:	Wash with cool water and a pH neutral soap or mild skin detergent. Seek medical attention for rash, burns, irritation, dermatitis, and prolonged unprotected exposures to wet concrete.
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>Three types of silicosis Include:</p> <p>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).</p> <p>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.</p> <p>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 oxygen levels.</p> <p>Progressive massive fibrosis may occur in simple or accelerated silicosis, but more common in the accelerated form.</p>
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Section 5: Fire Fighting Measures

Flashpoint & Method:	Non Combustible	Firefighting equipment:	Concrete poses no fire related hazard.
General Hazard:	Avoid breathing dust, wet concrete is caustic		
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire	Combustion Products:	None

Section 6: Accidental Release Measures

General:	Place spilled material into container. Avoid contact with skin. Wear appropriate protective equipment as described in section 8. Scrape wet concrete and place in container. Allow material to dry solidly before disposal. Do not wash concrete down sewage and drain systems or into bodies of water (e.g. streams).
Waste Disposal Method:	Dispose of concrete according to Federal, State, Provincial and Local laws.

Section 7: Handling & Storage

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 in section 8 below.
Storage Temperature:	Unlimited.
Storage Pressure:	Unlimited.
Clothing:	Promptly remove and launder clothing that is wet with concrete. Thoroughly wash skin after exposure to wet concrete.

Section 8: Exposure Controls & Personal Protection

Engineering Controls:	Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.
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Personal Protective Equipment (PPE)

Respiratory Protection:	Under normal conditions 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 wet concrete to prevent contact with eyes. Wearing contact lenses, when using concrete, 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 that becomes saturated with wet cement and immediately wash exposed areas.

Section 9: Physical & Chemical Properties

Physical State:	Semi-fluid, Flowable, moldable, granular paste.
Evaporation rate:	NA
Appearance:	Variety of colors usually gray
ph (in water)	12 - 13
Odor:	None
Boiling point:	NA

Vapor Pressure:	NA
Freezing point:	NA
Vapor Density:	NA
Viscosity:	Varies
Specific Gravity:	1.9 to 2.4
Solubility in Water	Slightly (0.1 – 1.0%)

Section 10: Stability and reactivity

Stability:	Hardened concrete is stable. Avoid contact with incompatible materials
Incompatibility:	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.

Hazardous Polymerization:	None
Hazardous Decomposition:	None

Section 11: Toxicology information

Questions regarding toxicological information refer to contact information in section 1.

Section 12: Ecological information

Questions regarding ecological information refer to contact information in section 1.

Section 13: Disposal considerations

Dispose of waste and containers in compliance with all applicable Federal, State, Provincial and Local Regulations.

Section 14: Transport information

This product is not classified as Hazardous Material under U.S. DOT or Canadian TDG regulations

Section 15: Regulatory Information

QSHA/MSHA Hazard Communication:	This product is considered by OSHA to be a hazardous chemical and should be included in the employer's hazardous communication program.
CERCLA/SUPERFUND:	This product is not listed as a CERCLA hazardous substance.
EPRCA SARA Section 313:	This product contains none of the substances subject to reporting requirements of section 313 of title III of the superfund amendments and reauthorization act of 1986 and 40 CFR Part 372.

EPRCA Title III:	This product has been reviewed according to the EPA Hazard categories promulgated under section 311 and 312 of the superfund amendment and reauthorization act of 1986 and is considered a hazardous chemical and a delayed health hazard.
RCRA:	If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. However, under RCRA it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.
TSCA:	Portland cement and crystalline silica are exempt from reporting under the inventory update rule.
California Proposition 65:	Crystalline silica (airborne particulates of respirable size) and chromium (hexavalent compounds) are known by the State of California to cause cancer.
WHIMIS/DSL:	Products containing crystalline silica and calcium carbonate are classified as D2A, E and are subject to WHMIS requirements.

Section 16: Other Information

>	Greater than	NA	Not applicable
ACGIH	American conference of governmental industrial hygienists	NFPA	National fire protection association
CAS No	Chemical abstract service number NIOSH National institute for occupational safety and health	CERCLA	Comprehensive Environmental Response, compensation and liability act
NTP	National toxicology program	CFR	Code for federal regulations OSHA Occupational safety and health administration
CL	Ceiling limit PEL Permissible exposure limit	DOT	Department of transportation pH Negative log of hydrogen ion
EST	Eastern standard time	PPE	Personal protective equipment
HEPA	High efficiency particulate air	R	Respirable particulate
HMIS	Hazardous materials identification system	RCRA	Resource conservation and recovery act
IARC	Internal agency for research on cancer SARA Superfund amendments and reauthorization act	SARA	Superfund amendments and reauthorization act
LC 50	Lethal Concentration	T	Total particulate
LD 50	Lethal Dose	TDG	Transportation of dangerous goods

Mg/m3	Milligrams per cubic meter	TLV	Threshold limit value
MSHA	Mine Safety & Health Administration	TWA	Time weighed average (8 hours)
WHMIS	Workplace hazardous materials information system		

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