

Conforms to HazCom 2012/United States

SAFETY DATA SHEET

Ready Mixed Concrete

Section 1. Identification

GHS product identifier : Ready Mixed Concrete

Other means of identification : Concrete, Concrete Ready Mix, Portland Cement Concrete, Ready Mix Grout, Permeable Concrete, Shotcrete, Gunitite, Colored Concrete, Flowable Fill, Roller-Compacted Concrete, Fiber Reinforced Concrete

Identified uses : Concrete is widely used as a structural component in many construction applications.

Supplier's details : Pete Lien & Sons, Inc.
PO Box 440
Rapid City, SD 57702

Emergency telephone number (hours of operation) : (605) 342-7224 (Monday-Friday 8am-5pm)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 191 0.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3

GHS label elements



Hazard pictograms :

Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause respiratory irritation.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Avoid breathing dust. Wash hands thoroughly after handling. May cause eye and skin burns. See Section 4 for additional details. May present risk of engulfment. See Section 7 for additional details. Overexposure to wet concrete can cause severe skin damage in the form of chemical burns, including third degree burns. The same severe injury can occur if wet or moist skin is exposed to dry Ready Mixed Concrete dust. Clothing wet with moisture from concrete can transmit the caustic effects to the skin, causing chemical burns. Ready Mixed Concrete may cause skin burns with little warning;

discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure.

MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE: Contact with wet concrete may aggravate existing skin conditions. Sensitivity to hexavalent chromium can be aggravated by exposure.

Response

: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Prolonged and repeated inhalation of respirable crystalline silica-containing dust in excess of appropriate exposure limits has caused silicosis, fibrosis or scar tissue formations in the lungs. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of pH neutral soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs: get medical attention. Ready Mixed Concrete may contain trace amounts of hexavalent chromium. Hexavalent chromium is associated with allergic skin reactions which may appear as contact dermatitis and skin ulcerations. Persons already sensitized may react to their first exposure to concrete. Other individuals may develop allergic dermatitis after repeated exposure to concrete. The symptoms of allergic reactions may include reddening of the skin, rash, and irritation. Symptoms of chronic exposure to wet concrete may include reddening, irritation, and eczematous rashes. Drying, thickening, and cracking of the skin and nails may also occur. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Exposure to dust may cause immediate or delayed irritation or inflammation. Eye contact by larger amount of dry power or splashes of wet Ready Mixed Concrete may cause effects ranging from moderate eye irritation to chemical burns or blindness. Immediately call a POISON CENTER or physician. IF INGESTED: Irritating to mouth, throat and stomach. Ingestion of large quantities may cause severe irritation and chemical burns of the mouth, throat, stomach and digestive tract. Do not ingest Ready Mixed Concrete. Get immediate medical attention.

Storage

: Not applicable.

Disposal

: Dispose of Ready Mixed Concrete in accordance with local, regional, and national regulations.

Hazards not otherwise Classified : Not applicable.

Classified

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
The structure of Ready Mixed Concrete may contain the following in some concentration ranges:		
Quartz	0 - 80	14808-60-7
Limestone	0 - 80	131 7-65-3
Cement, portland	0 - 20	65997-15-1
Slag Cement	0 - 15	-
Fly Ash	0 - 10	68131-74-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Chemical admixtures may be present in ranges of less than 1%.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye Contact** :Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** :Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Ready Mixed Concrete requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin Contact** :Get medical attention immediately. Heavy exposure to Ready Mixed Concrete dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly wash or brush away Ready Mixed Concrete. Immediately wash thoroughly with gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet concrete, concrete mixtures or liquids from wet concrete. Burns should be treated as caustic burns. Ready Mixed Concrete may cause skin burns with little warning. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure.
- Ingestion** :Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : May cause serious eye damage.
- Inhalation** : May cause respiratory irritation.
- Skin contact** : May cause severe burns. May cause an allergic skin reaction
- Ingestion** : May cause burns to mouth, throat and stomach

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain

	watering redness
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing
Skin contact	: Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	: Adverse symptoms may include the following: stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Not applicable.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wear gloves when removing contaminated clothing.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: No specific fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide Sulfur oxides metal oxide/oxides
Special protective actions for fire-fighters	: No special protection is required.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Personnel involved with the handling of wet unhardened concrete should take steps to avoid contact with the eyes and skin, through the use of gloves and suitable clothing as described in Section 8. Silica-containing respirable dust particles may be generated by crushing, cutting, grinding, or drilling hardened concrete or concrete products. Follow protective controls defined in Section 8 when handling these products. When cutting, grinding, crushing or drilling hardened concrete, use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.
For emergency responders	: For personal protective clothing requirements, please see Section 8.
Environmental precautions	: Wet unhardened concrete should be recycled or allowed to harden and disposed. Do not wash concrete down sewage and drainage systems or into bodies of water

(e.g. lakes, streams, wetlands, etc.).

Methods and materials for containment and cleaning up

Spill : Place spilled material into a contained area and allow wet unhardened concrete to harden and dispose in a landfill as common solid waste. Follow applicable Federal, State, and local regulations for disposal. Uncontaminated ready mixed concrete is neither a listed nor a characteristic hazardous waste under designations by the USEPA or USDOT.

USDOT Class: Uncontaminated ready mixed concrete does not meet any hazardous material class definition found in Title 49 Code of Federal Regulations Part 173.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : A key to using the product safely requires the user to recognize that Ready Mixed Concrete reacts chemically with water to produce calcium hydroxide which can cause severe chemical burns. Every attempt should be made to avoid skin and eye contact with concrete. Do not get Ready Mixed Concrete inside boots, shoes or gloves. Do not allow wet, saturated clothing to remain against the skin. Promptly remove clothing and shoes that are dusty or wet with concrete mixtures. Launder/clean clothing and shoes before reuse.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name

Crystalline silica, quartz

Exposure limits

OSHA PEL Z3 (United States, 2/2013).

TWA: 10 mg/m³ / (%SiO₂+2) 8 hours. Form: Respirable

TWA: 250 MPPCF / (%SiO₂+5) 8 hours. Form: Respirable

ACGIH TLV (United States, 6/2013).

TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction

NIOSH REL (United States, 4/2013).

TWA: 0.05 mg/m³ 10 hours. Form: respirable dust

ACGIH TLV (United States, 6/2013).

TWA: 1 mg/m³ 8 hours. Form: Respirable fraction

NIOSH REL (United States, 4/2013).

TWA: 5 mg/m³ 10 hours. Form: Respirable fraction

TWA: 10 mg/m³ 10 hours. Form: Total

OSHA PEL (United States, 2/2013).

Cement, portland

Limestone

TWA: 5 mg/m³ 8 hours. Form: Respirable fractionTWA: 15 mg/m³ 8 hours. Form: Total dust**NIOSH REL (United States, 4/2013).**TWA: 5 mg/m³ 10 hours. Form: Respirable fractionTWA: 10 mg/m³ 10 hours. Form: Total**OSHA PEL (United States, 2/2013).**TWA: 5 mg/m³ 8 hours. Form: Respirable fractionTWA: 15 mg/m³ 8 hours. Form: Total dust**Admixtures may be present in quantities of less than 1%.**

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual Protection Measures

Hygiene measures : Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Ready Mixed Concrete with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Ready Mixed Concrete, it should be removed and replaced with clean, dry clothing.

Eye/face protection : To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet concrete. Wearing contact lenses when working with concrete is not recommended.

Skin Protection

Hand Protection : Use impervious, waterproof, abrasion and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Ready Mixed Concrete inside gloves.

Body protection : Use impervious, waterproof, abrasion and alkali-resistant boots and long-sleeved and long-legged clothing to protect the skin from contact with wet Ready Mixed Concrete. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Ready Mixed Concrete from getting inside them. If finishing concrete, wear waterproof knee pads to protect knees. Do not get Ready Mixed Concrete inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with concrete and immediately wash exposed areas of the body.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties**Appearance**

Physical state : Solid. [Semi-fluid, Flowable, Granular Paste, Varying.]

Color : Gray, Varying.

Odor : Odorless.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point	: Not available.
Flash point	: Not flammable. Not combustible.
Evaporation rate	: Not applicable.
Flammability (solid, gas)	: Not applicable.
Lower and upper explosive (flammable) limits	: Not applicable.
Vapor pressure	: Not applicable.
Vapor density	: Not applicable.
Relative density	: Wet Concrete 1.9 to 2.4
Solubility	: Not soluble.
Solubility in water	: Not soluble.
Partition coefficient: n octanol/water	: Not applicable.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not available.
Viscosity	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution.
Chemical stability	: The product is stable
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Ready Mixed Concrete is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas - silicon tetrafluoride.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Information on toxicological effects

<u>Acute toxicity</u>	: There is no data available.
<u>Irritation/Corrosion</u>	: There is no data available.
<u>Sensitization</u>	: There is no data available.

Carcinogenicity Classification

<u>Product/ingredient name</u>	<u>OSHA</u>	<u>IARC</u>	<u>NTP</u>	<u>ACGIH</u>	<u>EPA</u>	<u>NIOSH</u>
Quartz	-	1	Known to be a human carcinogen.	A2	-	+
Cement, Portland	-	-		A4	-	-

Specific target organ toxicity (single exposure)

<u>Name</u>	<u>Category</u>	<u>Route of exposure</u>	<u>Target organs</u>
Cement, portland	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

<u>Name</u>	<u>Category</u>	<u>Route of exposure</u>	<u>Target organs</u>
Quartz	Category 1	Not determined	kidneys, respiratory tract and testes

Aspiration hazard : There is no data available.
Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : May cause serious eye damage.
Inhalation : May cause respiratory irritation.
Skin contact : May cause severe burns. May cause an allergic skin reaction.
Ingestion : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
Pain
Watering
Redness
Inhalation : Adverse symptoms may include the following:
Respiratory tract irritation
Coughing
Skin contact : Adverse symptoms may include the following:
Pain or irritation
Redness
Blistering may occur
Ingestion : Adverse symptoms may include the following
Stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects : No known significant effects or critical hazards.
Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.
Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.
 Developmental effects : No known significant effects or critical hazards.
 Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition : There is no data available.

coefficient (K_{oc})

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Untreated waste should not be released to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Landfill should only be considered when recycling is not feasible. This material must be disposed of in a safe manner. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff in waterways, drains and sewers.

Section 14. Transport information

	<u>DOT Classification</u>	<u>IMDG</u>	<u>IATA</u>
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	None.	None.	None.
Additional information	-	-	-

AERG : Not applicable.

Special precautions for user : **Transport within user's premises:** Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to : Not available.

Annex II of MARPOL 73/78
and the IBC Code

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 6 final risk management:** Chromium, ion (Cr6+)
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 307: Chromium, ion (Cr6+)
CERCLA: This product is not listed as a CERCLA substance.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed
Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ (lbs)	(gallons)	SARA 304 RQ (lbs)	(gallons)
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This product contains no Extremely Hazardous Substances.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Quartz	0 - 80	No.	No.	No.	No.	Yes.
Chromium, ion (Cr6+)	< de minimis	No.	No.	No.	Yes.	Yes.
Nickel Compounds	< de minimis	No.	No.	No.	Yes.	Yes.
Lead (Organic & Inorganic)	< de minimis	No.	No.	No.	No.	Yes.
Mercury	< de minimis	No.	No.	No.	Yes.	Yes.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Chromium, ion (Cr6+)	18540-29-9	< 0.1
	Lead (Organic or Inorganic)	-	< 0.1
	Nickel Compounds	-	< 0.1
	Mercury	-	< 0.1

Supplier notification Alternatively, if any of the compounds are not present, state:
 This product does not contain any constituents listed under SARA Title III Section 313.

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Section 16. Other information

History

Date of issue (mm/dd/yyyy) : 06/01/2015
 Version : 1
 Revised Section(s) : Not applicable.
 Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labeling of Chemicals IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 Log Pow = logarithm of the octanol/water partition coefficient
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations

Notice to reader:

To the best of our knowledge, the information contained herein is accurate. However, neither Pete Lien & Sons, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

The information contained in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

The information set forth herein is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside the concrete/concrete products producer's control, the producer makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information.