Unhardened Ready-Mix Concrete
Safety Data Sheet
Date of issue: 27/12/2013 Revision date: 27/12/2013 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product name: Unhardened Ready-Mix Concrete
Product code: Not available

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Construction use.

1.3. Details of the supplier of the safety data sheet
Ash Grove Cement Company
11011 Cody
Overland Park, KS 66210
T 913-451-8900

1.4. Emergency telephone number
Emergency number: CHEMTREC (800) 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Acute toxicity 4 (Oral)
Skin corrosion 1A
Serious Eye Damage 1
Skin Sensitization 1
Carcinogenicity 1A
Specific Target Organ Toxicity After Repeated Exposure 1

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US):

Signal word (GHS-US): Danger
Hazard statements (GHS-US): Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause cancer. Causes damage to lungs through prolonged or repeated exposure.
Prevention statements (GHS-US): Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dusts. Take off contaminated clothing and wash before reuse. Wear protective gloves and protective clothing as well as eye and face protection.
Response statements (GHS-US): If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor if swallowed or skin / eye irritation persists or worsens. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention.
Storage statements (GHS-US): Store to avoid skin contact.
Disposal statements (GHS-US): Dispose of contents and container in accordance with all local, state and federal regulations.
Supplemental Information
Read and Follow all precautions listed in the Safety Data Sheet available on request or at Ashgrovepkg.com. Additional information on the selection and use of respirators can be found in the NIOSH Respirator Selection Logic (DHHS [NIOSH] Publication No. 2005-100) and the NIOSH Guide to Industrial Respiratory Protection (DHHS [NIOSH] Publication No. 87-116) available at http://www.cdc.gov/niosh/docs/87-116/.

This product contains greater than 0.1% crystalline silica. Crystalline silica has been linked to cancer, silicosis, and other lung problems in conditions of prolonged airborne over-exposure.

Avoid contact with bleed water from wet product. Clothing saturated with wet product can result in delayed, serious alkali skin burns.

2.3. Other hazards
Other hazards not contributing to the classification: Not applicable.
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2.4. Unknown acute toxicity (GHS-US)
10 % of the mixture consists of ingredient(s) of unknown acute toxicity.

SECTION 3: Composition/Information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limestone</td>
<td>(CAS No) 1317-65-3</td>
<td>40 - 45</td>
<td>Not classified</td>
</tr>
<tr>
<td>Quartz</td>
<td>(CAS No) 14808-60-7</td>
<td>30 - 40</td>
<td>Acute Tox. 4 (Oral), H302 Carc. 1A, H350 STOT RE 1, H372</td>
</tr>
<tr>
<td>Cement, Portland, Chemicals</td>
<td>(CAS No) 65997-15-1</td>
<td>10 - 15</td>
<td>Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335</td>
</tr>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>≤ 7</td>
<td>Not classified</td>
</tr>
<tr>
<td>Gypsum (Ca(SO4).2H2O)</td>
<td>(CAS No) 13397-24-5</td>
<td>0.5 - 1.5</td>
<td>Not classified</td>
</tr>
<tr>
<td>Magnesium oxide</td>
<td>(CAS No) 1309-48-4</td>
<td>0.1 - 1</td>
<td>Not classified</td>
</tr>
<tr>
<td>Calcium oxide</td>
<td>(CAS No) 1305-78-8</td>
<td>≤ 0.5</td>
<td>Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention.

First-aid measures after skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing. Wash contaminated clothing before reuse. Get immediate medical advice/attention.

First-aid measures after eye contact: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor.

First-aid measures after ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: May cause respiratory tract irritation.

Symptoms/injuries after skin contact: Causes severe skin burns. Symptoms may include redness, pain, blisters. Do not allow product to harden around any body part or allow continuous, prolonged contact with skin. May cause sensitisation by skin contact.

Symptoms/injuries after eye contact: Causes serious eye damage. May cause burns. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media: Treat for surrounding material.

5.2. Special hazards arising from the substance or mixture
Fire hazard: Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Advice for firefighters
Firefighting instructions: Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Avoid contact with skin and eyes.

6.2. Methods and material for containment and cleaning up
For containment: Contain spill, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up: Vacuum or sweep material and place in a disposal container. Provide ventilation.
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6.3. Reference to other sections
No additional information available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Avoid contact with skin and eyes. Avoid generating and breathing dust. Do not swallow. Good housekeeping is important to prevent accumulation of dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Handle and open container with care. When using do not eat, drink or smoke.
Hygiene measures: Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep out of the reach of children. Avoid any dust buildup by frequent cleaning and suitable construction of the storage area. Do not store in an area equipped with emergency water sprinklers. Clean up spilled material promptly.

7.3. Specific end use(s)
No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Material</th>
<th>USA ACGIH ACGIH TWA (mg/m³)</th>
<th>USA OSHA OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement, portland, chemicals (65997-15-1)</td>
<td>1 mg/m³ (respirable fraction)</td>
<td>5 mg/m³ (respirable fraction)</td>
</tr>
<tr>
<td>Gypsum (Ca(SO4).2H2O) (13397-24-5)</td>
<td>10 mg/m³</td>
<td>15 mg/m³ TWA (total dust) 5 mg/m³ TWA (respirable fraction)</td>
</tr>
<tr>
<td>Calcium oxide (1305-78-8)</td>
<td>2 mg/m³</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Limestone (1317-65-3)</td>
<td>10 mg/m³</td>
<td>15 mg/m³ TWA (total dust) 5 mg/m³ TWA (respirable fraction)</td>
</tr>
<tr>
<td>Magnesium oxide (1309-48-4)</td>
<td>10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Quartz (14808-60-7)</td>
<td>0.025 mg/m³</td>
<td>(30)/(%SiO2 + 2) mg/m3 TWA, total dust (250)/(%SiO2 + 5) mpcf TWA, respirable fraction (10)/(%SiO2 + 2) mg/m3 TWA, respirable fraction</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.
Hand protection: Wear suitable gloves.
Eye protection: Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles) and face protection (face shield).
Skin and body protection: Wear suitable protective clothing.
Respiratory protection: A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA’s respirator standard (29 CFR 1910.134) and ANSI’s standard for respiratory protection (Z88.2).
Environmental exposure controls: Maintain levels below Community environmental protection thresholds.
Other information: Handle according to established industrial hygiene and safety practices.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid.
Appearance: Thick grey slurry.
Colour: Grey.
Odour: Earthy.
Odour threshold: No data available.
pH: ≥ 12 (Highly alkaline when wet.)
Relative evaporation rate (butylacetate=1): No data available.
Melting point: No data available.
Freezing point: No data available.
Boiling point: No data available.
Flash point: No data available.
Self ignition temperature: No data available.
Decomposition temperature: No data available.
Flammability (solid, gas): Not flammable.
Vapour pressure: No data available.
Relative vapour density at 20 °C: No data available.
Relative density: 2.2 - 2.6 (Water = 1)
Solubility: Slight. (Water: 0.1 - 1 %)
Log Pow: No data available.
Log Kow: No data available.
Viscosity, kinematic: No data available.
Viscosity, dynamic: No data available.
Explosive properties: No data available.
Oxidising properties: No data available.
Explosive limits: No data available.

9.2. Other information

VOC content: No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use. An alkali reaction from components of portland cement will corrode aluminum.

10.2. Chemical stability

Stable under normal storage conditions. Keep dry in storage.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use. Do not mix with other chemicals.

10.4. Conditions to avoid

Moisture – product must be kept dry until ready to use.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Harmful if swallowed.

**Calcium oxide (1305-78-8)**

LD50 oral rat: >2000 mg/kg

**Quartz (14808-60-7)**

LD50 oral rat: 500 mg/kg

**Magnesium oxide (1309-48-4)**

LD50 oral rat: >5000 mg/kg

**Limestone (1317-65-3)**

LD50 oral rat: 6450 mg/kg
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<table>
<thead>
<tr>
<th>Unhardened Ready-Mix Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE (oral)</td>
</tr>
<tr>
<td>ATE (dermal)</td>
</tr>
<tr>
<td>ATE (inhalation)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
</tr>
<tr>
<td>Carcinogenicity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quartz (14808-60-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC group</td>
</tr>
<tr>
<td>National Toxicology Program (NTP) Status</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
</tr>
<tr>
<td>Aspiration hazard</td>
</tr>
<tr>
<td>Symptoms/injuries after inhalation</td>
</tr>
<tr>
<td>Symptoms/injuries after skin contact</td>
</tr>
<tr>
<td>Symptoms/injuries after eye contact</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
</tr>
<tr>
<td>Other information</td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : No ecological consideration when used according to directions. Do not flush to sewer or allow to enter waterways.

12.2. Persistence and degradability
Unhardened Ready-Mix Concrete
Persistence and degradability : No data available.

12.3. Bioaccumulative potential
Unhardened Ready-Mix Concrete
Bioaccumulative potential : No data available.

12.4. Mobility in soil
Unhardened Ready-Mix Concrete
Ecology - soil : No data available.

12.5. Other adverse effects
Other adverse effects : No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

SECTION 14: Transport information

In accordance with DOT
14.1. UN number
Not applicable

14.2. UN proper shipping name
Not applicable

14.3. Additional information
Other information : No supplementary information available.
### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement, portland, chemicals (65997-15-1)</td>
<td>Listed on the United States TSCA inventory</td>
</tr>
<tr>
<td>Calcium oxide (1305-78-8)</td>
<td>Listed on the United States TSCA inventory</td>
</tr>
<tr>
<td>Limestone (1317-65-3)</td>
<td>Listed on the United States TSCA inventory</td>
</tr>
<tr>
<td>Magnesium oxide (1309-48-4)</td>
<td>Listed on the United States TSCA inventory</td>
</tr>
<tr>
<td>Quartz (14808-60-7)</td>
<td>Listed on the United States TSCA inventory</td>
</tr>
<tr>
<td>Water (7732-18-5)</td>
<td>Listed on the United States TSCA inventory</td>
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</table>

#### 15.2. US State regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>California Proposition 65</th>
<th>Source Agency Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (14808-60-7)</td>
<td>No</td>
<td>SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:</td>
</tr>
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<td>IARC (I)</td>
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<tr>
<td></td>
<td></td>
<td>1 - Carcinogenic to humans;</td>
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<tr>
<td></td>
<td></td>
<td>2A - Probably carcinogenic to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>humans;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2B - Possibly carcinogenic to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>humans;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 - Not classifiable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 - Probably not carcinogenic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>to humans.</td>
</tr>
<tr>
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<td>NTP (N)</td>
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<td>1 - Evidence of Carcinogenicity;</td>
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<td>2 - Known Human Carcinogens;</td>
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<td>3 - Reasonably anticipated to</td>
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<td>4 - Substances delisted from</td>
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<td>report on Carcinogens;</td>
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<tr>
<td></td>
<td></td>
<td>5 - Twelfth Report - Items</td>
</tr>
<tr>
<td></td>
<td></td>
<td>under consideration.</td>
</tr>
</tbody>
</table>

### SECTION 16: Other information

#### Data sources:


#### NFPA health hazard:

3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

#### NFPA fire hazard:

0 - Materials that will not burn.

#### NFPA reactivity:

0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.