Section 1 - IDENTIFICATION

Supplier/Manufacturer	Emergency Contact Information
CEMEX, Inc. Kevin Keegan (713) 722-5991
840 Gessner, Suite 1400 Michael Tilton (713) 722-1728
Houston, Texas 77024

Chemical name and synonyms	Product name
Hydrated Portland Cement (CAS #65997-15-1) Ready Mixed Concrete

Chemical family	Formula
Calcium salts. 3CaO.SiO₂ (CAS #12168-85-3)
2CaO.SiO₂ (CAS #10034-77-2)
3CaO.Al₂O₂ (CAS #12042-78-3)
4CaO.Al₂O₃Fe₂O₃ (CAS #12068-35-8)
CaSO₂.2H₂O (CAS #13397-24-5)

Section 2 - COMPONENTS

Hazardous Ingredients
Portland cement (CAS# 65997-15-1) - approximately 10.0-20.0 % by weight
ACGIH TLV-TWA (2000) = 10 mg total dust/m³
OSHA PEL (8-hour TWA) = 50 million particles/ft³

Respirable quartz (CAS# 14808-60-7) – greater than 0.1% by weight
ACGIH TLV-TWA (2000) = 0.05 mg respirable quartz dust/m³
OSHA PEL (8-hour TWA) = (10 mg respirable dust/m³)/(percent silica + 2)

Trace Ingredients
Concrete Aggregates: Inert sand, gravel, and stone
Concrete Additives and Admixtures: May include flyash, and very amounts of organic and inorganic materials which have no effect on the hazards associated with the use of this product such as air entrained agents, water reducers, superplasticizers, fiberous reinforcement, pigments, ect.

Section 3 - HAZARD IDENTIFICATION

Emergency Overview
Exposure of sufficient duration to ready mixed concrete can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns.

Potential Health Effects

Relevant Routes of Exposure:
Eye contact, skin contact, and ingestion.

Effects Resulting from Eye Contact:
Eye contact by splashes of concrete may cause effects ranging from moderate eye irritation to chemical burns or blindness. Such exposures require immediate first aid (see Section 4) and medical attention to prevent significant damage to the eye.
Effects Resulting from Skin Contact:
Discomfort or pain cannot be relied upon to alert a person to hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, with concrete. Exposed persons may not feel discomfort until hours after the exposure has ended and significant injury has occurred.

Exposure to concrete may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (alkali) chemical burns.

Some individuals may exhibit an allergic response upon exposure to concrete, possibly due to trace elements of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may first experience this effect after years of contact with concrete products.

Effects Resulting from Ingestion:
Although small quantities of concrete are not known to be harmful, ill effects are possible if larger quantities are consumed. Concrete should not be eaten.

Carcinogenic potential:
Concrete is not listed as a carcinogen by NTP, OSHA, or IARC. It may however, contain trace amounts of substances listed as carcinogens by these organizations.

Crystalline silica, a potential component in concrete, is now classified by IARC as known human carcinogen (Group I). NTP has characterized respirable silica as "reasonably anticipated to be [a] carcinogen".

Medical conditions which may be aggravated by dermal exposure:
Unusual (hyper) sensitivity to hexavalent chromium (chromium\(^6\)) salts.

Section 4 - FIRST AID
Eyes
Immediately flush eyes thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all material. Call physician immediately.

Skin
Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment in all cases of prolonged exposure to concrete or fresh concrete products.

Ingestion
Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

Section 5 - FIRE AND EXPLOSION DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>None</td>
</tr>
<tr>
<td>Lower Explosive Limit</td>
<td>None</td>
</tr>
<tr>
<td>Upper Explosive Limit</td>
<td>None</td>
</tr>
<tr>
<td>Auto ignition temperature</td>
<td>Not Combustible</td>
</tr>
<tr>
<td>Extinguishing media</td>
<td>Not Combustible</td>
</tr>
<tr>
<td>Special fire fighting Procedures</td>
<td>None</td>
</tr>
<tr>
<td>Hazardous combustion products</td>
<td>None</td>
</tr>
<tr>
<td>Unusual fire and explosion hazards</td>
<td>None</td>
</tr>
</tbody>
</table>

Section 6 - ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment as described in Section 8.

Scrape up wet material and place in an appropriate container. Allow the material to "dry" before disposal. Do not attempt to wash concrete down drains.

Dispose of waste material according to local, state and federal regulations.
Section 7 - HANDLING AND STORAGE

Normal temperatures and pressures do not affect the material.

Promptly remove clothing that is wet with concrete or its fluids and launder before reuse. Wash thoroughly after exposure to concrete or its fluids.

Section 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Skin Protection
Prevention is essential to avoiding potentially severe skin injury. Avoid contact with unhardened concrete. If contact occurs, promptly wash affected area with soap and water. Where prolonged exposure to unhardened concrete products might occur, wear impervious clothing and gloves to eliminate skin contact. Wear sturdy boots that are impervious to water to eliminate foot and ankle exposure.

Do not rely on barrier creams: barrier creams should not be used in place of gloves.

Periodically wash areas contacted by concrete or concrete fluids with a pH neutral soap. Wash again at the end of work. If irritation occurs, immediately wash the affected area and seek treatment. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

Respiratory Protection
If any cutting, grinding, scarifying, or any other procedures are employed to hardened Portland cement concrete, dusting may occur. If possible, avoid actions that cause dust to become airborne. Use local or general exhaust ventilation to control exposures below applicable exposure limits.

Use NIOSH/MSHA approved (under 30 CFR 11) or NIOSH approved (under 42 CFR 84) respirators in poorly ventilated areas, if an applicable exposure limit is exceeded, or when dust causes discomfort or irritation. (Advisory: Respirators and filters purchased after June 10, 1998 must be certified under 42 CFR 84.)

Ventilation
Use local exhaust or general dilution ventilation to control exposure within applicable limits, if involved in dust generating activities associated with hardened Portland cement concrete.

Eye Protection
Where potentially subject to splashes of concrete, wear safety glasses with side shields or goggles. Contact lenses should not be worn when working with concrete.

Section 9 - PHYSICAL AND CHEMICAL, PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Gray granular mud</td>
</tr>
<tr>
<td>Physical state</td>
<td>Fluid</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Slightly soluble (0.1 to 1.0%)</td>
</tr>
<tr>
<td>pH (in water)</td>
<td>12 to 13</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>Greater than 3.0</td>
</tr>
</tbody>
</table>

Section 10 - STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
None known.

Incompatibility
Concrete is alkaline. As such it is incompatible with acids, ammonium salts and phosphorous.

Hazardous decomposition
Will not spontaneously occur. Adding water produces (caustic) calcium hydroxide.
Hazardous Polymerization
Will not occur.

Section 11 - TOXICOLOGICAL INFORMATION
For a description of available, more detailed toxicological information contact the supplier or manufacturer.

Section 12 - ECOLOGICAL INFORMATION
Ecotoxicity
No recognized unusual toxicity to plants or animals

Relevant physical and chemical properties
(See Sections 9 and 10.)

Section 13 - DISPOSAL
Dispose of waste material according to local, state and federal regulations.
Dispose of bags in an approved landfill or incinerator.

Section 14 - TRANSPORTATION DATA
Hazards materials description/proper shipping name
Ready mixed concrete is not hazardous under U.S. Department of Transportation (DOT) regulations.

Hazard class
Not applicable

Identification number
Not applicable.

Required label text
Not applicable.

Hazardous substances/reportable quantities (RQ)
Not applicable.

Section 15 - OTHER REGULATORY INFORMATION
Concrete is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA (Title III), Sections 311 and 312
Concrete qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
Not subject to reporting requirements under Section 313.

Status under TSCA (as of May 1997)
Some substances in ready mixed concrete are on the TSCA inventory list.

Status under the Federal Hazardous Substances Act
Concrete is a "hazardous substance" subject to statutes promulgated under the subject act.

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth
defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

**Section 16 - OTHER INFORMATION**

**Prepared by**

Kevin Keegan  
Director - Health and Safety  
CEMEX, Inc.  
Houston, Texas  

**Approval date or Revision date**

Approved: September, 1998  
Revised: March, 2001  

**Other important information**

While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of ready mixed concrete as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.

SELLER MAKES NO WARRANTY, EXPRESSED OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX, Inc. to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with portland cement concrete to produce portland cement products. Users should review other relevant material safety data sheets before working with portland cement concrete.