

# **Material Safety Data Sheet**

## **For Hardened Portland Cement Concrete Only**

Providers of this MSDS must complete Section I:

- Manufacturer's Name, Address
- Supplier's Name, Address
- Emergency Telephone Number



# Material Safety Data Sheet For Hardened Portland Cement Concrete

---

## Section I - Identity

---

**Manufacturer's name and address:** Kansas City Ready Mix Group

**Supplier's name and address:** 11011 Cody - Overland Park, Kansas 66210

**Emergency Telephone Number:** 913-345-2030

**Chemical Name & Synonyms:** Not applicable

**Trade Name & Synonyms:** Ready mixed concrete; concrete; hardened concrete; non-plastic concrete; cement (as in "cement" sidewalk).

**Revision Date:** January 2011

**Chemical Family:** Portland cement concrete products

**Formula:** Mixtures of cementitious materials, aggregates, minor percentages of chemical and mineral admixtures and water in various proportions.

**Molecular Weight:** Not applicable

**Material Use:** Construction material

---

## Section II - Hazardous Ingredients of Material

---

Portland cement concrete is a mixture of gravel or rock, sand, portland cement and water. It may also contain chemical admixtures and/or fly ash and/or granulated slag and/or silica fume and/or other constituents that have no effect on the hazards associated with the use of the product. The chemical admixtures are present in quantities comprising less than 1% of the material.

	<u>CAS #</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>
Portland Cement	65997-15-1	>1%	10 mg/m <sup>3</sup>	15 mg/m <sup>3</sup> Total Dust 5 mg/m <sup>3</sup> Respirable
Dust				
Silica (quartz)	14808-60-7	>0.1%	0.025 mg/m <sup>3</sup> *	10 mg/m <sup>3</sup> % silica*+2
Calcium Hydroxide	1305-62-0	>1%	5 mg/m <sup>3</sup>	15 mg/m <sup>3</sup> Total 5 mg/m <sup>3</sup> Respirable

Dust

\* Respirable Fraction

---

### Section III - Physical Data of Material

---

<b>Physical State:</b>	Solid
<b>Odor and Appearance:</b>	Odorless, gray color; may be tan if color has been added.
<b>Odor Threshold:</b>	None
<b>Specific Gravity:</b>	Normal range 1.5 to 2.9
<b>Vapor Pressure:</b>	Not applicable
<b>Vapor Density:</b>	Not applicable
<b>Evaporation Rate:</b>	Not applicable
<b>Boiling Point:</b>	Not applicable
<b>Solubility in Water:</b>	0.1%, max.; generally considered insoluble in water

---

### Section IV - Fire and Explosion Hazard of Material

---

Not applicable

---

### Section V - Reactivity Data

---

**Stability:** Stable

**Incompatibility:** Hardened concrete will react with most acids in a neutralization-type reaction. Heat, spattering and evolution of potentially toxic gases (such as HCl, NO or NO<sub>2</sub>) may result depending on the acid involved. Prolonged contact of an acid with the concrete may cause etching or other damage.

**Hazardous Decomposition Products:** None

**Hazardous Polymerization:** Will not occur.

---

### Section VI - Health Hazard Data

---

Sawing, grinding, polishing, abrasive wear or demolition techniques may result in exposure to dust that may contain portland cement, calcium hydroxide and crystalline silica.

**Acute Effects:** The dust can dry the skin, cause alkali burns or irritation and irritate the eyes and the upper respiratory tract. Ingestion can cause inflammation of the throat. The coarse nature of the dust may be abrasive to skin. Water in contact with hardened portland cement concrete may release small amount of alkaline calcium hydroxide to the contact water. Alkaline water (i.e. pH >7) can cause skin and eye irritation.

**Chronic Effects:** Exposure to dust may cause inflammation of the tissue lining the interior of the nose and the cornea of the eye. Hypersensitive people may develop allergic dermatitis. Exposure to respirable crystalline silica without the use of a respirator can cause silicosis.

**Signs and Symptoms of Exposure:** Burning sensation around moist tissue areas (i.e. eyes, nose, and upper respiratory system). Redness or irritation at contact points where continuous rubbing occurs. Shortness of breath, coughing, diminished work capacity, reduced lung volume and heart enlargement of failure characterize silicosis.

**Medical Conditions Aggravated by Exposure:** Pre-existing skin conditions may be worsened. Silicosis may aggravate other chronic conditions and may increase the risk of pulmonary tuberculosis infection.

**Chemical Listed as Carcinogenic or Potential Carcinogen:** Hardened concrete is not considered carcinogenic.

However, the International Agency for Research on Cancer (IARC) has determined, primarily through animal studies, that silica is a known human carcinogen. The National Toxicology Program (NTP) has characterized respirable quartz silica as reasonably anticipated to be a carcinogen. OSHA does not regulate silica as a carcinogen.

**Emergency First Aid Procedures:** Irrigate eyes immediately and repeatedly with large volumes of water and get prompt medical attention. Wash exposed skin areas with soap and water. Apply sterile dressings to abraded areas. In cases of accidental ingestion of dust, drink one or two glasses of milk or water. Do not induce vomiting. In cases of accidental ingestion of portland cement concrete contact water, drink one or two glasses of water. Do not induce vomiting. In cases of severe exposure, consult a physician.

---

## Section VII - Preventive Measures

---

**Personal Protective Equipment:** Use impermeable gloves, boots and clothing to prevent skin contact with dust and contact water. Wear safety glasses or goggles to prevent contact of dust or of contact water with eyes. Use NIOSH/MSHA-approved (under 30 CFR 11) or NIOSH-approved (under 42 CFR 84) respirators with dust filtering capability if exposed to dust from hardened concrete when sawing, grinding, polishing, removing abraded dust or using demolition techniques. (Advisory: Respirators and filters purchased after July 10, 1998 must be certified under 42 CFR 84.)

**Ventilation:** Local exhaust can be used to control airborne dust levels.

**Engineering Controls:** Provide ventilation when sawing, grinding, polishing, removing abraded dust or using demolition techniques to maintain dust concentrations below exposure limits listed in Section II.

**Leak and Spill Procedure:** Sweep and/or shovel dust into waste disposal containers. Use wet sweeping or flush with water for final clean up of floors, walkways, etc. Dispose of portland cement concrete dust in accordance with all local, state and federal requirements. Hardened portland cement concrete may be disposed on land or recycled to obtain the sand, gravel or crushed stone. Water in contact with hardened portland cement concrete does not require unusual disposal practices and may be allowed to evaporate in place or drain from the site.