



**Carolina Concrete Company, Inc.**

**Material Safety Data Sheet**

**For**

**Ready Mix Concrete**

October 2002

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Section I Identity

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**Material Name:** Portland cement concrete

**Manufacturer Name:** Carolina Concrete Company, Inc.

**Address:** 54 Burts Road, PO Box 389  
Clinton, SC 29325

**Chemical Name:** Not Applicable

**Chemical Family:** Portland cement product

**Chemical Formula:** Mixture cementitious material, aggregates and water

**Trade Name & Synonyms:** Ready mix concrete; concrete

**Molecular Weight:**

Not Applicable

**Material Use:**

Construction materials

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## Section II Hazardous Ingredients

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Concrete is a mixture of inert gravel or rock, sand, portland cement and water. It may also contain chemical admixtures, and/or flyash, and/or granulated slag, and/or silica fume, and/or color pigment. The chemical admixtures are present in quantities comprising less than 2% of the material.

## Hazardous Ingredients

Portland cement (CAS 65997-15-1)	10 - 20%
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	3 - 7%
Portlandite (Ca (OH) <sub>2</sub> ) (CAS 1305-62-0)	2 - 4%

The hazardous ingredients in plastic (wet) concrete cannot become airborne. However, water added to the materials reacts with some of the ingredients to form calcium hydroxide, a corrosive chemical, which will irritate the eyes and skin upon contact. Concrete dust from dried portland cement concrete may also contain hazardous ingredients in sufficient concentrations to cause skin, eye, or respiratory irritation.

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**Section III Physical Data**

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Boiling Point ( °F.)	N/A
Vapor Pressure (mm Hg.)	N/A
Vapor Density (Air=1)	N/A
Solubility in water	0.1%
pH	12 - 13
Specific Gravity (H <sub>2</sub> O=1)	1.5 - 2.9
Percent, Volatile By Volume (%)	N/A
Evaporation Rate	N/A
Appearance and Odor	Gray unless color pigment has been added.

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**Section IV Fire and Explosion Hazard Data**

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N/A

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**Section V Health Hazard Data**

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**(a) Plastic Concrete**

## Toxicological Properties

Plastic concrete has an alkalinity level of pH12 to pH13.

**Route of Entry:** Skin contact, eye contact, ingestion.

**Effects of Acute Exposure:** Plastic concrete can cause dry skin, alkali burns, eye irritations and burns. Ingestion may cause irritation of the throat.

**Effects of Chronic Exposure:** Damage to the epidermis and dermis (outer layers of skin).

**(b) Hardened or "Set" Concrete**

## Toxicological Properties

In place, hardened concrete does not present a health hazard. Sawing or other demolition techniques may result in exposure to dust, which may contain portland cement, portlandite, quartz, and trace admixtures. The ingredients in concrete

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### Section V Health Hazard Data

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dust, when in contact with water or perspiration, may cause the same health effects as plastic concrete.

The following information concerns dry concrete dust:

**Route of Entry:** Skin contact, eye contact, inhalation, and ingestion.

**Effects of Acute Exposure:** Concrete dusts can cause dry skin and skin, eye, and upper respiratory tract irritation.

**Effects of Chronic Exposure:** Concrete dust can cause inflammation of the tissue lining, the interior of the nose and the cornea (white) of the eye. Hypersensitive people may develop allergic dermatitis.

Chronic exposure to respirable dust containing quartz at levels exceeding exposure limits has caused silicosis.

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#### Section VI - First Aid Measures

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Wash exposed areas of the body with soap and water. Irrigate eyes with large amounts of water. Consult a physician in cases of severe exposure. In case of accidental ingestion, drink two or three glasses of milk, call a physician and do not induce vomiting.

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#### Section VII Reactivity Data

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**Stability:** Product is stable

**Conditions to Avoid:** N/A

**Incompatibility (Materials to avoid):** Acids

**Hazardous Decomposition Products:** N/A

**Hazardous Polymerization:** Will not occur

**Conditions to Avoid:** N/A

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## Section VIII Spill or Leak Procedures

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**Leak and Spill Procedure:** Sweep and shovel into waste disposal containers. Flush with water hose for final clean-up of floors, walkways, etc. Ready mixed concrete or flushing water should not be allowed to reach surface water (rivers, lakes, streams).

**Waste Disposal:** At approved landfill or waste disposal sites in accordance with all applicable state, federal and local regulations.

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## Section IX Special Protection Information

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### **Personal Equipment:**

Use gloves, boots and clothing to prevent skin contact. Wear safety glasses or goggles to prevent contact with eyes. Wear an approved respirator if exposed to dust from hardened concrete when sawing or using other demolition methods.

### **Engineering Controls:**

Provide ventilation when sawing or using other demolition techniques to maintain dust concentrations below exposure limits.

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## Section X Special Precautions

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See: Section V Health Hazard Data

Section VIII Spill and Leak Procedures

Section IX Special Protection Information

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The information contained herein is based on knowledge believed to be reliable, but Carolina Concrete Company makes no warranties, expressed or implied, as to the accuracy or adequacy thereof. Nothing herein excuses the recipient hereof from such duties as shall be imposed by the Occupational Safety & Health Act of 1970 and regulations issued pursuant thereto.