

# Material Safety Data Sheet

Identity: Portland Cement (Types I, IA and III)

## Section I:

Manufacturer's Name: Continental Cement Company, LLC Transportation Emergency Telephone Nos.:  
Address: P.O. Box 71, Hwy 79 South Company: 573-221-1740  
Hannibal, Mo. 63401  
Telephone No. for Information: 573-221-1740 Date Prepared: Revised August 28, 1997

## Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity: Common Name(s))	OSHA PEL	ACGIH TLV	Recommended %	Optional
Portland Cement (CAS #65997-15-1)	ACGIH TLV-TWA 10 mg/M <sup>3</sup>	Total Dust		
	OSHA PEL (8 hr-TWA)	50 million particles/cubic foot		

Portland Cement contains:

Gypsum (CAS #7778-18-9) - approximately 6 to 8% ACGIH TLV-TWA 10 mg/M<sup>3</sup> Total Dust  
OSHA PEL (8 hr-TWA) 15 mg/M<sup>3</sup> Total Dust  
OSHA PEL (8 hr-TWA) 5 mg/M<sup>3</sup> Respirable Dust

Quartz (CAS #14808-60-7) - less than 0.1% by Wt ACGIH TLV-TWA 0.10 mg/M<sup>3</sup> Respirable Quartz Dust  
OSHA PEL (8 hr-TWA) (10 mg/M<sup>3</sup> Respirable Dust) / (% Silica + 2)  
NIOSH REL (8 hr-TWA) 0.05 mg/M<sup>3</sup> Respirable Quartz Dust

Trace Constituents: Portland Cement is made from materials mined from the earth, and may contain up to 0.75% insoluble residue, some of which may be free crystalline silica. Other trace constituents may include free calcium oxide (also known as lime or quick lime) and Chromium and Nickel may be at levels below 0.02%.

## Section III - Physical/Chemical Characteristics

Boiling Point	NA	Specific Gravity (H <sub>2</sub> O=1)	3.0 - 3.2
Vapor Pressure (mm Hg)	NA	Melting Point	NA
Vapor Density (Air = 1)	NA	Evaporation Rate (Butyl Acetate = 1)	NA
Solubility in Water	Slight (0.1 - 1%)		
Appearance and Odor:	Gray (or White) powder: Odorless		

## Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used)	NA
Extinguishing Media	NA
Special Fire Fighting Procedures	NA
Unusual Fire and Explosion Hazards	None

## Section V - Reactivity Data

Stability: Stable	Conditions to Avoid: Although no hazardous reaction will occur, Portland Cement should be kept dry until used.
Incompatibility (Materials to Avoid)	Wet Portland Cement is alkaline. As such it is incompatible with acids, ammonium salts, and phosphorus.
Hazardous Decomposition or Byproducts	None spontaneously. However, adding water produces (caustic) calcium hydroxide.
Hazardous Polymerization:	Will not occur

## Section VI - Health Hazard Data

*Route(s) of Entry:* Inhalation Primary Skin Secondary Ingestion NA (However, Portland Cement is not to be eaten.)

*Health Hazards (Acute and Chronic)* Acute: Wet cement can dry the skin and cause alkali burns. Cement dust can irritate eyes, moist membranes of the nose, throat, and upper respiratory system. Chronic: Cement dust can cause inflammation of nasal passage and inflammation of the cornea. May cause allergic dermatitis. Portland Cement may contain trace amounts of free crystalline silica. Prolonged exposure to respirable free crystalline silica can aggravate other lung conditions and cause silicosis, a disabling and potentially fatal lung disease. (Also see "Carcinogenicity" statement below.)

*Carcinogenicity:* Portland Cement 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 trace level contaminant in Portland Cement, is now classified by IARC as a known human carcinogen (Group I). NTP has characterized respirable silica as "reasonably anticipated to be [a] carcinogen".

*Signs and Symptoms of Exposure:* Dry skin and alkali burns; eye irritation; skin rash; upper respiratory irritation.

*Medical Conditions Generally Aggravated by Exposure:* Although there is no data that indicates Portland Cement has aggravated existing medical conditions, it is prudent to be concerned with good hygienic practices (as for all employees) for individuals with existing skin or lung conditions.

*Emergency and First Aid Procedures:* If contact is made with the eyes, flush immediately with copious amounts of water for 15 minutes. Wash affected area of the body with soap and water. If airborne dust is inhaled, remove to fresh air. Seek medical attention if symptoms (eye or skin irritation or coughing if inhaled) persists. If significant quantities are ingested, do not induce vomiting. If conscious, have victim drink plenty of water and call a physician.

## Section VII - Precautions for Safe Handling and Use

*Steps to Be Taken in Case Material is Released or Spilled:* Use dry clean up methods that do not disperse the dust into the air. Avoid contact with material or breathing the dust. Wear appropriate personal protective equipment as described in Section VIII.

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

*Waste Disposal Method:* Material can be disposed of as common waste. Dispose of waste material according to local, state and federal regulations. (Since Portland Cement is stable, uncontaminated material may be saved for future use.)

Dispose of any bags in an approved landfill or incinerator.

*Precautions to Be Taken for Handling and Storing:* Keep Portland Cement dry until used. Store in a well-ventilated, cool place. Strictly protect against moisture.

## Section VIII - Control Measures

*Respiratory Protection (Specify Type):* In dusty and/or poorly ventilated environments, the use of NIOSH approved respirators is recommended.

*Ventilation:* Use local exhaust or general dilution ventilation to control exposure within applicable limits.

*Protective Gloves:* Recommended for prolonged contact.

*Eye Protection:* Safety glasses and/or goggles in dusty areas.

*Other Protective Clothing or Equipment:* Use impervious (to water) gloves, boots and clothing to protect the skin from prolonged contact with wet cement. Do not rely on barrier creams. (Note: Barrier creams should not be used in place of gloves.)

*Work/Hygienic Practices:* Prevent/Minimize dusting and contact with material. Wash thoroughly after exposure to dust or wet cement mixtures. If clothing becomes saturated with wet cement or concrete, remove and replace with clean dry clothing.

## Section IX - Other Important Information

Portland cement should only be used by knowledgeable persons. A key to using the product safely requires the user to recognize that portland cement chemically reacts with water, and that some of the intermediate products of this reaction (that is, those present while a portland cement product is "setting") pose a far more severe hazard than does portland cement itself.

### **Section IX - Other Important Information (cont'd)**

While the information provided in this material safety data sheet is believed to provide a useful summary of the hazards of portland cement as it is commonly used, the sheet cannot anticipate and provide the 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 Continental Cement Company, except that the product shall conform to contracted specifications. The information provided herein was believed by Continental Cement Company 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 to produce portland cement products. Users should review other relevant material safety data sheets before working with this portland cement or working on portland cement products, for example, portland cement concrete.