

PORTLAND CEMENT

MATERIAL SAFETY DATA SHEET (OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

MANUFACTURER/DISTRIBUTOR:

Paragon Building Products, Inc.
2895 Hamner Avenue
Norco, CA 92860

TRANSPORT EMERGENCY TELEPHONE #:

(626) 333-2217

INFORMATION TELEPHONE NUMBER:

(626) 333-2217 / (951) 549-1155

Product Use: CONCRETE MIXES
MORTAR MIXES
PLASTER PRODUCTS

Revision: August 2008

Prepared By: R. L. Frias

PRODUCT NAME:

PARAGON PORTLAND CEMENT TYPE II/V

Chemical Family:

Calcium Salts:

Formula:

3CaO.SiO ₂	(CAS # 12168-85-3)
2CaO.SiO ₂	(CAS # 10034-77-2)
3CaO.Al ₂ O ₃	(CAS # 12042-78-3)
4CaO..Al ₂ O ₃ FeO ₃	(CAS # 12068-35-8)
CaSO ₂ .2H ₂ O	(CAS # 13397-24-5)

Other salts: Small amount of MgO and trace amounts of K₂SO₄ and Na₂SO₄ may also be present.

SECTION II – COMPONENTS

Hazardous Ingredients:

Portland cement clinker (CAS # 65997-15-1) – approximately – 93.5 - 96% by weight.

ACGIH TLV-TWA (2000) = 10 mg total dust/m³

OSHA PEL (8-hour TWA) = 50 million particles/ft

Gypsum: (CAS) # 7778-18-9 – approximately – 4.0-6.5 % by weight.

ACGIH TLV-TWA (2000) = 10 mg total dust/m³

OSHA PEL (8-hour TWA) = 15 mg total dust/m³

OSHA PEL (8-hour TWA) = 5 mg respirable dust/m³

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: Trace amount of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include up to 0.75% insoluble residue, some of which may be free crystalline silica, calcium oxide (also known as lime or quick lime), magnesium oxide, potassium sulfate, chromium compounds and nickel compounds.

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SECTION III – HAZARD IDENTIFICATION
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Emergency Overview:

Portland cement is a light grey powder that poses little hazard. A single short-term exposure to the dry powder is not likely to cause harm. However, exposure of sufficient duration to wet Portland cement can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns. The same type of tissue destruction can occur if wet or moist areas of the body are exposed for sufficient duration to dry Portland cement.

Potential Health Effects:

Eye contact, skin contact, inhalation and ingestion.

Effects Resulting from Eye Contact:

Exposure to airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or splashes of wet Portland cement may cause effects ranging from moderate eye irritation to chemical burns or blindness. Such exposure requires immediate first aid (see Section IV) and medical attention to prevent significant damage to the eye.

Effects Resulting from Skin Contact:

Discomfort or pain can not be relied upon to alert to hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, particularly with wet cement. Exposed persons may not feel discomfort until hours after the exposure has ended and significant injury has occurred.

Dry Portland cement contacting wet skin or exposure to moist or wet Portland cement may cause 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 Portland cement, possibly to trace elements of chromium. The response may appear in a variety of forms ranging from mild rash to severe skin ulcers. Individuals already sensitized may react to their first contact with the product. Other individuals can experience this effect after years of contact with Portland cement products.

Effects Resulting from Inhalation:

Portland cement may contain trace amount of free crystalline silica. Prolonged exposure to respirable free silica can aggravate other lung conditions and cause silicosis, a disabling and potentially fatal lung disease.

SECTION III – HAZARD IDENTIFICATION

CONTINUATION:

Effects Resulting from Inhalation:

Exposure to Portland cement may cause irritation to the moist mucous membranes of the nose, throat and upper respiratory system. It may also leave unpleasant deposits in the nose.

Effect Resulting from Ingestion:

Although small amounts of dust are not known to be harmful, ill effects are possible if larger quantities are consumed. Portland cement should not be eaten.

Carcinogenic potential:

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 contaminate 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”

Medical conditions which may be aggravated by inhalation or dermal exposure:

Pre-existing respiratory and lung diseases.

Unusual (hyper) sensitivity to hexavalent chromium (chromium +6) salts.

SECTION IV – FIRST AID

Eyes: Immediately flush eyes thoroughly with water. Continue flushing for at least 15 minutes, including under lids, to remove all particles. 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 wet cement, cement mixtures, liquids from fresh cement products, or prolonged wet skin exposure to dry cement.

Inhalation of airborne Dust:

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside.

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

SECTION V – FIRE AND EXPLOSION DATA

Flash pointNone	Lower Explosion LimitNone
Upper Explosion Limit None	Auto Ignition Temp.Not Combustible
Extinguishing Media Not Combustible	Special Fire Fighting ProcedureNone
Hazardous Combustion Products ...None	Unusual Fire Explosion HazardNone

SECTION VI – FIRE AND EXPLOSION DATA

Collect dry material using scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment as describe 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 the drain.

Dispose of waste material according to local, state and federal regulations.

SECTION VII – HANDLING AND STORAGE

Keep Portland cement dry until used. Normal temperatures and pressures do not affect the material.

Promptly remove dusty clothing or clothing which is wet with cement fluids and launder before reuse. Wash thoroughly after exposure to dust or wet cement or fluids.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

Skin Protection:

Protection is essential to avoiding potentially severe skin injury. Avoid contact with unhardened Portland cement. If contact occurs, promptly wash affected area with soap and water. Where prolonged exposure to unhardened Portland cement 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 dry Portland cement, by wet cement, or concrete fluids with a Ph neutral soap. Wash again at the end of work. If irritation occurs immediately wash affected areas and seek treatment. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

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SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTINUATION:

Respiratory Protection:

Avoid actions that cause dust to become airborne. Use local or general exhaust ventilations to control exposure below applicable exposure limit.

Ventilation:

Use local exhaust or general dilution to control exposure within applicable limits.

Eye Protection:

Wear safety glasses with side shields or goggles, when you may be potentially subject to splashes or puffs of cement. In extremely dusty environments and unpredictable environments wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with Portland cement or fresh products.

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

AppearanceGray Powder	OdorNo Distinct odor
Physical stateSolid (powder)	Ph (in water)12 TO 13
Solubility in waterSlightly soluble (0.1 to 1.0%)	Vapor pressure ...Not applicable
Melting pointNot applicable	Boiling pointNot applicable
Vapor densityNot Applicable	Specific gravity (H2O=1.0)3.15
Evaporation rateNot Applicable	

SECTION X – STABILITY AND REACTIVITY
Stability: Stable

Conditions to Avoid: Unintentional contact with water.

Incompatibility: Wet Portland cement 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 XI – TOXICOLOGICAL INFORMATION

For a description of available, more detailed toxicological information contact the supplier or manufacturer.

SECTION XII – ECOLOGICAL INFORMATION
Ecotoxicity: No recognized unusual toxicity to plants or animals

Relevant physical and chemical properties: (See Section IX and X)

SECTION XIII - DISPOSAL

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 bags in an approved landfill or incinerator.

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SECTION XIV – TRANSPORTATION DATA

Hazardous materials description/proper shipping name:

Hazard class: Not applicable

Identification number: Not applicable

Required label text: Not applicable

Hazardous substance/reportable quantities (RO): Not applicable

SECTION XV – OTHER REGULATORY INFORMATION

Status under USDOL-OSHA Hazard Communication Rule 29 CFR 1910-1200

Portland cement is considered a “hazardous chemical under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPPERFUND 40 CFR 117 AND 302

Not listed

Hazard Category under SARA(TITLE II) Section 311 and 312

Portland cement qualifies as a “hazardous substance” with delayed health effects

Status under SARA (TITLE II) Section 313

Not subject to reporting under Section 313

Status under TSCA (as of May 1997)

Some substances in Portland cement are on the TSCA inventory list.

Status under the Federal Hazardous Substance Act

Portland cement is a “hazardous substance” subject to statues 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 XVI – OTHER INFORMATION

EMERGENCY TELEPHONE NUMBER: CHEMTREC

TELEPHONE NUMBER FOR INFORMATION: (626) 333-2217

DATE PREPARED: AUGUST '09

PREPARED BY: R. L. FRIAS