

Revised August 11, 2005

**Product Name:
PORTLAND CEMENT
(Type I / II and III)**

SECTION I

**Supplier's
Name:** Alaska Basic Industries
Address: 1040 O'Malley Rd
Anchorage, AK 99515
Telephone: (907) 349-3333
Emergency: (907) 349-3333

**SECTION II – HAZARDOUS INGREDIENTS / IDENTITY
INFORMATION**

Chemical Data, Components / Ingredients: Primary raw materials are limestone, clay, iron ingredients and gypsum. Substances similar to the following are known to be present in Portland cement:

Tri-Calcium Silicate	3CaO.SiO ₂
CAS#12168-85-3	
Di-Calcium Silicate	2CaO.SiO ₂
CAS#10034-77-2	
Tetra-Calcium-Alumino-Ferrite	4CaO.Al ₂ .Fe ₂ O ₃
CAS#12068-35-8	
Tri-Calcium Aluminate	3CaO.Al ₂ O ₃
CAS#12042-78-3	

OSHA PEL / ACGIH TLV: Portland Cement Hazard Ingredients: Portland cements are listed by OSHA in 29 CFR 1910.1000, Table Z-1-A, and require material safety data sheets (ER, January 19, 1989), MSHA (30 CFR 55.5.-1, Ref.2, ACGIH-TLV's for 1973, Appendix E) and ACGIH (TLV's for 1984-5 Appendix D) list Portland cement as nuisance dusts. Portland cements are NOT listed by NTP, IARC, or OSHA as carcinogens. However, since Portland cement is manufactured from raw materials mined from the earth (limestone, marl, sand, shale, clay, etc.) and process heat is provided by burning fossil fuels, trace, but detectable amounts of naturally occurring, and possibly harmful elements may be found during chemical analysis.

MSDS

Material Safety Data Sheet

Under ASTM standards, Portland cement may contain 0.75 percent insoluble residue. A fraction of these residuals may be free crystalline silica.

Component	OSHA PEL	ACGIH TLV
	TWA	TWA

Portland cement (CAS 65997-15-1)		
(Respirable Dust)	0.5 mg/m ³	
(Total Dust)	10.0 mg/m ³	10.0 mg/m ³
Calcium Sulfate (Respirable Dust)	5.0 mg/m ³	
(Total Dust)	10.0 mg/m ³	10.0 mg/m ³
Calcium Carbonate (Respirable Dust)	5.0 mg/m ³	
(Total Dust)	10.0 mg/m ³	10.0 mg/m ³
Magnesium Oxide	10.0 mg/m ³	10.0 mg/m ³
Calcium Oxide	5.0 mg/m ³	2.0 mg/m ³

**SECTION III – PHYSICAL/CHEMICAL
CHARACTERISTICS**

Boiling Point: Not applicable, Portland cement is a powdered solid

Vapor Pressure: Not applicable, Portland cement is a powdered solid

Vapor Density: Not applicable, Portland cement is a powdered solid

Solubility in Water: Slight (0.1 – 1.0%)

Specific Gravity: (H₂O=1) 3.15

Evaporation Rate: Not applicable, Portland cement is a powdered solid

Appearance & Odor: Gray or White powder, no odor.

Melting Point: Not applicable.

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash Point: Portland cement is noncombustible and not explosive.

Flammable or Explosive Limits: Not applicable.

Extinguishing Media: Not applicable.

Special Firefighting Procedures: Not applicable.

Unusual Fire and Explosion Hazards: Not applicable.

Lower Explosive Limit: Not applicable.

Upper Explosive Limit: Not applicable.

SECTION V – REACTIVITY DATA

Stability: Product is stable. Keep dry until used.

Incompatibility: Aluminum powder and other alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas.

Hazardous Decomposition Products: None

Hazardous Polymerization: Will not occur.

SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:

Inhalation? Yes

Skin? Yes

Ingestion? Yes

Inhalation (acute): Breathing dust may cause nose, throat or lung irritation and choking. The described effect depends on the degree of exposure.

Inhalation (chronic): Prolonged or repeated exposure may cause lung injury including silicosis. This product may contain crystalline silica. Crystalline silica has been classified by IARC as a known human carcinogen. Some human studies indicate potential for lung cancer from crystalline silica exposure. Risk of injury depends on duration and level of exposure. Long term exposures which result in silicosis may result in additional health effects.

Inhalation Remedy: Move person to fresh air. Seek medical attention for discomfort.

Eye Contact (acute/chronic): May cause eye irritation, severe burns and damage to cornea.

Eye Contact Remedy: Rinse thoroughly with water. Seek medical attention for abrasions.

Skin Contact (acute/chronic): May cause dry skin, redness, discomfort, irritation or severe burns. May produce allergic reaction potentially associated with hexavalent chromium. Thickening of the shin (scleroderma) may be associated with exposure to high levels of crystalline silica.

Skin Contact Remedy: Wash with soap and water. Use moisturizing creams for irritated skin. Seek medical attention for burns.

Ingestion (acute/chronic): Ingestion of large amounts may cause intestinal distress.

Ingestion Remedy: Do not induce vomiting, but drink plenty of water. Seek medical attention for discomfort.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled

Spills: Use dustless methods (vacuum equipped with high efficiency filter) and place into closable container for disposal, or flush with water. Do not dry sweep. Wear protective equipment specified below.

Waste Disposal Method: Dispose in accordance with Federal, State, and Local regulations.

Precautions to be taken in Handling and Storing: Avoid breakage of bagged material or spills of bulk material. See control measures in Section VIII.

Other Precautions: Use dustless systems for handling, storage, and clean up so that airborne dust does not exceed the PEL. Use adequate ventilation and dust collection. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing which has become dusty. Drilling, grinding, sanding, and/or sawing of hardened concrete products may release airborne, respirable, Crystalline Silica. See also control measures in Section VII.

See OSHA Hazard Communication Rule 29 CFR Sections 1910.1200, 1915.99, 1917.28, 1918.90, 1926.59, and 1928.21, and state and local worker or community "right to know" laws and regulations. We recommend that smoking be prohibited in all areas where respirators must be used. **WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS- USERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARD AND OSHA PRECAUTIONS TO BE USED. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS.**

See also American Society for Testing Materials (ASTM) standard practice E 1132-86, "Standard Practice for Health Requirements Relating to Occupational Exposure to Quartz Dust".

SECTION VIII - CONTROL MEASURES

Engineering Controls: Use exhaust ventilation to maintain dust levels below exposure limits in workplaces with poor ventilation and dusty conditions.

Personal Protection

RESPIRATORY PROTECTION: Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator when exposed to dust above exposure limits.

EYE PROTECTION: Wear glasses or safety goggles to prevent contact with eyes. Wearing contact lenses when using this product under dusty conditions is not recommended.

SKIN PROTECTION: Use gloves, shoes and protective clothing to prevent skin contact:

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