



Portland Cement Based Repair Materials

MATERIAL SAFETY DATA SHEET

(Complies with OSHA 29 CFR 1910.1200)

SECTION I - PRODUCT IDENTIFICATION

PakMix, Inc.
618 S 223rd Street
Suite #3
Des Moines, WA 98198

Emergency Phone Number
800-272-5649

Information Telephone Number:
800-272-5649

Revision: Dec-09

PakMix® Product Name

PakMix® Surface Bonding Cement
PakMix® Vinyl Concrete

SECTION II - HAZARD IDENTIFICATION

Route(s) of Entry: Inhalation, Skin, Ingestion

Acute Exposure: Product becomes alkaline when exposed to moisture. Exposure can dry skin, cause alkali burns and affect the mucous membranes. Dust can irritate the eyes and upper respiratory system. Toxic effects noted in animals include, for acute exposures, alveolar damage with pulmonary edema.

Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.

Carcinogenicity: Since Portland cement and blended cements are manufactured from raw materials mined from the earth 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. Under ASTM standards, Portland cement may contain 0.75% insoluble residue. A fraction of these residues may be free crystalline silica. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs and possibly cancer. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Carcinogenicity Listings:	NTP:	Known carcinogen
	OSHA:	Not listed as a carcinogen
	IARC Monographs:	Group 1 Carcinogen
	California Proposition 65:	Known carcinogen

NTP: The National Toxicology Program, in its "Ninth Report on Carcinogens" (released May 15, 2000) concluded that "Respirable crystalline silica (RCS), primarily quartz dusts occurring in industrial and occupational settings, is known to be a human carcinogen, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust.

IARC: The International Agency for Research on Cancer concluded that there was sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources and that there is sufficient evidence in experimental animals for the carcinogenicity of quartz or cristobalite. The overall IARC evaluation was that crystalline inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1). The IARC evaluation noted that carcinogenicity was not detected in all industrial circumstances or studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs. For further information on the IARC evaluation, see IARC Monographs on the Evaluation of carcinogenic Risks to Humans.

Signs and Symptoms of Exposure: Symptoms of excessive exposure to dust include shortness of breath and reduced pulmonary function. Excessive exposure to skin and eyes especially when mixed with water can cause caustic burns as severe as third degree.

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure. Exposure to crystalline silica or the disease silicosis is associated with increased incidence of scleroderma, tuberculosis and possibly increased incidence of kidney lesions.

Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	PEL(OSHA) mg/M ³	TLV(ACGIH) mg/M ³
Portland cement	65997-15-1	5	5
Lime	01305-62-01	5	5
Silica sand, crystalline	14808-60-7	<u>10</u> %SiO ₂ +2	0.05 (respirable)
May contain one or more of the following:			
Amorphous Silica (from Fly Ash)	07631-86-9	<u>80</u> %SiO ₂ +2	10
Alumina (From Fly Ash)	01344-28-1	5	5
Limestone Dust	01317-65-3	5	5
Calcium Sulfate	10101-41-4	5	5
or	13397-24-6	5	5

Other Limits: National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration = 0.05 mg/M³ (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. See NIOSH Criteria for a

Recommended Standard Occupational Exposure to Crystalline Silica.

SECTION IV - FIRST AID MEASURES

Eyes: Immediately flush eye thoroughly with water. Continue flushing eye 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 if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns.

Inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalations of large amounts of Portland cement require immediate medical attention.

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

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flammability: Noncombustible and not explosive.

Auto-ignition Temperature: Not Applicable.

Flash Points: Not Applicable.

SECTION VI - ACCIDENTAL RELEASE MEASURES

If spilled, use dustless methods (vacuum) and place into covered container for disposal (if not contaminated or wet). Use adequate ventilation to keep exposure to airborne contaminants below exposure limit.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Do not allow water to contact the product until time of use. DO NOT BREATHE DUST. In dusty conditions use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended.

SECTION VIII - EXPOSURE CONTROL MEASURES

Engineering Controls: Local exhaust can be used, if necessary, to control airborne dust levels.

Personal Protection: The use of barrier creams or impervious gloves, boots and clothing to protect skin from contact is recommended. Following work, shower with soap and water. Precautions must be observed.

Precautions: Do not use solvents or abrasive cleaners to wash exposed skin.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

Precautions: Consult local authorities for acceptable exposure limits.

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: Gray powder, sand. Some contain coarse aggregates.

Boiling Point: >2700°F

Vapor Density: Not available

Specific Gravity: 2.6 to 3.15

Evaporation Rate: Not available

Vapor Pressure: (1) 10-200 mm Hg @ 68°F(20°C)

Solubility in Water: Slight

Melting Point: >2700°F

Vapor Pressure: Not available

Odor: Not available

SECTION X - REACTIVITY DATA

Stability: Stable

Incompatibility (Materials to Avoid): Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fire.

Hazardous Decomposition or Byproducts: Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas - silicon tetra fluoride.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Keep dry until used to preserve product.

SECTION XI - TOXICOLOGICAL INFORMATION

Route of Entry: Inhalation, ingestion.

Toxicity to Animals: LD50 : Not available LC50: Not available

Chronic Effects on Humans: Conditions aggravated by exposure include eye disease, skin disorders and Chronic Respiratory conditions.

Special Remarks on Toxicity: Not available

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Not available

BOD5 and COD: Not available

Products of Biodegradation: Not available

Toxicity of the Products of Biodegradation: Not available

Special Remarks on the Products of Biodegradation: Not available

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: This material does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. State or local hazardous regulations may apply if they are different from the federal regulations. Dispose according to Federal, State and Local regulations.

SECTION XIV - TRANSPORTATION INFORMATION

Non-Hazardous under U.S. DOT and TDG Regulations

SECTION XV - OTHER REGULATORY INFORMATION

US OSHA 29CFR 1910.1200: Considered hazardous under this regulation and should be included in the employers hazard communication program.

SARA (Title III) Sections 311 & 312: Not determined

SARA (Title III) Section 313: Not subject to reporting requirements

TSCA (May 1997): All components are on the TSCA inventory list

Federal Hazardous Substances Act: Is a hazardous substance subject to statutes promulgated under the subject act.

Canadian Environmental Protection Act: Not listed

Canadian WHMIS: Considered to be a hazardous material under Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This product has been classified according to the hazard criteria of the Controlled Products Regulation (CPR). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

SECTION XVI - OTHER INFORMATION

Abbreviations:

ACGIH

American Conference of Government Industrial Hygienists

CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CFR	Code of Federal Regulations
CPR	Controlled Products Regulations (Canada)
DOT	Department of Transportation
IARC	International Agency for Research
MSHA	Mine Safety and Health Administration
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicity Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TWA	Time-weighted Average
WHMIS	Workplace Hazardous Material Information System

NOTE: The information and recommendations contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. PakMix Inc. Assumes no responsibility for personal injury or property damage to vendees, users or third parties caused by the material. Such vendees or users assume all risks associated with the use of the material.
