



# SAFETY DATA SHEET

## Concrete Products

### R4 (May 2017)

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#### 1. IDENTIFICATION

**Synonyms:** Air Entrained Concrete, AE Concrete Mix, Concrete Mix

Product	ITEM CODES (Unit Weight):	Manufacturing Location (s)
<b>AIR ENTRAINED CONCRETE MIXES</b>	-----	
<ul style="list-style-type: none"> <li>AE 4000 CONCRETE MIX</li> <li>AE 5000 CONCRETE MIX</li> <li>AE 6000 CONCRETE MIX</li> </ul>	AE4080 / AE4080S (80lb) & AE4000PK (3000lb) AE5080 / AE5080S (80lb) AE6080 / AE6080S (80lb)	USA: Stormville, NY Ravenna, NY Canada: None





**Product Description:** Package Pavement's Air Entrained Concrete Mix is performance engineered concrete mix that is suitable for all applications that require optimum strength and durability in climates experiencing freeze/thaw conditions. It can be used for repairing anything made of concrete, including sidewalks, slabs and walkways.

#### 2. HAZARD(S) IDENTIFICATION

Health	Warning	
<b>GHS (US)</b> <ul style="list-style-type: none"> <li>Acute Toxicity (Oral): 4</li> <li>Acute Toxicity (Dermal): 1B</li> <li>Skin Irritation: 2</li> <li>Serious Eye Damage: 1</li> <li>Skin Sensitization: 1</li> <li>Carcinogenicity: 1</li> <li>Specific Target Organ Toxicity – Single Exposure: 3</li> <li>Specific Target Organ Toxicity After Repeated Exposure: 1</li> </ul>	<ul style="list-style-type: none"> <li><b>Corrosive</b> – Causes severe burns. Toxic Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to both dry and hydrated product.</li> <li><b>Toxic</b> – Harmful by inhalation (Contains crystalline silica). Harmful if swallowed</li> <li><b>Reactive</b> – With the addition of Water</li> </ul>	
<b>GHS Label Symbols:</b>		
<b>CORROSIVE</b>	<b>TOXIC</b>	<b>REACTIVE</b>
<b>Hazard Statements:</b> <b>DANGER!</b> <ul style="list-style-type: none"> <li>Causes severe skin burns and serious eye damage.</li> </ul>	<b>Prevention Statements:</b> <b>CAUTION:</b> <ul style="list-style-type: none"> <li>Do not eat, drink or use tobacco when using this product.</li> </ul>	



<ul style="list-style-type: none"> <li><b>Hazard Statements</b> (continued)</li> <li>May cause an allergic skin reaction.</li> <li>May cause respiratory irritation.</li> <li>Harmful if swallowed</li> <li>May cause cancer through chronic inhalation.</li> <li>Causes damage to lungs through prolonged or repeated exposure.</li> <li>May contain crystalline silica</li> <li>Less than 50% of the mixture consists of ingredients of unknown acute toxicity.</li> </ul>	<b>Prevention Statements</b> (continued) <ul style="list-style-type: none"> <li>Do not breathe dust</li> <li>Do not expose product to unprotected skin</li> <li>Wear respiratory protection, protective gloves, eye/face protection and waterproof boots.</li> <li>Use only in a well-ventilated area.</li> <li>Store container tightly closed in cool/well-ventilated place.</li> <li>Wash exposed areas of body thoroughly after handling.</li> </ul>
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Protective Gear Required (PPE):	
	
Respiratory Protection	Waterproof Gloves
	
Eye Protection	Waterproof Boots

**Primary Health Hazards:** Prolonged or repeated skin contact can cause drying of the skin which may produce irritation or dermatitis. Airborne dust can cause immediate or delayed irritation or inflammation.

**Primary Route(s) of Exposure:**

- Inhalation: Dust
- Eye Contact
- Skin Contact
- Ingestion

**Potential Health Effects:** Eye Contact – with large amounts of the dry powder or with wet concrete can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eyes.

**Potential Health Effects:** Skin – Concrete dust, in association with sweat and friction, can lead to skin irritation and dermatitis. Skin affected by dermatitis may include symptoms such as redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of concrete dust such as abrasion.

**Medical Conditions Generally Aggravated by Exposure:** Individuals with (e.g., bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure. Pre-existing skin conditions can be aggravated by exposure. Exposure to crystalline silica or the disease silicosis is associated with increased incidence of scleroderma, tuberculosis and possibly increased incidence of kidney lesions.

3. COMPOSITION / INFORMATION ON INGREDIENTS			
Chemical Name	CAS no.	% Composition	Other Identifiers
Portland Cement	65997-15-1	12-25%	Gray Cement
Crushed Limestone	1317-65-3	10-50%	Coarse Aggregate, Crushed Stone
Crystalline Silica Sand (Quartz)	14808-60-7	30-50%	Fine Aggregate, Concrete Sand
<b>Fly Ash As Composite: (Contents Below)</b>	68131-74-8	(% Represented in Components Listed Below)	Pulverised Fuel Ash
Fly Ash Contents			
<ul style="list-style-type: none"> <li>Aluminum Oxide (Fly Ash)</li> </ul>	1344-28-1	1-3%	N/A



• Amorphous Silica (Fly Ash)	61790-53-2	0-1%	N/A
• Iron Oxide (Fly Ash)	1309-37-1	0-1%	N/A

#### 4. FIRST AID MEASURES

**Eye Contact:** Immediately flush eye thoroughly with water. Continue flushing for at least 20 minutes, including under lids to remove all particles. Seek further medical help if irritation persists.

**Skin Contact:** Wash with cool water and pH-neutral soap. If a rash or persistent irritation or dermatitis occurs, get medical attention and advice. Seek 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 attention.

**Ingestion:** Do not induce vomiting unless instructed to do so by medical personnel. If conscious, have the victim drink plenty of water and call a physician immediately.

**Signs of Exposure:**

Acute Health Hazards (Inhalation): Breathing dust may cause nose, throat, or lung irritation; including choking. Dust may be a mechanical irritant to the eyes. Symptoms of excessive exposure to dust include the 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.

Chronic Health Hazards: Risk of injury depends on duration and level of 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. (May contain trace, <0.05%, amounts of chromium salts or compounds including hexavalent chrome or other metals found to be hazardous or toxic in some chemical form. These metals are mostly present as trace substitutions within the principal minerals.

#### 5. FIRE-FIGHTING MEASURES

**Flash Point:** Non-combustible; concrete poses no fire related hazard.

**Flammable Limits:** Non Flammable

**LEL:** N/A

**UEL:** N/A

**Extinguishing Media:** This material is noncombustible. Use extinguishing media appropriate for surrounding fire.

**Unusual Fire & Explosion Hazards:** None known

#### 6. ACCIDENTAL RELEASE MEASURES

**Spillage Measures:** If dry concrete mix is 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 the exposure limit. Once the concrete is hydrated (wet) personnel involved in the handling of the product should avoid contact with eyes and skin. Do not wash mixed concrete down sewage or drainage systems or into bodies of water (wetlands, lakes, or streams).

**Waste Disposal Methods:** Allow hydrated (wet) concrete to harden and dispose in a landfill as solid waste. Follow all applicable local, state and federal regulations for disposal.

#### 7. HANDLING AND STORAGE

Do not allow water to contact product until time of use. Do not breathe dust. The use of an OSHA, MSHA, or NIOSH approved respirator and tight fitting safety goggles is recommended. Do not expose skin, eyes or body to both dry and hydrated concrete mix.

The product shall be stored in a cool and dry place without exposure to standing water.

KEEP OUT OF REACH OF CHILDREN



**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Name	CAS no.	Agency	Exposure Limits	Comments
Portland Cement	65997-15-1	OSHA OSHA NIOSH NIOSH	PEL-TWA 15 mg/m <sup>3</sup> PEL-TWA 5 mg/m <sup>3</sup> REL-TWA 10 mg/m <sup>3</sup> REL-TWA 5 mg/m <sup>3</sup>	Total dust (50 mppcf) Respirable fraction Total dust Respirable fraction
Crushed Limestone	1317-65-3	OSHA OSHA NIOSH NIOSH	PEL-TWA 15 mg/m <sup>3</sup> PEL-TWA 5 mg/m <sup>3</sup> REL-TWA 10 mg/m <sup>3</sup> REL-TWA 5 mg/m <sup>3</sup>	Total dust Respirable fraction Total dust Respirable fraction
Crystalline Silica (as alpha-Quartz)	14808-60-7	OSHA OSHA  ACGIH	PEL-TWA [30 mg/m <sup>3</sup> ]/% SiO <sub>2</sub> + 2 PEL-TWA [10 mg/m <sup>3</sup> ]/% SiO <sub>2</sub> + 2 or [250 mppcf]/ % SiO <sub>2</sub> + 5 TLV-TWA 0.025R mg/m <sup>3</sup>	Total dust Respirable dust Respirable dust Respirable dust
<b>Fly Ash As Composite: (Contents Below)</b>	68131-74-8	N/A	N/A	N/A
• Aluminum Oxide (Fly Ash)	1344-28-1	OSHA OSHA	PEL-TWA 15 mg/m <sup>3</sup> PEL-TWA 5 mg/m <sup>3</sup>	Total dust Respirable fraction
• Amorphous Silica (Fly Ash)	61790-53-2	OSHA	PEL-TWA [80 mg/m <sup>3</sup> ]/% SiO <sub>2</sub> + 2	N/A
• Iron Oxide (Fly Ash)	1309-37-1	OSHA NIOSH	PEL-TWA 10 mg/m <sup>3</sup> REL-TWA 5 mg/m <sup>3</sup>	Fume Dust & Fume as Iron (Fe)
<i>Note-Chemical admixtures may be present in quantities less than 1%. Information on specific admixtures will be provided by the supplier upon request.</i>				

**Personal Protective Equipment (PPE):** Wear a dust mask during handling and hydration (mixing) of the dry concrete mix. Wear ANSI approved glasses or Safety goggles when handling both wet and dry concrete mix to prevent contact with eyes. (Wearing contact lenses when using concrete is not recommended.) The use of waterproof gloves and boots are highly recommended to prevent exposure to skin and body.

**Respiratory Protection:** Use of a respirator when mixing is highly recommended. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limit.

**Other Protective Clothing or Equipment:** Protective outer garments including long sleeve shirts, workpants, boots and gloves should be used to prevent exposure to both dry and hydrated concrete.

**Engineering Controls:** Use only in well-ventilated areas to ensure dust is below exposure levels. Local exhaust can be used, if necessary, to control airborne dust levels.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice. Avoid repeated or prolonged dust inhalation or contact with skin in accordance with above good practices. Wash thoroughly after handling and before eating or drinking. The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water and clean clothing to before reuse. Precautions must be observed because burns occur with little warning.

**Environmental Exposure:** This product does not present any particular risk for the environment. Refer to applicable national, state and local regulations.

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

**9. PHYSICAL & CHEMICAL PROPERTIES**

**Appearance and Odor:** Air Entrained Concrete Mix is a mixture of fine and coarse aggregates and Portland cement with a proprietary blend of air entraining additives. This product is a granular solid material with a light gray appearance. When hydrated the product has a mud-like consistency and a dark gray color.



Boiling Point (at 760mm Hg):	> 2700 deg. F.
Vapor Pressure (mm Hg):	N/A
Vapor Density (air = 1):	N/A
Specific Gravity (water = 1):	APPROX. 2.6 – 3.15
Melting Point:	>2700 deg. F.
Evaporation Rate (Butyl acetate = 1):	N/A
Solubility in Water (% by weight):	Insoluble
pH:	N/A
Freezing Point:	N/A
Physical State:	Opaque gray, granular solid

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable

**Conditions to Avoid:** Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fire. Keep dry until used to preserve product utility.

**Incompatibility:** Strong oxidizers.

**Hazardous Polymerization:** Will not occur.

**Hazardous Decomposition or By-Products:** None known.

## 11. TOXICOLOGICAL INFORMATION

**Routes of Exposure:** Skin Contact, Inhalation, Eye Contact and Ingestion

**Skin Contact:** Causes serious burns in the presence of moisture. Skin contact of both the dry concrete and during hydration of this product will likely cause severe burns and abrasions. Prolonged or frequent contact can cause irritation to the dermatitis. Symptoms include a burning sensation in the lungs or throat.

**Inhalation Exposure:** Under prolonged exposure airborne dust can cause immediate or delayed irritation or inflammation.

**Eye Contact:** If in contact with the eyes, can cause irritation to the eyelids, cornea (conjunctivitis) and lesions to the eyeball.

**Ingestion:** If swallowed it can cause burns to the mouth, esophagus and stomach.

**Toxicity to Animals:**

LD50: Not Available

LC50: Not Available

**Chronic Effects on Humans:** Condition aggravated by exposure includes eye disease, skin disorders and Chronic Respiratory conditions.

**Special Remarks on Toxicity:** Not Available

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Not available.

**BOD<sub>5</sub> 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.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Dispose of unusable material via licensed waste disposal company in accordance with local, state, and federal guidelines.

## 14. TRANSPORT INFORMATION



**DOT/UN:** Non-regulated

**DOT Hazard Class:** Non-regulated

**Shipping Name:** Non-regulated

Not regulated as a hazardous waste material by the U.S. Department of Transportation and TDG Regulations.

## 15. OTHER REGULATORY INFORMATION

### GHS Safety Standards Guide:

The new UN Global Harmonization System (GHS) of safety and hazard identification standards were adopted by OSHA in 2012 and will be implemented in June 1<sup>st</sup> 2015. This includes standardized pictograms to identify the hazards that are present in manufactured, blended or distributed products for use in the workplace. The GHS standards feature a new numerical system to identify the levels of toxicity of the product.

The risk levels associated with this product is listed in section #2 of the 16 sections included in this guide. The new numbers are arranged on a scale of 1-5 with 1 being a severe hazard and 5 presenting minimal hazard when used under the product's instruction and when in compliance with applicable, local, state and federal guidelines.

**1 = Severe Hazard**

**2 = Serious Hazard**

**3 = Moderate Hazard**

**4 = Slight Hazard**

**5 = Minimal Hazard**

*For more information visit the OSHA website: [www.osha.gov](http://www.osha.gov)*

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

**SARA (Title III) Sections 311 and 312:** This product has been reviewed according to the EPA Hazard Categories promulgated under sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is a hazardous chemical and a delayed health hazard.

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

**TSCA (May 1997):** Some substances are on the TSCA inventory list.

**Federal Hazardous Substance 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 the Hazardous Products Act as defined by the Controlled Products Regulation (Class D2A, E-Corrosive Material) 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.

### 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 casual relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust (reviewed in IAC, 1997; Brown et al., 1997; Hind et al., 1997).

**IARC:** The International Agency for Research on Cancer ("IARC") 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 cristobalite." The overall IARC evaluation was that "crystalline silica 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. Volume 68, "Silica, Some Silicates." (1997).

## 16. ADDITIONAL INFORMATION



**SDS**  
INFORMATION

**Date Prepared:** 05/11/2017

**User's Responsibility:** This information is compiled from sources believed to be accurate or otherwise technically correct. It is the user's responsibility to determine if this information is suitable for their application and to follow safety precautions as may be necessary.

**Revision R4,** supersedes all previous revisions.

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