

# MATERIAL SAFETY DATA SHEET

Date: July 1, 2004

## SECTION I - GENERAL INFORMATION

**MANUFACTURER'S NAME:** New Jersey Pulverizing Company  
Ace-Crete Products, Inc.

**MANUFACTURER'S ADDRESS:** 4 Rita Street  
Syosset, New York 11791

**EMERGENCY PHONE NUMBER:** (516) 921-9595

**PRODUCT NAME:** ALL TYPES OF SAND

**TRADE NAME AND SYNONYMS:** White Sand, Child Health Sand, All Purpose Sand, Concrete Sand, Mason Sand, Traction Grit, Filter Sand, Silica Flours, Quartz, Flint, Gravel, FP Gravel, #100 Sand, #80 Sand, #70 Sand, #60 Sand, #50 Sand, #40 Sand, #0 Sand, #¼ Sand, #½ Sand, #1 Sand, #2 Sand, #3 Sand, FS4098, FF4020, BS5005, 710, C-109, C-190

**CHEMICAL NAME:** Silicon Dioxide

**CHEMICAL FAMILY:** Crystalline Silica (Quartz)

**FORMULA:** SiO<sub>2</sub>

## SECTION II - HAZARDOUS INGREDIENTS

<u>COMPONENT</u>	<u>CAS #</u>	<u>PERCENTAGE</u>	<u>EXPOSURE LIMITS</u>
Silica, Crystalline Quartz	14808-60-7	90-99.9%	PEL - See Below TLV - 0.1 mg/m <sup>3</sup> TWA (respirable fraction) MSHA - See Below

**OSHA PEL & MSHA Exposure Limit for Crystalline Silica, Quartz:** 10 mg/m  
(Respirable) % Silica + 2

**Other Limits Recommended:** National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (0.05 mg/M<sup>3</sup>) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. The 1974 NIOSH Criteria for a recommended Standard for Occupational Exposure to Crystalline Silica should be consulted for more detailed information.

PEL means OSHA Permissible Exposure Limit.

TLV means American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value.

MSHA means Mine Safety and Health Administration Exposure Limit.

TWA means 8 hour time weighted average.

**NOTE:** the Permissible Exposure Limits (PEL) reported are the pre-1989 limits that were reinstated by OSHA June 30, 1993 following a decision by the 11<sup>th</sup> Circuit Court of Appeals. These PELs are now being enforced by Federal OSHA. Be aware that more restrictive exposure limits may be enforced by some states, agencies or other authorities.

**Sand**

### SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

**BOILING POINT:** 4046°F/2230°C

**MELTING POINT:** 2930°F/1610°C

**VAPOR PRESSURE:** N/A

**VAPOR DENSITY (Air = 1):** N/A

**SOLUBILITY IN WATER:** Negligible

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 2.65

**PERCENT VOLATILE BY VOLUME:** 0%

**EVAPORATION RATE (Butyl Acetate = 1):** N/A

**APPEARANCE AND ODOR:** White or tan sand, granular, crushed or ground - no odor or taste.

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA

**FLASH POINT (METHOD USED):** Fully oxidized, will not burn.

**AUTOIGNITION TEMP:** Will not burn.

**FLAMMABLE LIMITS:** None      **LEL:** None      **UEL:** None

**EXTINGUISHING MEDIA:** This product will not burn but is compatible with all extinguishing media. Use any media that is appropriate for the surrounding fire.

**SPECIAL FIRE FIGHTING PROCEDURES:** None required with respect to this product. Firefighters should always wear self-contained breathing apparatus for fires indoors or in confined areas.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None

**HAZARDOUS COMBUSTION PRODUCTS:** None

Athletic Field Marker

### SECTION V - REACTIVITY DATA

**STABILITY:**              **UNSTABLE:**              **STABLE:** X

**CONDITIONS TO AVOID:** None

**INCOMPATIBILITY (MATERIALS TO AVOID):** Contact with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, oxygen difluoride, may cause fires.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas - silicon tetrafluoride.

**HAZARDOUS POLYMERIZATION:** **MAY OCCUR:**              **WILL NOT OCCUR:** X

**CONDITIONS TO AVOID:** None

### SECTION VI - HEALTH HAZARD DATA

**EMERGENCY OVERVIEW:** This product is a chemically inert, non-combustible mineral. A single exposure will not result in serious adverse effects. Excessive inhalation of dust may cause lung disease, silicosis, with symptoms of shortness of breath and reduced pulmonary function. See "Cancer Status" in this section.

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**HEALTH HAZARDS (ACUTE and CHRONIC):**

**INHALATION:** Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may have the following serious chronic health effects:

**Silicosis:** Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

**Cancer Status:** The International Agency for Research on Cancer has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1 - carcinogenic to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (published in June 1997) in conjunction with the use of these materials. The National Toxicology Program classifies respirable crystalline silica as "reasonably anticipated to be a carcinogen".

**Other Data with Possible Relevance to Human Health:**

There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) and kidney disease.

For further information consult "Adverse effects of Crystalline Silica Exposure" published by the American Thoracic Society Medical Section of the American Lung Association, American Journal of Respiratory and critical Care Medicine, volume 155, page 761-765, 1997.

Inhalation of dust may cause irritation of the nose, throat and respiratory passages.

**SKIN CONTACT:** No adverse effects expected.

**EYE CONTACT:** Contact may cause mechanical irritation and possible injury.

**INGESTION:** No adverse effects expected for normal, incidental ingestion.

**CHRONIC HEALTH EFFECTS:** See "Inhalation" subsection above with respect to silicosis, cancer status and other data with possible relevance to human health.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Individuals with respiratory disease, including but not limited to, asthma and bronchitis, or subject to eye irritation should not be exposed to respirable quartz dust.

**SIGNS AND SYMPTOMS OF EXPOSURE:** There are generally no signs or symptoms of exposure to crystalline silica (Quartz). See "Inhalation" subsection above for symptoms of silicosis.

**EMERGENCY FIRST AID PROCEDURES:**

**GROSS INHALATION:** Remove victim to fresh air. If breathing has stopped, perform artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get prompt medical attention.

**EYE CONTACT:** Flush the eyes immediately with large amounts of running water, lifting the upper and lower lids occasionally. If irritation persists or for imbedded foreign body, get immediate medical attention.

**SKIN CONTACT:** No first aid should be needed since this product does not effect the skin. Wash exposed skin with soap and water before breaks and at the end of the shift.

**INGESTION:** If large amounts are swallowed, get immediate medical attention.

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## SECTION VII - CONTROL AND PROTECTIVE MEASURES

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**RESPIRATORY PROTECTION (SPECIFIC TYPE):** Use appropriate respiratory protection for respirable particulates based on

consideration of airborne workplace concentrations and duration of exposure arising from intended end use. Refer to the most recent standards of ANSI (Z88.2), OSHA (29 CFR 1910.134), MSHA (30 CFR Parts 56 & 57) and NIOSH Respirator Decision Logic.

**VENTILATION:** Use local exhaust as required to maintain exposures below applicable occupational exposure limits (See Section 2). See also ACGIH "Industrial Ventilation - A Manual for Recommended Practice", (current edition)

**PROTECTIVE GLOVES:** Recommended

**EYE PROTECTION:** Safety glasses or goggles recommended.

**OTHER PROTECTIVE CLOTHING AND EQUIPMENT:** As appropriate for the work environment. Dusty clothing should be laundered before reuse.

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## SECTION VIII - PRECAUTION FOR SAFE HANDLING AND USE/LEAK PROCEDURES

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**STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED:** Wear appropriate protective equipment. If uncontaminated, collect using dustless method (HEPA vacuum or wet method) and place in appropriate container for use. If contaminated: a) use appropriate method for the nature of contamination, b) consider possible toxic or fire hazards associated with the contaminating substances. Collect for disposal.

**WASTE DISPOSAL METHOD:** If uncontaminated, dispose as an inert, non-metallic mineral. If contaminated, dispose in accordance with all applicable local, state/provincial and federal regulations.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Do not breathe dust. Do not rely on your sight to determine if dust is in the air. Silica may be in the air without a visible dust cloud. Use normal precautions against bag breakage or spills of bulk material. ANSI/AIHA Z9.4:1997 recommends that silica sand be prohibited as an abrasive blasting agent for use in fixed location abrasive-blast enclosures. Use good housekeeping in storage and use areas to prevent accumulation of dust in work area.

Use adequate ventilation and dust collection. Maintain and use proper, clean respiratory equipment. Launder clothing that has become dusty. Empty containers (bags, bulk containers, storage tanks, etc.) Retain silica residue and must be handled in accordance with the provisions of this Material Safety Data Sheet. WARN and TRAIN employees in accordance with state and federal regulation.

WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS - USERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARDS AND OSHA PRECAUTIONS TO BE USED. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT OSHA PRECAUTIONS.

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## SECTION VIII - TOXICOLOGICAL INFORMATION

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No acute toxicity data is available for product or components. Refer to Section 6 for health hazard information.

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## SECTION X - ECOLOGICAL INFORMATION

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No ecotoxicity data is available. This product is not expected to present an environmental hazard.

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## SECTION XI - TRANSPORTATION DATA

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**U.S. DOT HAZARD CLASSIFICATION:** Proper Shipping Name: Not Regulated  
Technical Name: N/A  
UN Number: N/A  
Hazard Class/Packing Group: N/A

Labels Required: None  
DOT Packaging Requirement: N/A  
Exceptions: N/A

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## SECTION XII - OTHER REGULATORY INFORMATION

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**SARA 311/312:** Hazard Categories for SARA Section 311/312 Reporting: Chronic Health

**SARA 313:** This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under the SARA Section 313 (40 CFR 372): None

**CERCLA SECTION 103 REPORTABLE QUANTITY:** None

**TOXIC SUBSTANCES CONTROL ACT:** All of the components of this product are listed on the EPA TSCA Inventory or exempt from notification requirements.

**CANADIAN ENVIRONMENTAL PROTECTION ACT:** All the components of this product are listed on the Canadian Domestic Substances List or exempt from notification requirements.

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## SECTION XIII - OTHER INFORMATION

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**EUROPEAN COMMUNITY LABELING CLASSIFICATION:** Harmful (Xn)

**EUROPEAN COMMUNITY RISK AND SAFETY PHRASES:** R40, R48, S22

**NFPA HAZARD RATING:** Health: 1 Fire: 0 Reactivity: 0

**HMIS HAZARD RATING:** Health: \* Fire: 0 Reactivity: 0

\*Warning - Chronic health effect possible - inhalation of silica dust may cause lung injury/disease (silicosis). Take appropriate measures to avoid breathing dust. See Section 6.

**REFERENCES:** Registry for Toxic Effects of Chemical Substances (RTECS), 1995  
Patty's Industrial Hygiene and Toxicology  
NTP Seventh Annual Report on carcinogens, 1994  
IARC Monograph volume 68, Silica, Some Silicates and Organic Fibres, 1997

**REVISION SUMMARY:** Revise Cancer Status and Health Hazards (Section 6), Handling (Section 8) and Exposure controls (Section 7).

The data on this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. The information set forth herein is based on technical data the New Jersey Pulverizing Company/Ace-Crete Products, Inc. believes reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside the control of New Jersey Pulverizing Company/Ace-Crete Products, Inc., no warranties, expressed or implied, are made and no liability is assumed in connection with any use of this information. Any use of this data and information must be determined by the user to be in accordance with federal, state and local laws and regulations.