



MSDS

Material Safety Data Sheet

Revised January 5, 2000

Product Name:
NATURAL FINE AND COARSE AGGREGATE
(Gravel, Sand, Concrete & Mortar Mixes)

mg/M³ (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour workweek. NIOSH has identified respirable crystalline silicon as a potential occupational carcinogen.

SECTION I

Manufacturer's

Name: Glacier Northwest, Inc.
Address: P.O. Box 1730
Seattle, WA 98111
Telephone: (206) 764-3000
Emergency: (206) 764-3000

SECTION II – HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

Hazardous Components: Silica, Crystalline Quarts (respirable), 15% to 24% or specifically: 8740 – 30 x 50-24%, 8700 – 4 x 8-22%, 8720 – 8 x 30-24%, 8750 – 50 x 200-19%, pit run "surge" pile = 15%

Specific Chemical Identity: Silicon Dioxide SiO₂
(CAS 14808-60-7)

OSHA PEL: Exposure to airborne crystalline silica shall not exceed an 8-hour time-weighted average limit as stated in 29 CFR 1910.1000, Table Z-1-A, Air Contaminants, specifically: Silica, Crystalline Quartz (respirable) 0.1 mg/M³

ACGIH TLV: Crystalline Quartz
TLV-TWA = 0.1 mg/M³ (respirable Dust)
See Threshold Limit Value and Biological Exposure Indices for 1996-1997 American Conference of Governmental Industrial Hygienists.

Other Limits Recommended: National Institute for Occupational Safety and Health (NIOSH). Recommended Standard maximum permissible concentration = 0.05

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: Not Tested

Specific Gravity (H₂O=1): Not Tested

Vapor Pressure (mm Hg): None or 0mm Hg

Melting Point: Not Tested

Vapor Density (AIR = 1): NA

Evaporation Rate (Butyl Acetate = 1): None

Solubility in Water: Insoluble in water

Physical/Chemical Characteristics: A solid with a size up to a maximum of 3/8" for fine aggregate and plus 3/8" for coarse aggregate. As a solid, the properties of boiling point, vapor pressure, vapor density, and evaporation rate are not applicable.

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): Non-Flammable

Flammable Limits: None

LEL: None

UEL: None

Extinguishing Media: None required; Sand may be used as an extinguishing media.

Special Fire Fighting Procedures: NA

Unusual Fire and Explosion Hazards: None of the listed products present a fire or an explosion hazard. Crystalline silica sand may be used to put out Class A and B fires.

SECTION V – REACTIVITY DATA

Stability: Unstable: _____ Stable: X

Conditions to Avoid: None

Hazardous Decomposition or Byproducts: Silica will dissolve in Hydrofluoric Acid and produces a corrosive gas – silicon tetrafluoride.

Hazardous Polymerization:

May Occur: _____ **Will Not Occur:** X

Conditions to Avoid: None

SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:

Inhalation? Yes

Skin? No

Ingestion? No

Health Hazards (Acute and Chronic): Prolonged exposure to respirable crystalline quartz may cause delayed (chronic) lung injury (silicosis). Acute or rapidly developing silicosis may occur in a short period of time in heavy exposure in certain occupations such as sandblasters. Silicosis is a form of disabling pulmonary fibrosis, which can be progressive and may lead to death.

Carcinogenicity: Aggregate products are not listed on the NTP, IARC, or OSHA list of carcinogens. However, in October 1996 IARC classified respirable crystalline silica from occupational sources as carcinogenic (Group 1). The NTP indicates that crystalline silica is reasonably anticipated to be a carcinogen (Group 2). These classifications are based on sufficient evidence of carcinogenicity in certain experimental animals and on selected epidemiological studies of workers exposed to crystalline silica. Iron oxide is listed by IARC as exhibiting evidence of carcinogenicity in experimental animals.

Signs and Symptoms of Exposure: Undue breathlessness, wheezing, cough and sputum production.

Medical Conditions Generally Aggravated by Exposure:

Pulmonary functions may be reduced by inhalation of respirable crystalline silica. Also lung scarring produced by such inhalation may lead to a progressive massive fibrosis of the lung which may aggravate other pulmonary conditions and diseases and which increase susceptibility to pulmonary tuberculosis. Progressive massive fibrosis may be accompanied by right heart enlargement, heart failure, and pulmonary failure. Smoking aggravates the effects of exposure.

Emergency and First Aid Procedures: For sand in eyes, wash immediately with water. If irritation persists, seek medical attention. For gross inhalation, remove person immediately to fresh air, give artificial respiration as needed, seek medical attention as needed.

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

Respiratory Protection

The following chart specifies the types of respirators, which may provide respiratory protection for crystalline silica.

RESPIRATORY PROTECTION FOR CRYSTALLINE SILICA

Eye Protection: Wear protective shield (safety glasses) when exposed to dust particles.

CONDITION Particulate Concentration	MINIMUM RESPIRATORY PROTECTION
Up to 10xPEL	Any fume respirator or high efficiency particulate filter respirator. Any supplied-air respirator. Any self-contained breathing apparatus.
Up to 50xPEL	A high efficiency particulate filter respirator with a full-face piece, helmet or hood. Any self-contained breathing apparatus with a full face piece.
Up to 100xPEL	A powered air-purifying respirator with a high efficiency particulate filter. A Type C supplied-air respirator operated in a pressure-demand or other positive pressure or continuous-flow mode.
Greater than 100xPEL or entry and escape from unknown concentration	Self-contained breathing apparatus with a full face piece operated in pressure-demand or other positive pressure mode. A combination respirator which includes a Type C supplied-air respirator with a full face piece operated in pressure-demand or other positive pressure continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure demand or other positive pressure mode.
Abrasive Blasting	Any Type CE, supplied-air respirator with a full-face piece, hood or helmet, operated in a positive pressure mode. (See 29 CFR 1910.94(a)).

Other Protective Clothing or Equipment: Optional

Work/Hygienic Practices: Avoid creating and breathing dust. See "Other Precautions" under Section VII.

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful health effects, which may be caused by purchase, resale, use or exposure to our product. Customers-users of products containing silica must comply with all applicable health and safety laws, regulations and orders.

Only NIOSH-approved or MSHA-approved equipment should be used. (See CFR 1910.134).

See also ANSI standard Z88.2-1980 "Practices for Respiratory Protection," and standard Z9.4-1984 "Ventilation and Safe Practices of Abrasive Blasting Operations."

Ventilation

Local Exhaust: Use sufficient local exhaust to reduce the level of respirable dust to the PEL. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice," the latest edition.

Mechanical: See "Other Precautions" under Section VII.

Other: See "Other Precautions" under Section VII.

Protective Gloves: Optional