

Material Safety Data Sheet

Sand & Gravel



Section I: Material Identification and Use

Material Name/Identifier:	Natural Sand and Gravel
Chemical Name:	Sand and Gravel
Chemical Family:	N/A
Chemical Formula:	Complex mixture (naturally variable)
Trade Name & Synonyms:	aggregates, sand, crushed gravel
Molecular Weight:	N/A
Material Use:	construction, ready mix concrete, concrete products, asphalt

Section II: Hazardous Ingredients of Material

Hazardous Ingredient:	A complex mixture (naturally variable composition of primarily granitic, metamorphic and sedimentary rock particles)
Approximate Concentration:	100%
C.A.S., N.A. or U.N. Numbers:	N/A
LD50 (specify species & route):	N/A
LC50 (specify species & route):	N/A

Sand & Gravel may contain varying concentrations of:

- Quartz (Crystalline Silica) C.A.S., N.A. or U.N. Number: 14808-60-7
- Mica C.A.S, N.A., or U.N. Number: 12001-26-2

Note: This MSDS is applicable to Sand & Gravel only when the concentration of Quartz or Mica is greater than 0.1 (%) percent.

Section III: Physical Data for Material

Physical State:	Solid
Odour & Appearance:	No odour, angular or rounded, multi-coloured particles of varying sizes
Odour Threshold (P.P.M.):	N/A
Specific Gravity:	2.5-2.8
Vapour Pressure (MM):	N/A
Vapour Density (Air = 1):	N/A
Evaporation Rate:	0
Solubility in Water (20°C):	Negligible
Boiling Point (1°C):	N/A
Freezing Point (°C):	N/A
pH:	N/A
Percentage Volatile (by volume):	0
Coefficient of Water/Oil Distribution:	N/A

Section IV: Fire & Explosion Hazard of Material

Section not applicable

Section V: Reactivity Data

Chemical Stability: Yes
Incompatibility to other Substances: No
Hazardous Decomposition Products: None Known

Section VI: Toxicological Properties of Material

Route of Entry: Skin contact, eye contact, inhalation
Effects of Acute Exposure of Material: Exposure to dust may irritate respiratory system, eyes and skin
Effects of Chronic Exposure to Material:

1. Chronic exposure to respirable dust at levels exceeding exposure limits has caused pneumoconiosis.
2. Chronic exposure to respirable Sand and Gravel dust containing Quartz and Mica at levels exceeding limits has caused silicosis, a serious and progressive pneumoconiosis which can be disabling, and lead to death. Symptoms may appear at any time, even years after exposure has ceased. Symptoms of silicosis may include; shortness of breath, difficulty in breathing, coughing, diminished work capacity, diminished chest expansion, reduction of lung volume and right heart enlargement and/or failure. The only reliable method of detecting silicosis is through a chest x-ray. Silicosis may aggravate other chronic pulmonary conditions and may increase the risk of pulmonary tuberculosis infection. Smoking aggravates the effects of silica exposure.

LD50: N/A
LC50: N/A

Exposure Limits (Ontario):

1. Respirable Silica dust – 0.2 mg/metre (TWA EV)
TWA EV - time weighted average exposure values

For additional information on the above exposure limits, consult Ontario Regulations 654/86 and 769/83 amended 23/87.

Irritancy of Material: Respiratory system, skin, eyes

Sensitization of Material: N/A

Synergistic Material: None Known

Carcinogenicity, reproductive effects, teratogenicity, mutagenicity as of the date of preparation of MSDS:

1. Sand and Gravel is not included on the ACGIH, IARC, or OSHA lists of potential carcinogens.
2. Silica, in form of crystalline Quartz, and as a component of this material, is listed as a potential carcinogen by IARC, but not by ACGIH, NTP, or OSHA. IARC (International Agency for Research on Cancer) has determined that there is sufficient evidence of carcinogenicity of crystalline silica to experimental animals, and that there is limited evidence of the carcinogenicity to humans. Limited evidence of carcinogenicity indicates that casual interpretation is credible, but alternate explanations such as change, bias or confounding factors could not adequately be excluded. There is no evidence that Sand and Gravel is a teratogen, a mutagen or has a reproductive effect.

Section VII: Preventative Measures

Personal Protective Equipment:	Respiratory protection should be used whenever dust is generated. Refer to the Ontario Regulation 769/83 as amended for respiratory equipment specified for various respirable silica dust levels.
Engineering Controls:	(Ventilation, Enclosed Process): Where feasible, dust levels should be reduced through wet suppression, dust collection, ventilation, process enclosure, and enclosed pressurized employee work stations.
Leak and Spill Procedures:	Spilled materials, where dust can be generated, may expose clean-up personnel to respirable dust. Wetting of spilled material and/or use of protective respiratory equipment may be necessary.
Waste Disposal:	Re-use clean materials, dispose of waste materials only in accordance with applicable federal, provincial and local laws and regulations.
Handling Procedures & Equipment:	Respirable dust may be generated during processing, handling and storage – avoid inhalation. Refer to “Personal Protective Equipment – Respiratory”
Storage Requirements:	N/A
Special Shipping Information:	N/A

Section VIII: First Aid Measures

Dust in Eyes:	Flush out eyes with running water for 15 minutes. Contact physician if irritation persists.
Dust on Skin:	Wash with soap and water. Contact physician if irritation is aggravated.
Dust Inhalation:	Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact physician if irritation persists.

Section IX: Preparation of MSDS

Prepared by:	Doughty Aggregates (Peterborough) Limited
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Additional Notes or References: Physical irritation may result from handling sand and gravel. Work gloves and work clothing are recommended.

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