

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Sand and Gravel**

Product Code(s)

: N/Ap

Recommended use of the chemical and restrictions on use

: Construction material
Restriction on use: None known

Chemical family

: Natural sand and gravel is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica).

Name, address, and telephone number of the supplier:

Ontario Stone, Sand & Gravel Association (OSSGA)

5720 Timberlea Boulevard, Unit 103
Mississauga, ON, Canada
L4W 4W2

Supplier's Telephone # : 647-727-8778

24 Hr. Emergency Tel # : Not available.

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Angular or round multicolored particles. Odourless.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification

Carcinogenicity - Category 1
Specific Target Organ Toxicity, Single Exposure - Category 1
Specific Target organ toxicity, repeated exposure- Category 1

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

May cause cancer.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.

Precautionary statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood. Do not breathe dust or fume.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

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IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification Dust contact with the eyes can lead to mechanical irritation.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Sand and Gravel	Not available.	None	100.00
Silica, quartz	Quartz silica Crystallized silicon dioxide	14808-60-7	>1

Natural sand and gravel is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica). Natural sand and gravel may be subjected to various natural or mechanical forces that produce small particles (dust) which may contain respirable crystalline silica (particles less than 10 micrometers in aerodynamic diameter). The % concentrations for the above listed chemicals will vary from batch to batch. Concentrations listed represent the actual concentration range for each chemical.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Never give anything by mouth if victim is unconscious. Have victim rinse mouth with water, then give one to two glasses of water to drink. If symptoms develop, seek medical attention.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If not breathing, clear airway and start artificial respiration. Seek immediate medical attention/advice.
- Skin contact* : Wash affected areas with soap and water. If irritation or symptoms develop, seek medical attention.
- Eye contact* : Flush eyes with water for at least 15 minutes while holding eyelids open. If eye irritation persists: get medical advice/attention.

Most important symptoms and effects, both acute and delayed

- : May cause cancer. Causes damage to the lungs and respiratory system if inhaled. Causes damage to the lungs and respiratory system through prolonged or repeated exposure if inhaled. Repeated or prolonged inhalation of fine dusts may cause severe scarring of the lungs, a disease called silicosis, and alveolar proteinosis (lower lung disease). Symptoms may include coughing, shortness of breath and eventually severe respiratory impairment. Dust contact with the eyes can lead to mechanical irritation. Symptoms may include stinging, tearing, redness and swelling.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media* : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

- Unsuitable extinguishing media* : Do not use a solid water stream as it may scatter and spread the fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Not flammable.

Flammability classification (OSHA 29 CFR 1910.106)

- : Non-flammable.

Hazardous combustion products

- : None known.

Special protective equipment and precautions for firefighters

- Protective equipment for fire-fighters* : Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

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Special fire-fighting procedures

- : The product itself does not burn. The area should be evacuated and all personnel kept upwind. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Fight fires from a safe distance. Water spray may be useful in cooling equipment exposed to heat and flame.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Evacuate personnel to safe areas. Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate chemically protective equipment. Refer to point 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions : None required under normal conditions.

Methods and material for containment and cleaning up

- : Ventilate area of release. Stop the spill at source if it is safe to do so. Avoid dust formation. Vacuum or sweep up using wet methods and place in an appropriate waste disposal container

Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): None reported.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Use in a well-ventilated area. Do not breathe dust. Avoid contact with eyes, skin and clothing. Keep away from acids and incompatibles. Avoid and control operations which create dust. Keep containers closed when not in use. Wash thoroughly after handling.

Conditions for safe storage : Store in a cool, dry, well-ventilated area. No smoking in the area. Do not store near acids or other incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Protect against physical damage.

Incompatible materials : Acids, Aluminum, Oxidizing agents, Reactive metals

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Sand and Gravel	10 mg/m3 (Respirable fraction)	N/Av	15 mg/m3 (total dust); 5 mg/m3 (Respirable fraction)	N/Av
Silica, quartz	0.025 mg/m ³ (respirable)	N/Av	0.1 mg/m ³ (respirable) (final rule limit)	N/Av

Exposure controls

Ventilation and engineering measures

- : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

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- Respiratory protection** : Respiratory protection is required if the concentrations exceed the TLV. If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised.
- Skin protection** : Wear protective gloves/clothing. Impervious gloves must be worn when using this product. Advice should be sought from glove suppliers.
- Eye / face protection** : Chemical goggles must be worn to prevent dusts from entering the eyes.
- Other protective equipment** : An eyewash station should be made available in the immediate working area. Depending on conditions of use, safety shoes and additional protective clothing may also be necessary.
- General hygiene considerations** : Avoid contact with eyes, skin and clothing. Do not breathe vapours/dust. Do not eat, drink or smoke when using this product. Clean all equipment and clothing, and shower with mild soap and water to remove dusts, at end of each work shift.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Angular or round multicolored particles.
- Odour** : No odour.
- Odour threshold** : N/Av
- pH** : N/Av
- Melting/Freezing point** : N/Av
- Initial boiling point and boiling range** : N/Av
- Flash point** : N/Av
- Flashpoint (Method)** : N/Av
- Evaporation rate (BuAe = 1)** : N/Av
- Flammability (solid, gas)** : Not applicable.
- Lower flammable limit (% by vol.)** : N/Av
- Upper flammable limit (% by vol.)** : N/Av
- Oxidizing properties** : None.
- Explosive properties** : Not explosive
- Vapour pressure** : N/Av
- Vapour density** : N/Av
- Relative density / Specific gravity** : 2.55-2.8
- Solubility in water** : Insoluble.
- Other solubility(ies)** : N/Av
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : N/Av
- Auto-ignition temperature** : N/Av
- Decomposition temperature** : N/Av
- Viscosity** : N/Av (solid)
- Volatiles (% by weight)** : N/Av
- Volatile organic Compounds (VOC's)** : N/Av
- Absolute pressure of container** : N/Av
- Flame projection length** : N/Av
- Other physical/chemical comments** : None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

- Reactivity** : Not normally reactive.
- Chemical stability** : Stable under normal conditions.
- Possibility of hazardous reactions** : Hazardous polymerization does not occur.

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- Conditions to avoid** : Avoid dust formation. Avoid contact with incompatible materials.
- Incompatible materials** : Acids; Aluminum; Oxidizing agents; Reactive metals
- Hazardous decomposition products** : Respirable crystalline silica-containing dust may be generated. When heated, quartz is slowly transformed into tridymite (above 860°C/1580°F) and cristobalite (above 1470°C/2678°F). Both tridymite and cristobalite are other forms of crystalline silica. Refer to Section 5 for additional 'Hazardous combustion products'.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption
: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Contains crystalline silica; prolonged exposure by inhalation of particles can cause serious lung damage, including silicosis. Symptoms may include coughing, shortness of breath and eventually severe respiratory impairment.

Sign and symptoms ingestion

- : None expected, when used as intended.

Sign and symptoms skin

- : None expected, when used as intended.

Sign and symptoms eyes

- : Dust contact with the eyes can lead to mechanical irritation. Symptoms may include stinging, tearing, redness and swelling.

Potential Chronic Health Effects

- : Repeated or prolonged inhalation of fine dusts may cause severe scarring of the lungs, a disease called silicosis, and alveolar proteinosis (lower lung disease). Symptoms may include coughing, shortness of breath and eventually severe respiratory impairment.

Mutagenicity

- : Not expected to be mutagenic in humans.

Carcinogenicity

- : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification Carcinogenic Category 1 May cause cancer.
This product contains Crystalline silica - Quartz. Crystalline silica - Quartz is classified as carcinogenic by IARC (Group 1), ACGIH (Group A2), NTP (Group 1) and OSHA (OSHA Select carcinogen).

Reproductive effects & Teratogenicity

- : Not expected to cause reproductive effects.

Sensitization to material

- : Contains no known skin or respiratory sensitizers.

Specific target organ effects

- : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Specific Target Organ Toxicity, Single Exposure - Category 1
May cause damage to the lungs if inhaled.
Specific Target organ toxicity, repeated exposure- Category 1
May cause damage to the lungs through prolonged or repeated exposure if inhaled.

Medical conditions aggravated by overexposure

- : Pre-existing respiratory disorders.

Synergistic materials

- : None known or reported by the manufacturer.

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Toxicological data : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	LC₅₀(4hr)	LD₅₀	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Sand and Gravel	N/Av	N/Av	N/Av
Silica, quartz	N/Av	N/Av	N/Av

Other important toxicological hazards
: None reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : No data is available on the product itself. Not expected to be harmful to aquatic organisms.

Silica, quartz	14808-60-7	N/Av	N/Av	None.
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Silica, quartz	14808-60-7	N/Av	N/Av	None.
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Silica, quartz	14808-60-7	N/Av	N/Av	None.
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Persistence and degradability
: No data is available on the product itself.

Bioaccumulation potential : No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
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Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects
: None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Handle waste according to recommendations in Section 7.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method.

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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	None	Not regulated.	Not regulated	none	
TDG Additional information	None.				
49CFR/DOT	None	Not regulated.	Not regulated	none	
49CFR/DOT Additional information	None.				

Special precautions for user : None reported by the manufacturer.

Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
: Not available.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Sand and Gravel	RR-41125-6	NL	N/Ap	N/Av	No	N/Ap
Silica, quartz	14808-60-7	Yes	None.	None.	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Carcinogenicity; Specific target organ toxicity, single exposure ;Specific target organ toxicity, repeated exposure.

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Sand and Gravel	RR-41125-6	No	N/Ap	No	No	No	No	No	No
Silica, quartz	14808-60-7	Yes	Cancer (airborne particles of respirable size)	No	Yes	Yes	Yes	Yes	Yes

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Canadian Information:

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECs</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>NewZealand IOC</u>
Sand and Gravel	RR-41125-6	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av
Silica, quartz	14808-60-7	238-878-4	Present	Present	(1)-548	KE-29983	Present	HSR003125

SECTION 16. OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- DOT: Department of Transportation
- DSL: Domestic Substances List
- EPA: Environmental Protection Agency
- IARC: International Agency for Research on Cancer
- Inh: Inhalation
- MA: Massachusetts
- MN: Minnesota
- LC: Lethal Concentration
- LD: Lethal Dose
- N/Av: Not Available
- N/Av: Not Applicable
- NIOSH: National Institute of Occupational Safety and Health
- NJ: New Jersey
- NTP: National Toxicology Program
- OSHA: Occupational Safety and Health Administration
- PA: Pennsylvania
- PEL: Permissible exposure limit
- RCRA: Resource Conservation and Recovery Act
- RI: Rhode Island
- RTECS: Registry of Toxic Effects of Chemical Substances
- SARA: Superfund Amendments and Reauthorization Act
- STEL: Short Term Exposure Limit
- TDG: Canadian Transportation of Dangerous Goods Act & Regulations
- TLV: Threshold Limit Values
- TSCA: Toxic Substance Control Act
- TWA: Time Weighted Average
- WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2018.
- 2. International Agency for Research on Cancer Monographs, searched 2018.
- 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2018 (Chempendium, HSDB and RTECs).
- 4. Material Safety Data Sheets from manufacturer.
- 5. US EPA Title III List of Lists - March 2015 version.
- 6. California Proposition 65 List - November 23, 2018 version.
- 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2018.

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Other special considerations for handling

:

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