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MATERIAL SAFETY DATA SHEET

SECTION I : MATERIAL IDENTIFICATION AND USE

Material Name / Identifier:	Sand and Gravel
Manufacturer's Name:	Waynco Limited P.O BOX 670 Cambridge On N1R 6C9
Supplier's Name:	
Chemical Name:	Sand and Gravel
Chemical Family:	Not Applicable
Chemical Formula:	Complex mixture (naturally variable)
Trade Name and Synonyms:	aggregate, sand, crushed gravel
Molecular Weight:	Not Applicable
Material use:	construction, ready-mix concrete, concrete products, asphalt

SECTION II : HAZARDOUS INGREDIENTS OF MATERIAL

Hazardous Ingredient:	Sand and Gravel* (Primarily Granitic, Metamorphic and Sedimentary rock particles)
Approximate Concentration Percentage	100
C.A.S., N.A. or U.N. Numbers:	None Available
LD50 (Specify Species and Route)	Not Applicable
LC50 (Specify Species and Route)	Not Applicable
*Hazardous Ingredient	Quartz (Crystalline Silica)
Approximate Concentration Percentage	Naturally Variable composition (7-13%)
C.A.S., N.A. or U.N. Numbers:	14808-60-7
LD50 (Specify Species and Route)	Not Applicable
LC50 (Specify Species and Route)	Not Applicable
Hazardous Ingredient:	Mica
Approximate Concentration Percentage	7-13%
C.A.S., N.A. or U.N. Numbers:	12001-26-2
LD50 (Specify Species and Route)	Not Applicable
LC50 (Specify Species and Route)	Not Applicable

SECTION III : PHYSICAL DATA FOR MATERIAL

Physical State:	Solid
Odour and Appearance:	No odour; angular or rounded multi-coloured particles of varying sizes
Odour Threshold (P.P.M.)	N/A
Specific Gravity	2.6 – 2.8
Vapour Pressure (MM)	Not Applicable
Vapour Density (Air = 1)	Not Applicable
Evaporation Rate	0
Solubility in Water (20° C)	Negligible
Boiling Point (° C)	Not Applicable
Freezing Point (°C)	Not Applicable
pH:	N/A
Percentage Volatile (By Volume)	0
Coefficient of Water/Oil Distribution	N/A

SECTION IV : FIRE AND EXPLOSION HAZARD OF MATERIAL

Flammability:	Will Not Burn
Means of Extinction:	Not Applicable – Can Be Used to Smother Fire
Special Procedures	Not Applicable
Flashpoint (° C) and Method	None
Upper Explosion Limit (Percentage by Volume)	Not Applicable
Lower Explosion Limit (Percentage by Volume)	Not Applicable
Auto-ignition Temperature (° C)	None
Hazardous Combustion Products	Not Applicable

EXPLOSION DATA:

Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	None

SECTION V : REACTIVITY DATA

Chemical Stability	Stable
Incompatibility to other substances	None known
Reactivity, and Under What Conditions:	None Known
Hazardous Decomposition Products:	None known

SECTION VI : TOXICOLOGICAL PROPERTIES OF MATERIAL

Route of Entry: Skin contact, Eye contact, Inhalation.

Effects of Acute Exposure to Material:

Eye Contact: Mechanical irritation causing redness.

Ingestion: Unlikely to occur.

Inhalation: Unlikely to occur but may cause mechanical irritation and coughing.

Skin Absorption: Will not absorb through skin.

Skin Contact: Mechanical irritation causes redness.

Use of sand and gravel for construction purposes is believed not to have caused acute toxic effects.

Effects of Chronic Exposure to Material:

- 1) Chronic (repeated and prolonged) exposure to respirable limestone dust at levels exceeding exposure limits has caused pneumoconiosis.
- 2) Chronic (repeated and prolonged) exposure to respirable sand and gravel dusts containing silica (quartz) at levels exceeding exposure 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 of Material (Specify Species and Route) Not Available

LC50 of Material (Specify Species and Route) Not Available

Exposure Limits:

Varies with jurisdiction.

Ontario Limit= 0.1mg/ metre³ (TWAEV)

TWAEV = Time-Weighted Average Exposure Value

For additional information on the above exposure limits, consult Ontario Regulation 845 (as amended) and 854 (as amended)

Sensitization of Material: None

Synergistic Material: None

Carcinogenicity, Reproductive Effects, Teratogenicity, Mutagenicity:

As of the date of preparation of this MSDS (January 15, 2015)

- 1) Sand and Gravel is not included on the ACGIH, IARC, NTP or OSHA lists of potential carcinogens.
- 2) Crystalline silica, in the form of crystalline quartz, and as a component of this material, is listed as carcinogenic by IARC, NTP and ACGIH. The International Agency for Research on Cancer (IARC) has concluded that crystalline silica in the form of quartz or cristobalite from occupational sources should be classified as carcinogenic to humans (Group 1), upgraded from its previous classification as probably carcinogenic to humans (Group 2A). This conclusion was drawn on the basis of a relatively large number of human population studies that together provide evidence in humans for the carcinogenicity of inhaled crystalline silica. In many (although not all) of these studies, lung cancer risks were elevated and could not be explained by other factors. Recent reviews have tended to conclude that if exposures are controlled to prevent silicosis, they will probably also prevent cancer. The risk of developing silicosis depends on the airborne concentration of crystalline silica, the particle size and the duration of exposure.
The US National Toxicology Program (NTP) identifies crystalline silica (respirable size) as a substance which may reasonably be anticipated to be carcinogen, Group 2. The American Conference of Governmental Hygienists (ACGIH) has assigned a carcinogenicity designation, A2 Suspected Human Carcinogen, for crystalline silica (2007).

Reproductive Effects: There is no known evidence that limestone has a reproductive effect.

Teratogenicity: There is no known evidence that limestone is a teratogen.

Mutagenicity: There is no known evidence that limestone is a mutagen.

SECTION VII : PREVENTATIVE MEASURES
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Personal Protective Equipment:

Gloves (Specify): Work gloves recommended

Eye (Specify): Safety glasses with a side shield should be worn as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditions are present or anticipated.

Respiratory (Specify): Refer to the Ontario Designated Substance Respirator Codes (June 2000): _ < 10X TWAEV Half mask particulate respirator with N-, R- or P- series filter and 95, 99 or 100% efficiency; - < 25X TWAEV powered air purifying respirator with a hood or helmet and any type of particulate filter, or supplied air equipped with a hood or helmet and operated in a continuous flow mode. Respiratory protective equipment should be used in accordance with CSA Standard Z94.4-02.

Other (Specify): Work clothing recommended to reduce skin exposure. Wash work clothing after every use.

Engineering Controls (Ventilation, Enclosed Process – Specify): Where feasible, the dust levels should be reduced through wet suppression, dust collection, ventilation, process enclosure and enclosed pressurized employee work stations.

Leak and Spill Procedure: 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 and Equipment: Respirable dust may be generated during processing, handling and storage – avoid inhalation. Refer to “Personal Protective Equipment – Respiratory”.

Storage Requirements: None

Special Shipping Information: None

SECTION VIII : FIRST AID MEASURES

Dust in Eyes: Flush out eyes with running water for 15 minutes. Contact a physician if irritation persists.

Dust on Skin: Wash with soap and water. Contact a physician if irritation is aggravated.

Dust Inhalation: Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists.

SECTION IX : PREPARATION DATE OF MSDS

Prepared by: Christine Deshane
Telephone: (905) 335-5250
Date: March 2, 2015

Additional Notes or References:

Ministry of Labour WHMIS Hotline
(519) 439-3231

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