MATERIAL SAFETY DATA SHEET

LIMESTONE

SECTION I – MATERIAL IDENTIFICATION AND USE

Material Identifier:	Limestone
Supplier:	CBM Inc. 55 Industrial Street, Toronto, Ontario M4G 3W9
Emergency Contact Number:	416-423-1300
Trade Name and Synonyms:	Aggregate, crushed gravel
Material Use:	Construction, ready-mix concrete, concrete products, asphalt, agriculture

SECTION II – HAZARDOUS INGREDIENTS OF MATERIAL

Hazardous Ingredient	CAS #	% (w/w)	LD_{50} (route,species)	LC_{50} (species)
Crystalline silica (quartz)*	14808-60-7	0.1-1.0	500 mg/kg (oral, rat) unconfirmed	Not available

*This MSDS is only applicable to Limestone when the concentration of quartz exceeds 0.1 % by weight.

SECTION III – PHYSICAL DATA FOR MATERIAL

Physical State:	Solid
Odour and Appearance:	Odourless, angular grey/brown/white particles of varying sizes.
Odour Threshold (ppm):	Not applicable
Specific Gravity:	2.6 – 2.8
Vapour Pressure (mm Hg):	Not applicable
Vapour Density (Air=1)	Not applicable
Evaporation Rate:	Not applicable
Solubility in Water (20°C):	Not applicable
Boiling Point (°C):	Not available
Freezing Point (°C):	Not available
pH:	Not applicable
Percentage Volatiles (by Volume):	Not applicable
Coefficient of Water/Oil Distribution:	Not applicable

SECTION IV – FIRE AND EXPLOSION HAZARD FOR MATERIAL

Conditions of Flammability:	Non flammable
Means of Extinction:	Not applicable
Flashpoint (°C) and method:	Not applicable
Upper Flammability Limit (°C):	Not applicable

Lower Flammability Limit (°C):	Not applicable
Autoignition Temperature (°C):	Not applicable
Hazardous Combustion Products:	Not applicable
Sensitivity to Mechanical Impact:	Not applicable
Sensitivity to Static Discharge:	Not applicable

SECTION V – REACTIVITY DATA FOR MATERIAL

Chemical Stability:	Stable
Incompatibility to Other Substances:	None
Conditions of Reactivity:	Reacts with neutralizing agents and strong acids.
Hazardous Decomposition Products:	Carbon dioxide may be released on contact with strong acids.

SECTION VI – TOXICOLOGICAL PROPERTIES OF MATERIAL

Route of Entry: Inhalation

Effects of Acute Exposure: Dust exposure can irritate the eyes and nose and the respiratory tract.

Effects of Chronic Exposure: Chronic exposure to airborne respirable dust at levels exceeding the time-weighted average (TWA) may lead to fibrosis of the lungs.

Prolonged or repeated exposure to limestone containing airborne crystalline silica at exposure concentrations above the TWA may cause severe scarring of the lungs, a disease called silicosis. The risk of developing silicosis and its severity depends on the airborne concentration of respirable-size silica dust to which an employee is exposed and the duration of exposure. Silicosis usually develops gradually over 20 years or more of exposure.

Quartz dust can accumulate in the lungs. Inhaled particles are deposited at various locations within the respiratory tract, depending on their shape, mass, aerodynamic characteristics and other physical properties. Most, but not all, silica is cleared from the lungs after inhalation and deposition. The elimination of quartz particles continues for many years after the last exposure.

Early symptoms of silicosis (cough, mucous production and shortness of breath upon exertion) may be seen with other conditions, so the development of silicosis may not be detected until advanced stages of the disease. Silicosis may continue to develop even after exposure to crystalline silica has stopped. Evidence of silicosis can normally be seen on an X- ray.

Silicosis can vary in severity from minimal to severe. In cases of mild silicosis, there is typically no significant respiratory impairment, although there is X-ray evidence of lung injury. In

severe cases, significant and increasingly severe respiratory impairment develops. “Accelerated" silicosis can results from exposure to high concentrations of crystalline silica over a period of 5 to 10 years. The disease can continue to develop even after exposure stops.

Silicosis may be complicated by the development of bacterial infections, including tuberculosis.

Exposure Limits:

Source	Time-weighted average (TWA)
Ministry of Labour (MOL)*	Silica, crystalline - quartz: 0.10 mg/m^3 (Respirable fraction)
Ministry of Labour (MOL)*	Particles Not Otherwise Specified: 3 mg/m^3 (Respirable fraction) 10 mg/m^3 (Inhalable fraction)

* O.Reg 833/90 (Amended 149/12)

Irritancy of the Product: Contact with this material may irritate the eyes, nose, and respiratory tract.

Sensitization of the Product: This material is not known to cause reproductive toxicity.

Carcinogenicity: The International Agency for Research on Cancer (IARC) has concluded that crystalline silica in the form of quartz is carcinogenic to humans (Group 1). This is based on a large number of human studies that together provide evidence for the carcinogenicity of inhaled crystalline silica.

The American Conference of Governmental Industrial Hygienists (ACGIH) has designated this chemical as a suspected human carcinogen (A2).

Source	Classification
IARC	Group 1 (2012)
ACGIH	A2 (2009)

Reproductive Toxicity: This material is not known to cause reproductive toxicity.

Teratogenicity: This material is not known to cause developmental toxicity.

Mutagenicity: The available scientific evidence does not allow conclusions to be drawn regarding the mutagenicity of this material.

Synergistic Products: There is disagreement as to whether tobacco smoke can increase the effect of crystalline silica on the lungs. Concurrent exposure to known carcinogens may increase the carcinogenicity of crystalline silica.

SECTION VII – PREVENTATIVE MEASURES

Personal Protective Equipment: Wear approved respirator protection when using, handling, storing or disposing of this product at airborne concentrations which exceed the TWA. Wash or vacuum clothing that has become dusty. Physical irritation

	may result from handling limestone. Work gloves and work clothing are recommended.
Engineering Controls:	Use engineering controls, work practices and hygiene facilities and practices to ensure that a worker's airborne exposure does not exceed the specified TWA.
Leak/Spill Procedures:	Avoid generating dust. If dust concentrations exceed the TWA wear approved respirator protection. Avoid dry sweeping. Do not use compressed air to clean spilled material. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system. Dispose of in closed containers.
Handling Procedures and Equipment:	People working with this chemical should be properly trained regarding its hazards and its safe use. Immediately report spills. Avoid generating dusts. Prevent the release of dusts into the workplace air. Use in a well-ventilated area.
Storage Requirements:	No special storage requirements are necessary.
Special Shipping Information:	No special shipping requirements are necessary.

SECTION VIII – FIRST AID MEASURES

Inhalation:	If a large amount of this product is inhaled, move the individual to fresh air at once. Other measures are usually unnecessary.
Eye Contact:	If this material contact the eyes, immediately wash (irrigate) with large amounts of water, occasionally lifting the lower and upper lids. Seek medical attention if irritation persists.
Skin Contact:	Not applicable

SECTION IX – PREPARATION INFORMATION

Prepared By:	CBM Inc. 55 Industrial Street, Toronto, Ontario M4G 3W9 416-423-1300
Date of Preparation:	May 20, 2014

The company believes that the information contained herein is factual. The data and information presented are without warranty, guarantee or liability on our part, and are presented to the customer for his own consideration, investigation, and verification.

SECTION X – LABEL INFORMATION

Labeling information is as follows:

LIMESTONE

Refer to the MSDS for Additional Information

Warning. Contains crystalline silica.

Dust contact with the eyes and nose may cause irritation. Dust exposure may irritate the respiratory system. Chronic exposure to airborne respirable dust may lead to fibrosis of the lungs. Avoid dust inhalation.

If a large amount of this product is inhaled, move the individual to fresh air at once. Other measures are usually unnecessary.

CBM Inc., 55 Industrial Street, Toronto, Ontario, M4G 3W9

(416) 423-1300