


1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier	Limestone #1
Other means of identification	
Synonyms	Aggregate, Crushed Gravel, Crushed Stone, Dolomite, Carbonate Rock
Recommended use	Used in construction, ready-mix concrete, the manufacture of bricks, mortar, cement, concrete, paving materials, other construction materials, consumer products, asphalt, agriculture, and other goods. May be distributed in bags, totes, and bulk shipments.
Recommended restrictions	None known.
Details of the supplier of the safety data sheet	
Supplier	Pestell Nutrition
Address	141 Hamilton Rd New Hamburg, Ontario Canada, N3A 2H1
Phone	519-662-2877
Email	qa@pestell.com
Emergency telephone number (24 hr)	Canada: CANUTEC 1 613-996-6666 US: CHEMTREC 1 703-527-3887

2. HAZARDS IDENTIFICATION

Physical hazards	Not classified.	
Health Hazards	Carcinogenicity Specific Target Organ Toxicity, Repeated Exposure	Category 1A Category 2
OSHA defined hazards	Not classified.	
Label elements		
Signal word	Danger	
Hazard statement	May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure.	
Precautionary statement		
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust.	
Response	If exposed or concerned: Get medical advice/attention.	
Storage	Restrict or control access to stockpile areas. Engulfment hazard: To prevent burial or suffocation, do not enter a confined space, such as a silo, bulk truck or other storage container or vessel that stores or contains aggregates without an effective procedure for assuring safety.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information

Respirable Crystalline Silica (RCS) may cause cancer. Limestone is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica). In its natural bulk state, limestone is not a known health hazard. Limestone 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). Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC and NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g., tridymite and cristobalite) may also be present or formed under certain industrial processes.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

Chemical name	CAS number	% of Limit*
Respirable Particulate	-	<50%
Crystalline Silica (Quartz)	14808-60-7	<22%
Cristobalite	14464-46-1	<12%
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*% of Limit as compared to TWA - O.Reg. 833. This SDS covers many types of limestone. Individual composition of hazardous constituents will vary between types of limestone.

4. FIRST AID MEASURES

Inhalation	Limestone dust: Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Limestone dust: Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Limestone dust: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.
Ingestion	Limestone dust: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
Most important symptoms/effects, acute and delayed	Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	Limestone is not flammable. Use fire extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	No unusual fire or explosion hazards noted. Not a combustible dust.
Special protective equipment and precautions for firefighters	Use protective equipment appropriate for surrounding materials.

Fire fighting equipment/instructions	No specific precautions.
Specific methods	Contact with powerful oxidizing agents may cause fire and/or explosions (see section 10 of SDS).
General fire hazards	No unusual fire or explosion hazards noted.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, and emergency procedures	Wear appropriate protective equipment and clothing during cleanup of materials that contain or may liberate limestone dust.
Methods and materials for containment and cleaning up	Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary.
Environmental precautions	Avoid discharge of fine particulate matter into drains or water courses.

7. HANDLING AND STORAGE

Precautions for safe handling	Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Avoid dust formation or accumulation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits	1 – Value equivalent to OSHA formulas (29 CFR 1910.1000; 29 CFR 1917; 29 CFR 1918) 2 – Value also applies to MSHA Metal / Non-Metal (1973 TLVs at 30 CFR 56/57.5001). 3 – OSHA enforces 0.250 mg/m ³ in construction and shipyards (CPL-03-00-007). 4 – Value also applies to OSHA construction (29 CFR 1926.55 Appendix A) and shipyards (29 CFR 1915.1000, Table Z). 5 – MSHA limit = 10 mg/m ³ .
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U.S. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Particulates not otherwise classified (CAS SEQ250).	PEL	5 mg/m ³	Respirable fraction
		15 mg/m ³	Total dust (4)
Calcium Carbonate (CAS 1317-65-3)	TWA	5 mg/m ³	Respirable fraction (4)
		15 mg/m ³	Total dust (5)

U.S. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline Silica (Quartz) (CAS 14808-60-7)	TWA	0.3 mg/m ³	Total dust (1,2)
		0.1 mg/m ³	Respirable (1,2,3)
Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)	TWA	0.15 mg/m ³	Total dust (1)
		0.05 mg/m ³	Respirable (1,2)
Particulates not otherwise classified (CAS SEQ250)	TWA	5 mg/m ³	Respirable fraction (1)
		15 mg/m ³	Total dust (1,4,5)

Limestone #1 (SDS)

US. ACGIH Threshold Limit Values®

Components	Type	Value	Form
Crystalline Silica (all forms; CAS mixture)	TWA	0.025 mg/m ³	Respirable fraction
Particulates not otherwise classified silica) (CAS Mixture)	TWA	3 mg/m ³ 10 mg/m ³	Respirable particles (2) Inhalable particles (2)

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Crystalline Silica (all forms; CAS mixture)	TWA	0.05 mg/m ³	Respirable dust
Calcium Carbonate (CAS 1317-65-3)	TWA	5 mg/m ³ 10 mg/m ³	Respirable fraction Total dust

Control Parameters

Quartz (14808-60-7)		
Mexico	OEL TWA (mg/m ³)	0.1 mg/m ³ (respirable fraction)
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	50 µg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	50 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate)
British Columbia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable)
Manitoba	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	0.1 mg/m ³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nunavut	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction)
Northwest Territories	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction)
Ontario	OEL TWA (mg/m ³)	0.1 mg/m ³ (designated substances regulation-respirable)
Prince Edward Island	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Québec	VEMP (mg/m ³)	0.1 mg/m ³ (respirable dust)
Saskatchewan	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction)
Yukon	OEL TWA (mg/m ³)	300 particle/mL

Limestone (1317-65-3)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³
Mexico	OEL STEL (mg/m ³)	20 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust)
		5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³ (total dust)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³

Limestone #1 (SDS)

Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³ (Limestone, containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	OSHA PELs, MSHA PELs, and ACGIH TLVs are 8hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including “Particulates Not Otherwise Classified,” “Particulates Not Otherwise Regulated,” “Particulates Not Otherwise Specified,” and “hert or Nuisance Dust” are often used interchangeably; however, the user should review each agency’s terminology for differences in meanings.
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour indoors) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosure, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Individual protection measures, such as	personal protective equipment
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Use personal protective equipment as required.
Other	Use personal protective equipment as required.
Respiratory protection	When handling or performing work with limestone that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations.
Thermal hazards	Not anticipated. Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Solid.
Form	Solid, particles.
Color	Angular grey/brown/white particles of varying sizes.
Odor	Odourless
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Non-combustible
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit – lower (%)	Not applicable.
Flammability limit – upper (%)	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Other information	
Explosive properties	Not applicable.
Flammability	Not applicable.

10. STABILITY AND REACTIVITY

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation	Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause other adverse health effects including lung and kidney cancer.
Skin contact	Limestone dust: May cause irritation through mechanical abrasion.
Eye contact	Limestone dust: May cause irritation through mechanical abrasion.
Ingestion	Not likely, due to the form of the product. However, accidental ingestion of the content may cause discomfort.
Symptoms related to the physical, chemical and toxicological characteristics	Limestone dust: Discomfort in the chest. Shortness of breath. Coughing.

Information on toxicological effects

Acute toxicity	
Skin corrosion/irritation	Not expected to be acutely toxic. This product is not expected to be a skin hazard.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	No respiratory sensitizing effects known.
Skin sensitization	Not known to be a dermal irritant or sensitizer.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Crystalline Silica (Quartz) (CAS 14808-60-7) 1 Carcinogenic to humans.
 Respirable Tridymite and Cristobalite 1 Carcinogenic to humans.
 (other forms of Crystalline) (CAS Mixture)

NTP Report on Carcinogens

Crystalline Silica (Quartz) (CAS 14808-60-7) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Not expected to be a reproductive hazard.
Specific target organ toxicity single exposure Not classified.
Specific target organ toxicity – repeated exposure Respirable crystalline silica: May cause damage to organs (lung) through prolonged or repeated exposure.
Aspiration hazard Due to the physical form of the product it is not an aspiration hazard.
Chronic effects Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

12. ECOLOGICAL INFORMATION

Ecotoxicity Not expected to be harmful to aquatic organisms. Discharging limestone dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.
Persistence and degradability Not applicable.
Bioaccumulative potential Not applicable.
Mobility in soil Not applicable.
Other adverse effects No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, global warming potential) are expected from this component.

13. DISPOSAL CONSIDERATIONS

Disposal instructions Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.
Hazardous waste code Not regulated.
Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty packaging materials should be recycled or disposed of in accordance with applicable regulations and practices.

14. TRANSPORT INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate Hazard - No
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

Crystalline Silica (Quartz) (CAS 14808-60-7)

Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

US. New Jersey Worker and Community Right-to-Know Act

Crystalline Silica (Quartz) (CAS 14808-60-7)

Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

US. Pennsylvania Worker and Community Right-to-Know Law

Crystalline Silica (Quartz) (CAS 14808-60-7)
 Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Crystalline Silica (Quartz) (CAS 14808-60-7)

Canadian Regulations

Quartz (14808-60-7)
Listed on the Canadian DSL (Domestic Substances List)
Carbonic acid, magnesium salt (1:1) (546-93-0)
Listed on the Canadian DSL (Domestic Substances List)
Limestone (1317-65-3)
Listed on the Canadian NDSL (Non-Domestic Substances List)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION

Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Pestell Nutrition and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Version: 2

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