



## **MSDS - Limestone**

**Issued November 26, 2007**

### **Section 1. Product Information**

Chemical Name: Calcium Carbonate

Product Name: Limestone, Calcium Carbonate, Calcite, Aragonite, Fluxstone

Formula: CaCO<sub>3</sub>

CAS No.: 1317-65-3

Distributed by Pestell Minerals & Ingredients, New Hamburg, ON Canada

**24 Hour Emergency Telephone (Canutec): 613-996-6666**

### **Section 2. Hazards Identification**

**Calcium Carbonate (Limestone):** 60 to 100% by weight

CAS Number: 471-34-1 (1317-65-3)

OSHA PEL: 15 (tot dust) 5 (resp. dust)

ACGIH TLV: 10 (tot dust)

MSHA PEL: 15 (tot dust) 5 (resp dust)

NIOSH REL: 10 (tot dust) 5 resp dust)

**Crystalline Silica, Quartz:** 0.1 to 1% Approx concentration % by weight:

CAS Number: 14808-60-7

OSHA PEL: 10/(%SiO<sub>2</sub>)+2 respirable silica dust

ACGIH TLV: 0.025 respirable silica dust

MSHA PEL: 10/(%SiO<sub>2</sub>)+2 respirable silica dust

NIOSH REL: 0.05 respirable free silica

### Section 3. Physical Data

Odour/Appearance: Odourless, grey to brown lumps, granules or powder

Physical State:	Solid	pH: (saturated solution):	sat. sln CaCO <sub>3</sub> 9.4 @ 25°C
Specific Gravity:	2.65 - 2.75	Boiling Point:	N/A
Melting Point:	N/A	Coef. Water/Oil Dist:	>1
Vapour Pressure:	N/A	Relative Density:	N/A
Solubility:	0.001% by weight		

### Section 4. Fire and Explosion Hazard

**Flash Point:** Non flammable

**Auto-Ignition Temperature:** Not applicable

**Upper/Lower Flammable Limits:** None

**Explosion Risk:** Not applicable

**Hazardous Combustion Products:** None

**Extinguishing Media:** Limestone does not burn. Use extinguishing media appropriate to surrounding fire conditions.

#### **Fire Fighting Instructions:**

Limestone is generally non flammable, but ignites on contact with fluorine. Wear adequate personal protection to prevent contact with material or its combustion products. Firefighters should use self contained NIOSH approved breathing apparatus with full face piece to protect against the products of combustion.

### Section 5. Reactivity

**Stability:** Stable products, not very soluble

**Hazardous Decomposition Products:** Decomposition at 870°C will produce calcium oxide and carbon dioxide.

**Reactivity:** Limestone is a very stable chemical substance. Decomposition does not occur at normal temperatures (inferior to 600 degrees C). Reacts chemically with strong acids to form calcium based compounds and to liberate carbon dioxide.

**Incompatible Materials:** Fluorine, magnesium, aluminum, silicon, hydrogen, mercury, aluminum sulfate, ammonium salts, acids (violent reaction with generating heat and possible explosion in confined area).

**Hazardous Decomposition Products:** Calcium oxide

## **Section 6. Toxicological Properties**

**Routes of Entry:** Skin, Eye, Acute Inhalation, Ingestion

### **Effects of Acute Exposure to Product**

**Skin:** May cause dryness and irritation.

**Eyes:** May cause eye irritation with discomfort or pain, local redness and swelling of the conjunctiva.

Irritation: Eye-Rabbit - 750 ug/24 h - severe

**Inhalation:** If inhaled in form of dust, may cause respiratory tract, irritation/inflammation. Exposure may cause coughing and sneezing. Large amounts may cause chemical pneumonitis.

**Ingestion:** Cause gastro-intestinal irritation. If ingested in large quantities may cause nausea, constipation and hypercalcaemia, hemorrhage

### **Effects of Chronic Exposure to Product**

No signs or symptoms of chronic exposure have been reported. This product may contain trace amounts of crystalline silica. Excessive inhalation or respirable crystalline silica dust may result in respiratory disease, including silicosis, pneumoconiosis and pulmonary fibrosis.

### **Carcinogenicity**

Limestone is not listed as a carcinogen by ACGIH, MSHA, OSHA, NTP or IARC. It may, however, contain trace amounts of Crystalline Silica listed carcinogens by these organizations.

Crystalline Silica, which inhaled in the form of quartz or cristobalite from occupational sources, is classified by IARC as (Group 1) carcinogenic to humans.

Silica, crystalline (Airborne particles of respirable size) is regulated under California's Safe Drinking Water and Toxic Enforcement Act of 1986. (Proposition 65).

NIOSH considers crystalline silica to be potential occupational carcinogen as defined by the OSHA carcinogen policy (29 CFR 1910.1000).

NTP lists respirable Crystalline Silica as known to be human carcinogens based on sufficient evidence of carcinogenicity in humans.

ACGIH lists respirable Crystalline Silica (quartz) as suspected human carcinogen (A-2)

RSST lists respirable Crystalline Silica (quartz) as suspected human carcinogen

## **Section 7. Preventive Measures**

**Personal Protective Equipment:** Wear clean, dry gloves, full length pants over boots, long sleeved shirt buttoned at the neck, head protection and approved eye protection selected for the working conditions.

**Gloves:** Gauntlets cuff style

**Respiratory:** NIOSH approved (N/R/P95) dust respirator

**Eyes:** ANSI, CSA or ASTM approved safety glasses with side shields. Tight fitting goggles should be worn when excessive (visible) dust conditions are present.

**Clothing:** Fully covering skin

**Other:** Evaluate degree of exposure and use PPE if necessary

### **Engineering Controls**

Enclose dust sources, use exhaust ventilation (dust collector) or other engineering controls at handling points to keep airborne levels below recommended exposure limits.

### **Leak and Spill Procedures**

Limit access to trained personnel. Sweep up and place in container. Use industrial vacuums for large spills. Avoid raising dust. Ventilate area.

### **Waste Disposal**

Transport to disposal area or bury. Review Federal, Provincial and local Environmental regulations

### **Handling Procedures and Equipment**

Avoid skin and eye contact. Minimize dust generation. Wear protective goggles and in cases of insufficient ventilation, use anti dust mask. An eye wash station should be readily available where this is used.

### **Storage**

Keep tightly closed containers in cool, dry and well ventilated area, away from acids.

### **Special Shipment Information**

Limestone is neither regulated by the Transportation of Dangerous Goods (TDG) Regulations (Canada) nor by the Hazardous Materials Regulation (USA).

## **Section 8. First Aid Measures**

**Skin:** Carefully and gently brush the contaminated body surfaces in order to remove all traces of Limestone. Use a brush, cloth or gloves. Remove all Limestone contaminated clothing. Rinse

contaminated area with lukewarm water for 15 to 20 minutes. If irritation occurs or persists seek medical attention:

**Eyes:** Immediately rinse contaminated eye(s) with gently running lukewarm water (saline solution is preferred) for 15 to 20 minutes. In the case of an embedded particle in the eye, or if irritation occurs or persists, consult a physician.

**Inhalation:** Move source of dust or move victim to fresh air. Obtain medical attention immediately. If victim does not breathe, give artificial respiration. Contact a physician immediately.

**Ingestion:** If victim is conscious, wash mouth out with water. Have conscious person drink several glasses of water to dilute. Induce vomiting. Contact a physician immediately. Never give anything by mouth to an unconscious or convulsing person.

### **General Advice**

Consult a physician for all exposures except minor instances of inhalation.

### **Disclaimer**

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