Brenntag Canada Inc.

MATERIAL SAFETY DATA SHEET

CALCIUM CARBONATE, SOLID

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Brenntag Canada Inc.
43 Jutland Rd.
Toronto, ON
M8Z 2G6
(416) 259-8231

Website: http:\\www.brenntag.ca

WHMIS#:	00060095
Index:	GCD0111/07A
Effective Date:	2007 January 10
Date of Revision:	2007 January 10

EMERGENCY TELEPHONE NUMBERS (FOR EMERGENCIES INVOLVING CHEMICAL SPILLS OR RELEASE)

Toronto, ON (416) 226-6117	Montreal, QC (514) 861-1211	Winnipeg, MB (204) 943-8827
Edmonton, AB (780) 424-1754	Calgary, AB (403) 263-8660	Vancouver, BC (604) 685-5036

PRODUCT IDENTIFICATION

Product Name:	Calcium Carbonate, Solid.
Chemical Name:	Calcium Carbonate.
Synonyms:	Limestone; Calcite; Hubercarb; Omyalite 90T; Omyalite 95T.
Chemical Family:	Calcium salt.
Molecular Formula:	CaCO3.
Product Use:	Filler. Chemical intermediate.

WHMIS Classification / Symbol:

D-2A: Very Toxic (carcinogen, chronic effects)

READ THE ENTIRE MSDS FOR THE COMPLETE HAZARD EVALUATION OF THIS PRODUCT.

2. COMPOSITION, INFORMATION ON INGREDIENTS (Not Intended As Specifications)

Ingredient	*CAS#*	*ACGIH TLV*		*% Concentration*
Calcium Carbonate	1317-65-3	10 mg/m³ (E)		90 - 100
Silica, Crystalline, Quartz	14808-60-7	0.05 mg/m³	*A2	0.1 - 1

A2 = Suspected Human Carcinogen (ACGIH-A2).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:	Harmful if inhaled. Dust may cause mechanical irritation to skin, eyes and respiratory tract. Severe exposure may cause lung damage. Cancer hazard. See "Other Health Effects" Section. Can decompose at high temperatures forming toxic gases.
POTENTIAL HEALTH EFFECTS	
Inhalation:	Product is irritating to the nose, throat and respiratory tract. Excessive contact with powder may cause drying of mucous membranes of nose and throat due to absorption of moisture and oils. See "Other Health Effects" Section.
Skin Contact:	This product may cause irritation due to abrasive action. Excessive contact with powder may cause drying of the skin due to absorption of moisture and oils. May cause defatting, drying and cracking of the skin.

Skin Absorption:	Not applicable.
Eye Contact:	This product may cause irritation, redness and possible damage due to abrasiveness. Excessive contact with powder may cause drying of mucous membranes of the eyes due to absorption of moisture and oils. May cause lachrymation (excessive tears).
Ingestion:	This product may cause mild gastrointestinal discomfort. Ingestion of large amounts may cause intestinal obstruction.
Other Health Effects:	Effects (irritancy) on the skin and eyes may be delayed. Strict adherence to first aid measures following any exposure is essential. In cases of extreme exposure Calcium Carbonate may cause hypercalcemia, silicosis and pneumoconiosis. Hypercalcemia is characterized by abnormally high levels of Calcium in the circulating blood. Silicosis develops gradually over a period of 20 years or more. Silicosis is characterized by cough, production of sputum, dyspnea, wheeze, silicotic nodules on lungs, and impaired pulmonary function. In advanced stages: fever, weight loss, cyanosis, clubbing of fingers, bacterial infections and death due to complications involving tuberculosis may occur. Early symptoms of silicosis are non-specific, so the development of silicosis may not be detected in its early stages. Silicosis can continue to develop even after exposure has stopped. Evidence of silicosis can be seen on X-rays. (4) Silicosis can vary in severity from minimal to severe. Mild silicosis typically has no impairment of respiratory function, however there is X-ray evidence of lung injury. Severe cases have significant and increasingly severe respiratory impairment. There is no proven treatment for the disease. Life expectancy is reduced, depending on the severity. Death is not due to a direct result of silicosis, but cor pulmonale (cardiac failure) may occur as it becomes increasingly difficult for the heart to pump blood through the lungs. Silicosis may be complicated by the development of bacterial infections, including tuberculosis. (4) "Accelerated" silicosis results from exposure to high concentrations of crystalline silica over 5 to 10 years. The disease continues to develops after exposure has stopped and is associated with autoimmune diseases such as scleroderma. (4) "Acute" silicosis (also known as "silicotic alveolar proteinosis") is rare in humans, but can develop if very high concentrations of crystalline silica dusts are inhaled over 1 - 2 years. Acute silicosis may result in death within a few years, often with tuberculosis as a complication. (4) Inhalation of quartz has been associated with a number of other harmful effects. These effects include: kidney damage (glomerulonephritis), changes to the liver, effects on the spleen and immune system disorders. (4) Pneumoconiosis is the deposition of dust in the lungs and the tissue's reaction to its presence. When exposure to the dust is severe or prolonged, the lungs' defenses are overwhelmed. In general, long-term exposure to high concentrations of dust may cause increased mucous flow in the nose and respiratory system airways. This condition usually disappears after exposure stops. Controversy exists as to the role exposure to dust has in the development of chronic bronchitis (inflammation of the air passages into the lungs). Other factors such as smoking and general air pollution are more important, but dust exposure may contribute. (4)

4. FIRST AID MEASURES

FIRST AID PROCEDURES

Inhalation:	If respiratory problems arise, move the victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical advice IMMEDIATELY.
Skin Contact:	Start flushing while removing contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.
Eye Contact:	Immediately flush eyes thoroughly for 5 minutes with running water. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention.
Ingestion:	Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Obtain medical attention IMMEDIATELY.
Note to Physicians:	Treat symptomatically. Medical conditions that may be aggravated by exposure to this product include diseases of the skin, eyes or respiratory tract.

5. FIRE-FIGHTING MEASURES

Flashpoint (°C)	*AutoIgnition Temperature (°C)*	**Flammability Limits in Air (%):** *LEL*	*UEL*
Non-combustible (does not burn).	Not applicable.	Not applicable.	Not applicable.

Flammability Class (WHMIS): Not regulated.

Hazardous Combustion Products: Thermal decomposition products are toxic and may include silicon, oxides of calcium and carbon.

Unusual Fire or Explosion Hazards: Minimize air borne spreading of dust. Spilled material may cause floors and contact surfaces to become slippery. Ignites on contact with fluorine.

Sensitivity to Mechanical Impact: Not expected to be sensitive to mechanical impact.

Rate of Burning: Not available.

Explosive Power: Not available.

Sensitivity to Static Discharge: Not expected to be sensitive to static discharge.

EXTINGUISHING MEDIA

Fire Extinguishing Media: Use media appropriate for surrounding fire and/or materials.

FIRE FIGHTING INSTRUCTIONS

Instructions to the Fire Fighters: Fire-exposed containers should be kept cool by spraying with water to reduce pressure. Spilled material may cause floors and contact surfaces to become slippery.

Fire Fighting Protective Equipment: Use self-contained breathing apparatus and protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region.

Containment and Clean-Up Procedures: In all cases of leak or spill contact vendor at Emergency Number shown on the front page of this MSDS. Minimize air borne spreading of dust. Wear respirator, protective clothing and gloves. Avoid dry sweeping. Do not use compressed air to clean surfaces. Vacuuming or wet sweeping is preferred. Return all material possible to container for proper disposal. Do not allow to enter sewers or watercourses. Any recovered product can be used for the usual purpose, depending on the extent and kind of contamination. Where a package (drum or bag) is damaged and / or leaking, repair it, or place it into an over-pack drum immediately so as to avoid or minimize material loss and contamination of surrounding environment. Replace damaged containers immediately to avoid loss of material and contamination of surrounding atmosphere. Notify applicable government authority if release is reportable or could adversely affect the environment.

7. HANDLING AND STORAGE

HANDLING

Handling Practices: Use normal "good" industrial hygiene and housekeeping practices. Minimize air borne spreading of dust. Clean up immediately to eliminate slipping hazard.

Ventilation Requirements: See Section 8, "Engineering Controls".

Other Precautions: Use only with adequate ventilation and avoid breathing dusts. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use.

STORAGE

Storage Temperature (°C): See below.

Ventilation Requirements: General exhaust is acceptable.

Storage Requirements: Store in a cool, dry and well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Avoid moisture contamination. Prolonged storage may result in lumping or caking. Protect from direct sunlight. Protect against physical damage.

Special Materials to be Used for Packaging or Containers:	Materials of construction for storing the product include: polyethylene. Confirm suitability of any material before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

ENGINEERING CONTROLS

Engineering Controls:	Local exhaust ventilation required. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense dust may collect.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection:	Safety glasses with side shields are recommended to prevent eye contact. Use chemical safety goggles when there is potential for eye contact. Contact lenses should not be worn when working with this material.
Skin Protection:	Gloves and protective clothing made from neoprene, PVC or rubber should be impervious under conditions of use. Prior to use, user should confirm impermeability. Discard contaminated gloves.
Respiratory Protection:	No specific guidelines available. A NIOSH/MSHA-approved air-purifying respirator equipped with dust, mist, fume cartridges for concentrations up to 1. 0 mg/m³ Silica, Crystalline Quartz. An air-supplied respirator if concentrations are higher or unknown.
Other Personal Protective Equipment:	Wear regular work clothing. The use of coveralls is recommended. Locate safety shower and eyewash station close to chemical handling area. Take all precautions to avoid personal contact.

EXPOSURE GUIDELINES

SUBSTANCE	***ACGIH TLV***	***OSHA PEL***		***NIOSH REL***	
	(STEL)	***(TWA)***	***(STEL)***	***(TWA)***	***(STEL)***
Calcium Carbonate	—	15 mg/m³	---	10 mg/m³	---
Silica, Crystalline, Quartz	—	250 mppcf / (% SiO2 + 5) (Respirable dust)	10 mg/m³ / (% SiO2 + 2) (Respirable dust)	0.05 mg/m³	---

9. PHYSICAL AND CHEMICAL PROPERTIES (Not intended as Specifications)

Physical State:	Solid.
Appearance:	Odourless, white powder.
Odour:	Odourless.
Odour Threshold (ppm):	Not available.
Boiling Range (°C):	Not applicable.
Melting/Freezing Point (°C):	825 - 900.
Vapour Pressure (mm Hg at 20° C):	0.
Vapour Density (Air = 1.0):	Not applicable.
Relative Density (g/cc):	2.6 - 2.9.
Bulk Density:	Not available.
Viscosity:	Not applicable.
Evaporation Rate (Butyl Acetate = 1.0):	Not applicable.
Solubility:	Practically insoluble in water.
% Volatile by Volume:	0 %.
pH:	8.0 - 9.0 (suspension).
Coefficient of Water/Oil Distribution:	Not applicable.
Volatile Organic Compounds (VOC):	Not applicable.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Under Normal Conditions:	Stable.
Under Fire Conditions:	Not flammable.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	High temperatures, sparks, open flames and all other sources of ignition. Minimize air borne spreading of dust. Keep tightly closed to protect quality. Decompositon will occur above 825 to 900. (3, 4)
Materials to Avoid:	Strong oxidizers. Strong acids. Contact with acids will liberate carbon dioxide gas. Aluminum Sulphate (Alum). Ammonium hydroxide and ammonium salts. Fluorine. Product can react explosively with magnesium and Hydrogen. Silica will dissolve in hydrofluoric acid to produce a corrosive gas, silicon tetrafluoride. Avoid high temperatures (above 800 °C) and treatment (calcining). (3) Calcining is the heating of the product to below its melting point to cause thermal decomposition or phase transition. (3)
Decomposition or Combustion Products:	Thermal decomposition products are toxic and may include silicon, oxides of calcium and carbon.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA:

SUBSTANCE	***LD50 (Oral, Rat)***	***LD50 (Dermal, Rabbit)***	***LC50 (Inhalation, Rat, 4h)***
Calcium Carbonate	2 000 - 6 450 mg/kg (1,3)	---	---

Carcinogenicity Data:	Silica, Crystalline Quartz is classified as carcinogenic by IARC, NTP (National Toxicology Program) and NIOSH (National Institute for Occupational Safety and Health).
Reproductive Data:	No adverse reproductive effects are anticipated.
Mutagenicity Data:	No adverse mutagenic effects are anticipated.
Teratogenicity Data:	No adverse teratogenic effects are anticipated.
Respiratory / Skin Sensitization Data:	None known.
Synergistic Materials:	None known.
Other Studies Relevant to Material:	Silica, Crystalline Quartz : Foreign body reactions (granulomas) have been observed after crystalline silica was accidentally introduced under the skin as a result of injury. The effects were often delayed for periods ranging from weeks to more than 50 years. (4) Fibrotic nodules were found in the eyes of experimental animals after quartz particles were introduced deeply into the eye and were not removed. (4) There is one unconfirmed case of workers with silicosis experiencing a deterioration in eyesight due to corneal opacities. Silicon was found in abnormally high concentration in the corneas of these workers. (4) Silicosis and alveolar proteinosis have been observed in several different species following exposures from one week to 27 months. (4) Rats exposed for 28 days to 38 and 50 mg/Kg of pure alpha-quartz developed silicosis and alveolar proteinosis after 34 weeks. Silicosis similar to that seen in humans was observed in rats exposed to 30,000 particles/mL quartz dust for up to 420 days. Alveolar proteinosis was observed following exposure of rats to 40 mg/M3 pure quartz for 12 weeks. (4) Studies have shown an increased incidence of lung tumours in rats following exposure to quartz by inhalation for up to 2 years. Female mice exposed to quartz for up to 570 days had no increased incidence in lung tumors. The International Agency for Research on Cancer has determined that there is sufficient evidence that crystalline silica is carcinogenic to experimental animals. (4) The frequency of chromosomal aberrations and sister chromatid exchange was elevated in a group of 50 employees exposed to stone dust. The stone dust was mainly composed of silica (50 - 60 %) and other metal oxides. These observations could not be explained by the consumption of alcohol and/or smoking, and other confounding factors were not studied. (4) Negative results were obtained in an in vivo mutagenicity test with mice. Quartz did not induce micronuclei in mice in vivo. However, both positive and negative results were reported in short term in vitro tests using bacteria and cultured mammalian cells. Crystalline silica was not mutagenic to bacteria, with and without metabolic activation. (4)

12. ECOLOGICAL INFORMATION

Ecotoxicity:	Not available. May be harmful to aquatic life.
Environmental Fate:	Not available. May be hazardous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

13. DISPOSAL CONSIDERATIONS

Deactivating Chemicals:	None required.
Waste Disposal Methods:	This information applies to the material as manufactured. Reevaluation of the product may be required by the user at the time of disposal since the product uses, transformations, mixtures and processes may influence waste classification. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.
Safe Handling of Residues:	See "Waste Disposal Methods".
Disposal of Packaging:	Empty containers retain product residue and can be hazardous. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations.

14. TRANSPORTATION INFORMATION

CANADIAN TDG ACT SHIPPING DESCRIPTION:

This product is not regulated by TDG.

Label(s): Not applicable. Placard: Not applicable.

ERAP Index: -----. Exemptions: None known.

US DOT CLASSIFICATION (49CFR 172.101, 172.102):

This product is not regulated by DOT.

Label(s): Not applicable. Placard: Not applicable.

CERCLA-RQ: Not available. Exemptions: None known.

15. REGULATORY INFORMATION

CANADA

CEPA - NSNR: All constituents of this product are included on the DSL.

CEPA - NPRI: Not included.

Controlled Products Regulations Classification (WHMIS):

D-2A: Very Toxic (carcinogen, chronic effects)

USA

Environmental Protection Act: All constituents of this product are included on the TSCA inventory.

OSHA HCS (29CFR 1910.1200): Chronic Effects, Carcinogenic.

NFPA: 1 Health, 0 Fire, 0 Reactivity (3)

HMIS: 1 Health, 0 Fire, 0 Reactivity (3)

INTERNATIONAL

Calcium Carbonate is found on the following inventories: EINECS (European Inventory of Existing Commercial Chemical Substances), ACOIN (Australia), MITI (Japan) and Korea.

16. OTHER INFORMATION

REFERENCES

1. RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS database.
2. Clayton, G.D. and Clayton, F.E., Eds., Patty's Industrial Hygiene and Toxicology, 3rd ed., Vol. IIA,B,C, John Wiley and Sons, New York, 1981.
3. Supplier's Material Safety Data Sheet(s).
4. CHEMINFO, through "CCINFOdisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.
5. Guide to Occupational Exposure Values, 2005, American Conference of Governmental Industrial Hygienists, Cincinnati, 2005.
6. Regulatory Affairs Group, Brenntag Canada Inc.
7. The British Columbia Drug and Poison Information Centre, Poison Managements Manual, Canadian Pharmaceutical Association, Ottawa, 1981.

To obtain revised copies of this or other Material Safety Data Sheets, contact your nearest Brenntag Canada Regional office.

British Columbia: 20333-102B Avenue, Langley, BC, V1M 3H1
Phone: (604) 513-9009 Facsimile: (604) 513-9010

Alberta: 6628 - 45 th. Street, Leduc, AB, T9E 7C9
Phone: (780) 986-4544 Facsimile: (780) 986-1070

Manitoba: 681 Plinquet Street, Winnipeg, MB, R2J 2X2
Phone: (204) 233-3416 Facsimile: (204) 233-7005

Ontario: 43 Jutland Road, Toronto, ON, M8Z 2G6
Phone: (416) 259-8231 Facsimile: (416) 259-5333

Quebec: 2900 Jean Baptiste Des., Lachine, PQ, H8T 1C8
Phone: (514) 636-9230 Facsimile: (514) 636-0877

Atlantic: A-105 Akerley Boulevard, Dartmouth, NS, B3B 1R7
Phone: (902) 468-9690 Facsimile: (902) 468-3085

Prepared By: Regulatory Affairs Group, Brenntag Canada Inc., (416) 259-8231.