



MATERIAL SAFETY DATA SHEET

SECTION I - CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: DOLOMITIC HYDRATED LIME	WHMIS – CLASSIFICATION: D2A / D2B: MATERIALS CAUSING OTHER TOXIC EFFECTS E: CORROSIVE MATERIAL
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MANUFACTURER'S AND SUPPLIER'S NAME:

GRAYMONT DOLIME (OH) INC 21880, West State, Route163, Genoa, Ohio 43430-0158.

EMERGENCY TEL. No.: (613) 996 – 6666 CANUTEC (Canada) (800) 424 – 9300 CHEMTREC (US)

Chemical Name Calcium Magnesium Hydroxide Oxide and Calcium Magnesium Hydroxide	Chemical Family Alkaline earth hydroxide	Chemical Formula Complex mixture – mostly CaMg(OH)₄ and Ca(OH)₂MgO
Molecular Weight CaMg(OH)₄ = 132.41 Ca(OH)₂MgO = 114.40	Trade Name and Synonyms Hydrated dolomitic lime (Ca(OH)₂MgO), Double hydrated dolomitic lime (CaMg(OH)₄)	Material Use Neutralization, Flocculation, Stabilization, Polishing, Masonry Mortar, Plaster, Stucco, Fresco Paints and Lime wash.

<u>PRODUCT NAME</u>	<u>FORMULA</u>	<u>CAS#</u>
BONDCRETE [®] Mason's Lime	CaMg(OH) ₄	39445-23-3
Graymont Dolomitic Hydrated Agricultural Lime	Ca(OH) ₂ MgO	58398-71-3
Graymont Dolomitic Hydrated Lime	Ca(OH) ₂ MgO	58398-71-3
Graymont Dolomitic Spray Lime	CaMg(OH) ₄	39445-23-3
GRAND PRIZE [®] Finish Lime	Ca(OH) ₂ MgO	58398-71-3
HI-MAG-CHEM [®] Hydrate	Ca(OH) ₂ MgO	58398-71-3
IVORY [®] Autoclaved Finish Lime	CaMg(OH) ₄	39445-23-3
KEMIDOL [®] Hydrate	Ca(OH) ₂ MgO	58398-71-3
KEMIDOL [®] Superhydrate	CaMg(OH) ₄	39445-23-3
LIMOID [®] Type "N" Hydrate	Ca(OH) ₂ MgO	58398-71-3
LIMOID [®] Type "S" Hydrate	CaMg(OH) ₄	39445-23-3
MORTASEAL [®] Autoclaved Mason's Lime	CaMg(OH) ₄	39445-23-3
SNOWDRIFT [®] Autoclaved Finish Lime	CaMg(OH) ₄	39445-23-3
SUPER LIMOID [®] Agricultural Hydrated Lime	Ca(OH) ₂ MgO	58398-71-3
SUPER LIMOID [®] Mason's Hydrated Lime Type "S"	CaMg(OH) ₄	39445-23-3
SUPER LIMOID [®] Mason's Hydrated Lime Type "SA"	CaMg(OH) ₄	39445-23-3

SECTION II - COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients	Approximate Concentration	C.A.S. Number	Exposure limits (mg/m ³)					
			OSHA PEL (TWA) 8/40h	ACGIH TLV (TWA) 8/40h	RSST VEMP (TWA) 8/40h	MSHA PEL (Note2) (TWA) 8/40h	NIOSH REL (TWA) 10/40h	NIOSH IDLH
(Complex Mixture)	(% by weight)							
Calcium Magnesium Hydroxide	60 to 100	39445-23-3	N/A	N/A	N/A	N/A	N/A	N/A
Calcium Magnesium Hydroxide Oxide	60 to 100	58398-71-3	N/A	N/A	N/A	N/A	N/A	N/A
Calcium hydroxide	30 to 60	1305-62-0	5	5	5	5	N/A	N/A
Magnesium Hydroxide	0 to 40	1309-42-8	N/A	N/A	N/A	N/A	N/A	N/A
Magnesium Oxide	0 to 40	1309-48-4	10	10	10	10	N/A	N/A
Crystalline Silica, Quartz	0.1 to 1	14808-60-7	10/(%SiO ₂)+2 respirable silica dust	0.025 respirable silica dust	0.1 respirable silica dust	10/(%SiO ₂)+2 respirable silica dust	0.05 respirable free silica	50
Crystalline Silica, Quartz	0 to 0.1 (Note 1)	14808-60-7	10/(%SiO ₂)+2 respirable silica dust	0.025 respirable silica dust	0.1 respirable silica dust	10/(%SiO ₂)+2 respirable silica dust	0.05 respirable free silica	50

(Note 1) : Concentration of crystalline silica in a series of lime products will vary from source to source. It was not detected on some samples (< 0.1% w/w). Therefore two ranges are being disclosed. (Note 2) : ACGIH TLV Version 1973 has been adopted by the Mine Safety Health Administration (MSHA) as the regulatory Exposure Standard.

SECTION III - PHYSICAL AND CHEMICAL DATA

Physical State Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input checked="" type="checkbox"/>	Odor and Appearance Slight earthy odor – Fine white powder		Odor Threshold (p.p.m.) Not applicable	Specific Gravity 2.2 - 2.6
Vapor Pressure (mm) Not applicable	Vapor Density (Air = 1) Not applicable	Evaporation Rate Not applicable	Boiling Point (°C) Decomposes at 345	Melting Point (°C) Not applicable
Solubility in Water (20°C) 0.1g/100g Sat. soln	Volatiles (% by volume) Not applicable	pH (25 °C) Sat. solution Ca(OH)₂ 12.45	Bulk Density (kg/m ³) 400 - 650	Coefficient of water/oil distribution Not applicable

SECTION IV - FIRE OR EXPLOSION HAZARD DATA

Flammability
 Yes No If yes, under which conditions?

Extinguishing Media
Dolomitic Hydrated Lime does not burn. Use extinguisher appropriate for material burning.

Special Fire Fighting Procedures
Not applicable

Flash point (°C) and Method Not applicable	Upper flammable limit (% by volume) Not applicable	Lower flammable limit (% by volume) Not applicable
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Auto Ignition Temperature (°C) Not applicable	TDG Flammability Classification Non-flammable	Hazardous Combustion Products None
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Dangerous Combustion Products **None**

EXPLOSION DATA

Sensitivity to Chemical Impact Not applicable	Rate of Burning Not applicable	Explosive Power Not applicable	Sensitivity to Static Discharge Not applicable
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SECTION V - REACTIVITY DATA

Chemical Stability
 Yes No If no, under which conditions? **Absorbs carbon dioxide in the air to form calcium magnesium carbonate.**

Incompatibility to other substances
 Yes No If so, which ones? **Boron tri-fluoride, chlorine tri-fluoride, ethanol, fluorine, hydrogen fluoride, phosphorus pentoxide; water and acids (violent reaction with generating heat and possible explosion in confined area).**

Reactivity
 Yes No If so, under which conditions? **Reacts violently with Maleic Anhydride, strong acids. Reacts chemically with acids and many other compounds and chemical elements to form calcium and magnesium based compounds. Explosive when mixed with nitro organic compounds.**

Hazardous Decomposition Products
Calcium Hydroxide decomposes at 540°C and Magnesium Hydroxide decomposes at 345°C to produce calcium oxide, magnesium oxide and water.

Hazardous Polymerization Products
Will not occur.

SECTION VI - TOXICOLOGICAL PROPERTIES

Route of Entry
 Skin Contact Skin Absorption Eye Contact Acute Inhalation Chronic Inhalation Ingestion

Effects of Acute Exposure to Product

Skin **Severe irritation of mucous and skin, removes natural skin oils.**

Eyes **Severe eye irritation, intense watering of the eyes, possible lesions, possible blindness when exposed for prolonged period. Eye-Rabbit-10mg/ 24 h – Severe.**

Inhalation **If inhaled in form of dust, irritation of breathing passages, cough, sneezing.**

Ingestion **If ingested: pain, vomiting blood, diarrhea, collapse, drop in blood pressure (indicates perforation of esophagus or stomach).**

Effects of Chronic Exposure to Product:

Contact dermatitis. Following repeated or prolonged contact, this product can cause redness, desquamation and fissures. This product may contain trace amounts of crystalline silica. Excessive inhalation of respirable crystalline silica dust may result in respiratory disease, including silicosis, pneumoconiosis and pulmonary fibrosis.

LD ₅₀ of Product (Specify Species and Route) Unavailable	Irritancy of Product Severe to moist tissues	Exposure limits of Product Unavailable
LC ₅₀ of Product (Specify Species) Unavailable	Sensitization to Product None	Synergistic materials None reported

Carcinogenicity Reproductive effects Tératogenicity Mutagenicity

Dolomitic Hydrated Lime 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 crystobalite 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 1990].

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 VII - PREVENTIVE MEASURES			
Personal Protective Equipment (PPE) 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 (Specify) Gauntlets Cuff style	Respiratory (Specify) NIOSH approved (N/R/P95) dust respirator	Eyes (Specify) ANSI, CSA or ASTM approved safety glasses with side shields. Tight fitting dust goggles should be worn when excessive (visible) dust conditions are present. Do not wear contact lenses without tight fitting goggles when handling this chemical.	Footwear (Specify) Resistant to caustics
Clothing (Specify) Fully covering skin		Other (Specify) Evaluate degree of exposure and use PPE if necessary. After handling lime, employees must shower. If exposed daily, use oil, Vaseline, silicone base creme etc. to protect exposed skin, particularly neck, face and wrists.	
Engineering Controls (e.g. ventilation, enclosed process, specify) Enclose dust sources; use exhaust ventilation (dust collector) at handling points, keep levels below Max. Concentration Permitted.			
Leak and Spill Procedure Limit access to trained personnel. Use industrial vacuums for large spills. 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 and safety shower should be readily available where this material or its water dispersions are used. Contact lenses should not be worn when working with this chemical.			
Storage Requirements Keep tightly closed containers in a cool, dry and well ventilated area, away from acids. Keep out of reach of children.			
Special Shipment Information Dolomitic Hydrated Lime is not regulated by the Transportation of Dangerous Goods (TDG) Regulations (Canada) nor the Hazardous Materials Regulations (USA) unless this material is offered or intended for transportation by aircraft.			

SECTION VIII - FIRST AID MEASURES

Skin

Carefully and gently brush the contaminated body surfaces in order to remove all traces of lime. Use a brush, cloth or gloves. Remove all lime-contaminated clothing. Rinse contaminated area with lukewarm water for 15 to 20 minutes. Consult a physician if exposed area is large or if irritation persists.

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 chemical burn, as assessed by first aid trained personnel, contact 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.

Ingestion

If victim is conscious, give 300 ml (10 oz) of water, followed by diluted vinegar (1 part vinegar, 2 parts water) or fruit juice to neutralize the alkali. Do not induce vomiting. Contact a physician immediately.

General Advise

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

SECTION IX - REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 (**SARA Title III**). / The Emergency Planning and "Community Right-to-Know" Act (**EPCRA**). / Comprehensive Environmental Response, Compensation and Liability Act (**CERCLA**). / Resource Conservation and Recovery Act (**RCRA**).

Component Dolomitic Hydrated Lime has been reviewed against the following regulatory listings:

- **SARA Section 302 – Emergency Planning Notification. Extremely Hazardous Substances (EHS) List and Threshold Planning Quantity (TPQ). (40 CFR, Part 355, Section 30): Not listed.**
- **SARA Section 304 – Emergency Release Notification. Extremely Hazardous Substances (EHS) and Reportable Quantity (RQ) List. (40 CFR, Part 355, Section 40): Not listed.**
- **SARA Section 311/312 – Hazard Categories (40 CFR, Part 370): This product is regulated under CFR 1910.1200 (OSHA Hazard Communication) as Immediate (Acute) Health Hazards – Irritant.**
- **SARA Section 313 – Toxics Release Inventory (TRI). Toxic Chemical List (40 CFR, Part 372). Not listed.**
- **CERCLA – Hazardous Substance (40 CFR, Part 302): Not listed in Table 302.4.**
- **RCRA – Hazardous Waste Number (40 CFR, Part 261, Subpart D): Not listed.**
- **RCRA – Hazardous Waste Classification (40 CFR, Part 261, Subpart C): Not classified.**

CWA 311. - Clean Water Act List of Hazardous Substances.

Dolomitic Hydrated Lime does not appear on the Clean Water Act (CWA) list of hazardous substances.

California Proposition 65.

Component Calcium Magnesium Hydroxide does not appear on the above regulatory listing. This product may contain small amounts of crystalline silica. Silica, crystalline (Airborne particles of respirable size) is regulated under California's Safe Drinking Water and Toxic Enforcement Act of 1986. (Proposition 65)

Transportation - Hazardous Materials Regulations (USA) & Transportation of Dangerous Goods (TDG) Regulations (Can).

Dolomitic Hydrated Lime does not appear on the above regulatory listings.

Toxic Substances Control Act (TSCA).

All naturally occurring components of this product are automatically included in the USEPA TSCA Inventory List per 40 CFR 710.4 (b). All other components are on the USEPA TSCA Inventory List. Calcium Magnesium Hydroxide and Calcium Magnesium Hydroxide Oxide are exempt from reporting under the inventory update rule.

Canadian Environmental Protection Act (CEPA) – Substances Lists (DSL/NDSL).

Dolomitic Hydrated Lime (Calcium Magnesium Hydroxide & Calcium Magnesium Hydroxide Oxide) appears on the Non-Domestic Substances List (NDSL).

ANSI/NSF 60 - Drinking Water Treatment Additives.

Not applicable

FDA - U.S. Food and Drug Administration, Department of Health and Human Services.

Not applicable

SECTION X - OTHER INFORMATION

<p>Hazardous Materials Identification System (U.S.)</p>		<p>National Fire Protection Association (U.S.)</p> <p>Health Hazard</p>	<p>Fire Hazard</p> <p>Instability / Thermal Hazard</p> <p>Specific hazard</p>
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<p>WHMIS – Classification: “E” Corrosive Materials.</p>	<p>WHMIS – Classification: “D2A and D2B” Materials causing other toxic effects.</p>
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<p>Symbol:</p>	<p>Symbol:</p>
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Additional Information/Comments:

The technical data contained herein is given as information only and is believed to be reliable.
GRAYMONT makes no guarantee of results and assumes no obligation or liability in connection therewith.

Sources Used:

NFPA, NLA, TDG, CSST, RSST, (LSRO-FASEB), Hazardous Products Act, Environment Canada, Enviroguide, OSHA, ACGIH, IARC, NIOSH, CFR, NTP, HSDB, EPA SRS, Chemistry and Technology of Lime and Limestone (John Wiley and Sons, Inc.), Lime and Limestone (WILEY-VCH).

SECTION XI - PREPARATION INFORMATION

<p>Prepared by: GRAYMONT (QC) INC. Technical Services</p>	<p>Telephone number: (450) 449-2262</p>	<p>Date : September 2006</p>
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An electronic version of this MSDS is available at: www.graymont.com under the PRODUCTS section.