



GRAYMONT

CERTIFICATION OF MATERIAL

JOB:

ARCHITECT:

GENERAL CONTRACTOR:

SUB CONTRACTOR:


We the undersigned certify that the following material supplied by us complies with the requirements and tests of the American Society of Testing Materials and cited Federal Specifications as stated below and is so guaranteed by us.

Super Limoid Type S

ASTM C-207-91 (Reapproved 2000)
Type S Federal Spec. SS-L-351B, Type
M

Super Limoid Type SA

ASTM C-207-91 (Reapproved 2000)
Type SA Federal Spec. SS-L-351B, Type
M

By 
Michael J. Tate
Director of Technical Services

GRAYMONT DOLOMITE (OH) INC.

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BONDCRETE®

MASON'S PRE-BLEND®

MORTASEAL®

GRAND PRIZE®

IVORY®

NIAGARA®

SNOWDRIFT®

KEMIDOL®

SUPER LIMOID®

LIMOID®

HI-MAG®

GRAYMONT DOLIME (OH) INC.

Building Lime Products

SUPER LIMOID® S

Mason's Lime

Description

SUPER LIMOID® S Mason's Lime is a fine-grind, white, high-purity dolomitic lime, fully hydrated for immediate use. When properly combined with portland cement and sand, it creates a lime mortar having superior performance and ageless durability.

SUPER LIMOID® S Mason's Lime complies with ASTM C207, Type S. Available in durable 3-ply, weather-resistant and poly-lined 50-lb. bags.

Uses

Recommended for all Type M, S, N and O cement-lime mortar (ASTM C270) applications in interior and exterior masonry walls.

Advantages

High Plasticity

SUPER LIMOID® S Lime develops exceptional plasticity and workability immediately upon mixing with water by machine or hand. Carries more sand than most masonry cements or mortar cements for better yield without sacrificing workability.

Excellent Water Retentivity

Increases workability and bonding characteristics, reduces segregation of materials, requires less retempering of mortar during use. SUPER LIMOID® S Mason's Lime mortar resists suction, even from dry masonry, leaves ample time to strike joints.

Balanced Strength

Permits optimum balance between workability and bond strength; provides adequate compressive and tensile strength to accommodate structural movement, plus flexibility to absorb normal stresses from winds and vibration.

Weather Resistance

Offers tight, uniform bond to resist water penetration, helps prevent efflorescence, leaky walls and frost damage. Self-healing properties of SUPER LIMOID® S Mason's Lime repair fine cracks for many years after construction.

Lower Costs

Easily mixed, makes a richer mortar that carries more sand, works easier, and can save on cementitious material cost. Masonry units lay up faster with less waste and "shake-up" time for greater on-site production.

Technical Data

ASTM C270 Specifications

Mortar Type	Min. Ave. Comp. Strength —PSI 28 Days	Water Retention % Min.	Proportions by Volume		
			Cement ⁽¹⁻³⁾	Lime ⁽²⁾	Sand ⁽⁴⁾
M	2500	75	1	1/4	2.8 to 3 3/4
S	1800	75	1	1/4 to 1/2	2.8 to 4 1/2
N	750	75	1	1/2 to 1 1/4	3.4 to 6 3/4
O	350	75	1	1 1/4 to 2 1/2	5.1 to 10 1/2

NOTES: (1) Portland Cement-To comply with ASTM C150, Type I,II,III.
(2) Blended Hydraulic Cements - to comply with ASTM C595, Types IS, IP or I(PM).
(3) Lime-To comply with ASTM C207 (Hydrated) Type S.
(4) Sand Aggregate-To comply with ASTM C144.

Average Test Results

Mortar Type	Volume Proportions	Comp. Strength-PSI		Water Retention -% ⁽³⁾
		7 Days	28 Days	
S ⁽³⁾	1:1/2: 4 1/2	4370	4984	87
N	1:1:6	2026	2532	89
O	1:2:9	648	904	90

NOTES: (1) Cement: Mason's Lime; sand.
(2) Based on materials having an initial flow of 110± 5%.
(3) Test results exceed requirements for Type M mortar.

Letters of certification of compliance of SUPER LIMOID® S to ASTM C207 specifications are available.



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Genoa, OH, USA 43430
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SUPER LIMOID® S

Mason's Lime

Good Design Practices

1. Specifications below are offered as desirable inclusions in any masonry specifications, but are not intended to be complete.

2. Generally, masons consider a 94-lb. bag of Portland Cement and a 50-lb. bag of hydrated lime to each equal one cu. ft. and would add 6 cu. ft. sand to make a 1: 1: 6 mix. Actually, a bag of hydrated lime equals about 1 1/4 cu. ft.

3. Environmental Conditions -- Refer to the Masonry Industry Council Publication "Hot & Cold Weather Masonry Construction" (1999).

Architectural Specification

Part 1: General

1.1 Scope

Specify to meet project requirements.

1.2 Delivery and Storage of Materials

All materials shall be delivered in their original unopened packages, containers or bundles, and stored in a place providing protection from damage, deterioration and contamination. Damaged, deteriorated or contaminated materials shall be removed from the premises.

1.3 Environmental Conditions

In cold weather, temperature of masonry materials shall be above freezing when placed. Masonry shall be protected from freezing for 48 hrs. after placing. Unless precautions against freezing are taken, masonry shall not be erected when temperature is below 32° F on a rising temperature, or below 40° F on a falling temperature. Masonry shall not be laid on walls or footings that are frozen or contain frost. (See good design practices note 3 above.)

Part 2: Products

2.1 Materials

- a. Portland Cement—Conforming to ASTM C150, Type I
- b. Hydrated Lime—SUPER LIMOID® S Mason's Lime, conforming to ASTM C207, Type S
- c. Aggregate—Sand conforming to ASTM C144.
- d. Water Clean and free of deleterious amounts of acids, alkalies and organic materials.

2.2 Mixes

- a. Type M Mortar, shall be mixed in proportion of one bag Portland Cement, one-quarter bag SUPER LIMOID® S Mason's Lime, to not more than 3 3/4 cu. ft. sand (1: 1/4 : 3 3/4).
- b. Type S Mortar shall be mixed in proportion of one bag Portland Cement, one-half bag SUPER LIMOID® S Mason's Lime, to not more than 4 1/2 cu. ft. sand (1: 1/2 : 4 1/2).
- c. Type N Mortar shall be mixed in proportion of one bag Portland Cement, one bag SUPER LIMOID® S Mason's Lime, to not more than 6 cu. ft. sand (1: 1: 6).
- d. Type O Mortar shall be mixed in proportion of one bag Portland Cement, 2 bags SUPER LIMOID® S Mason's Lime, to not more than 9 cu. ft. sand (1: 2 : 9).

Part 3: Execution

3.1 Mixing Mortar

Proportion ingredients accurately and mix for at least 5 minutes in mechanical batch mixer with enough water to produce a workable consistency.

3.2 Mortar Application

Lay mortar in a uniform bed and completely fill joints between masonry units.

WARNING:

MAY CAUSE EYE OR SKIN BURNS. HARMFUL IF SWALLOWED.

CONTAINS: Hydrated Lime (calcium magnesium hydroxide)
Avoid contact with eyes or skin.
Do not take internally.
Avoid breathing lime dust.

Always wear NIOSH approved eye goggles when handling lime. In case of eye contact flush eyes thoroughly, including under eyelids, with water for 15 minutes. CALL PHYSICIAN IMMEDIATELY.

Wear protective clothing to prevent skin contact. If skin contact occurs, wash with water. Should skin irritation continue, SEE PHYSICIAN.

If swallowed CALL PHYSICIAN IMMEDIATELY.

Ventilate or use dust collector to prevent airborne lime dust. If there is airborne lime dust use a NIOSH approved dust respirator.

Do not use this material on playing fields or children's play areas.

KEEP OUT OF REACH OF CHILDREN.

Hazardous ingredient info---(419) 855-8336

NOTICE: There are no warranties which extend beyond the description contained herein. We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within 30 days from the earlier of the date it was or reasonably should have been discovered.



MATERIAL SAFETY DATA SHEET

SECTION I - CHEMICAL PRODUCT AND COMPANY INFORMATION

Material Name / Identifier: **DOLOMITIC HYDRATED LIME**

WHMIS CLASS E : CORROSIVE MATERIAL

MANUFACTURER'S AND SUPPLIER'S NAME:

EMERGENCY TEL. No

GRAYMONT DOLIME (OH) INC.

21880 West
State Route 163,
Genoa, Ohio
43430-0158

(800) 537-4489

Chemical Name

Dolomitic hydrated lime

Chemical Family

Alkaline earth hydroxide

Chemical Formula

Complex mixture - mostly $\text{Ca}(\text{OH})_2$ and $\text{Mg}(\text{OH})_2$ or MgO

Molecular Weight

$\text{Ca}(\text{OH})_2 = 74.10$, $\text{Mg}(\text{OH})_2 = 58.34$, $\text{MgO} = 40.32$

Material Use

Neutralization, Flocculation, Stabilization, Polishing,
Masonry Mortar, Plaster, Stucco, Fresco Paints and
Limewash

PRODUCT NAME

FORMULA

CAS#

BONDCRETE® Mason's Lime	$\text{CaMg}(\text{OH})_4$	39445-23-3
Graymont Dolomitic Hydrated Agricultural Lime	$\text{Ca}(\text{OH})_2\text{MgO}$	58398-71-3
Graymont Dolomitic Hydrated Lime	$\text{Ca}(\text{OH})_2\text{MgO}$	58398-71-3
Graymont Dolomitic Spray Lime	$\text{CaMg}(\text{OH})_4$	39445-23-3
GRAND PRIZE® Finish Lime	$\text{Ca}(\text{OH})_2\text{MgO}$	58398-71-3
HI-MAG-CHEM® Hydrate	$\text{Ca}(\text{OH})_2\text{MgO}$	58398-71-3
IVORY® Autoclaved Finish Lime	$\text{CaMg}(\text{OH})_4$	39445-23-3
KEMIDOL® Hydrate	$\text{Ca}(\text{OH})_2\text{MgO}$	58398-71-3
KEMIDOL® Superhydrate	$\text{CaMg}(\text{OH})_4$	39445-23-3
LIMOID® Type "N" Hydrate	$\text{Ca}(\text{OH})_2\text{MgO}$	58398-71-3
LIMOID® Type "S" Hydrate	$\text{CaMg}(\text{OH})_4$	39445-23-3
MORTASEAL® Autoclaved Mason's Lime	$\text{CaMg}(\text{OH})_4$	39445-23-3
SNOWDRIFT® Autoclaved Finish Lime	$\text{CaMg}(\text{OH})_4$	39445-23-3
SUPER LIMOID® Agricultural Hydrated Lime	$\text{Ca}(\text{OH})_2\text{MgO}$	58398-71-3
SUPER LIMOID® Mason's Hydrated Lime Type "S"	$\text{CaMg}(\text{OH})_4$	39445-23-3
SUPER LIMOID® Mason's Hydrated Lime Type "SA"	$\text{CaMg}(\text{OH})_4$	39445-23-3

Material Name / Identifier : DOLOMITIC HYDRATED LIME

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SECTION II - COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients	Approximate Concentration (% by weight)	C.A.S. Number	Exposure limits (mg/m ³)				
			OSHA PEL (TWA) 8/40h	ACGIH TLV (TWA) 8/40h	RQMT OEL (TWA) 8/40h	NIOSH REL (TWA) 10/40h	NIOSH IDLH
(Complex Mixture)							
Calcium hydroxide	55 - 60	1305-62-0	5	5	5	Not available	Not available
Magnesium hydroxide	0 - 40	1309-42-8	Not available	Not available	Not available	Not available	Not available
Magnesium Oxide	0 - 40	1309-48-4	15	10	10	Not available	750
Crystalline Silica, Quartz	> 0.1	14808-60-7	10/(%SiO₂)+2 (respirable silica dust)	0.1 (respirable silica dust)	0.1 (respirable silica dust)	0.05 (respirable free silica)	50

SECTION III - PHYSICAL AND CHEMICAL PROPERTIES

Physical State Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input checked="" type="checkbox"/>	Odor and Appearance No 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) Not available	Freezing Point (°C) Not available
Solubility in Water (20°C) 0.1g/100g Sat.soln	Volatiles (% by volume) Not applicable	pH (25 °C) Sat. soln Ca(OH)₂ 12.45	Density (kg/m ³) 400 - 650	Coefficient of water/oil distribution Not applicable

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If yes, under which conditions:
Extinguishing Media Dolomitic Hydrated Lime does not burn. Use extinguishing media appropriate to surrounding fire conditions.	
Special Fire Fighting Procedures Not applicable	

Material Name / Identifier : DOLOMITIC HYDRATED LIME

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA CONTINUED

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

SECTION V - REACTIVITY DATA

Chemical Stability Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	If no, under which conditions?	Absorbs carbon dioxide in the air to form calcium and magnesium carbonate.
Incompatibility to other substances Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If so, which ones?	Boron tri-fluoride, chlorine tri-fluoride, fluorine, hydrogen fluoride, phosphorus pentoxide; and acids (violent reaction with generating heat and possible explosion in confined area).
Reactivity Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If so, under which conditions?	Reacts violently with strong acids. Reacts chemically with acids and many other compounds and chemical elements to form calcium based compounds. Explosive when mixed with nitro organic compounds.
Hazardous Decomposition Products	Thermal decomposition at 540°C will produce calcium oxide and water.	
Hazardous Polymerization Products	Will not occur.	

SECTION VI - TOXICOLOGICAL INFORMATION

Route of Entry <input checked="" type="checkbox"/> Skin Contact <input type="checkbox"/> Skin Absorption <input checked="" type="checkbox"/> Eye Contact <input checked="" type="checkbox"/> Acute Inhalation <input type="checkbox"/> Chronic Inhalation <input checked="" type="checkbox"/> Ingestion
Effects of Acute Exposure to Product Skin Mucous and skin corrosion, removes natural skin oils.

SECTION VI - TOXICOLOGICAL INFORMATION CONTINUED

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.**

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**

LD ₅₀ of Product (Specify Species and Route) Not available	Irritancy of Product Severe to moist tissues	Exposure limits of Product Not available
LC ₅₀ of Product (Specify Species) Not available	Sensitization to Product None	Synergistic materials None reported

Carcinogenicity Reproductive effects Teratogenicity Mutagenicity

Dolomitic Hydrated Lime is not listed on the MSHA, OSHA or IARC lists of carcinogens. However, hydrated lime could contain crystalline silica, which inhaled in the form of quartz or cristobalite from occupational sources, is classified by IARC as (Group 1) carcinogenic to humans.

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) If dust loading exceeds PEL use NIOSH approved filtering anti-dust mask	Eyes (Specify) Tight fitting goggles with side shields	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.	

SECTION VII - PREVENTIVE MEASURES CONTINUED

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.

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

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

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 for 15 to 20 minutes. In all cases, immediately 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. Contact a physician immediately.

SECTION VIII - FIRST AID MEASURES CONTINUED

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 Advice

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

SECTION IX - REGULATORY INFORMATION

Regulatory Listings Reviewed:

Each component/ingredient of this product has been reviewed against the following regulatory listings:

- CERCLA / SARA section 302 - Extremely Hazardous Substance List.
- CERCLA / SARA Title III section 304- Hazardous Substance and RQ List.
- SARA Title III section 313 - Toxic Chemical List.

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

SARA Title III Section 311/312 - Hazard Categories.

This product is regulated under CFR 1910.1200 (OSHA Hazard Communication) as Immediate (Acute) Health Hazards - Corrosive.

California Proposition 65

Component: Dolomitic Hydrated Lime 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

Canadian Environmental Protection Act (CEPA) - Domestic Substances List (DSL).



Dolomitic Hydrated Lime appears on the above regulatory listing.

SECTION X - OTHER INFORMATION

Hazardous materials Identification System	Health Risks ①	National Fire Protection Association (U.S.)		Fire hazard
	Flammability ②			Reactivity
	Reactivity ①			Specific hazard
	Personal Protection ③			
WHMIS Classification: "E" Corrosive Materials.		WHMIS Classification: "D2A" Materials causing other toxic effects.		

Material Name / Identifier : DOLOMITIC HYDRATED LIME

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SECTION X - OTHER INFORMATION		
Symbol: 	Symbol: 	
Additional Information/Comments: <p style="text-align: center;">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.</p>		
Sources Used: <p style="text-align: center;">NFPA, NLA, TDG, CSST, (LSRO-FASEB), Hazardous Products Act, Environment Canada, Enviroguide, OSHA, MSHA, ACGH, IARC, NIOSH, CFR, NTP.</p>		
Prepared by: Technical Services GRAYMONT (QC) INC. GRAYMONT (WESTERN US) INC	Telephone number (450) 449-2262 (801) 264-6879	Date <p style="text-align: center;">July 2001</p>