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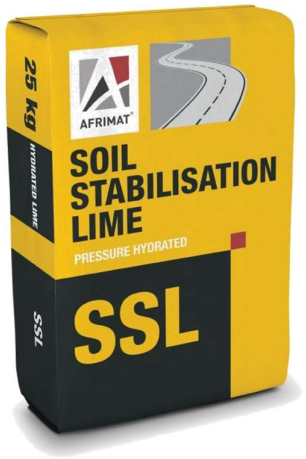
Material Safety Data Sheet – [SOIL STABILISATION LIME (SSL)] ®
Issued: January 2014-Revision 02, January 2023
DOLOMITIC LIME, WHITE HYDRATED

1. Identification-



Dolomitic Lime (Slaked) (Hydrated) (Calcium Magnesium Hydroxide)

Name on label:
SOIL STABILISATION LIME (SSL)

Manufactured by:
Cape Lime Company (PTY) Ltd
P.O. Box 400, Vredendal, 8160

Emergency Contact:
(+27) (023) 6263190

Identified uses:
Soil stabilisation, modification of soil PI (Plasticity Index).
Road construction selected layer stabilisation

2. Hazards Identification- Hazardous

GHS classification:
Hazard pictograms


Harmful/Irritant


Severe health hazards


Corrosives

Health Hazards:
Causes skin irritation.
Causes serious eye damage.
May cause respiratory irritation.
May cause cancer. (inhalation)
Causes damage to organs through prolonged or repeated exposure. (Respiratory tract)

3. Composition / Information on Ingredients-

Composition:

A complex mixture; calcium magnesium hydroxide,	$CaMg(OH)_4$	CAS No 39445-23-3	70-90%
calcium magnesium hydroxide oxide,	$Ca(OH)_2MgO$	CAS No 58398-71-3	70-90%

Ingredient name	CAS number	Concentration
Calcium Hydroxide	1305-62-0	45-55%
Magnesium oxide	1309-48-4	25-30%
Magnesium Hydroxide	1309-42-8	35-40%
Crystalline silica, respirable powder	14808-60-7	0 – 1%

Any concentration shown as a range is due to the chemical composition, batch variation or the dolomite mineral.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Appearance:
White crystalline powder

4. First Aid Measures-

Specific Immediate Treatment
Inhalation:
Remove affected person/s to fresh air immediately. Obtain medical attention if necessary. If breathing has stopped administer artificial respiration and obtain immediate medical assistance.

Skin Contact:
Wash skin thoroughly with plenty of water. Seek medical attention immediately.

Eye Contact:
Immediately irrigate affected eye/s with generous amounts of clean water for at least 20 minutes. Pull back the eyelid and ensure all lime dust has been washed out. Obtain medical attention immediately. Do not rub eyes.

Ingestion:
Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth unless instructed to do so by medical personnel.

Most Important Symptoms:
Irritation of skin, eyes, gastrointestinal tract, or respiratory tract.

Immediate medical attention/special treatment:
See first aid information above. Note to Physicians: Provide general supportive measures and treat symptomatically.

Where required seek immediate Professional Medical Assistance and/or Symptomatic treatment and supportive therapy as indicated.

5. Fire Fighting-

Soil Stabilisation Lime does not burn. Use extinguisher / firefighting media appropriate for material burning.

Suitable (and unsuitable) fire extinguishing media:
None known.

Specific hazards arising from the product:
No specific fire or explosion hazards.
When this product is wet, it can be very slippery and can result in a slip hazard.

Hazardous Combustion Products:
None known.

Special protective equipment and precautions for fire fighters:
Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA) to prevent inhalation, skin or eye contact.

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6. Accidental Release-

Personal precautions, protective equipment, emergency procedures:
Avoid inhalation, eye, and skin contact. Avoid generating airborne dust. Wear appropriate protective clothing as described in section 8.

Methods and materials for containment and clean up:

Small spills
Wear appropriate protective clothing as described in section 8.
Utilize clean-up methods that minimize generating dust: vacuum.
Avoid dry sweeping. Residue on surfaces may be removed with copious amount of water or vinegar.

Large Spillages
Wear appropriate protective clothing as described in section 8.
Move packaging from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labelled waste packaging. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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7. Handling and Storage-

Safe Handling:
Wear appropriate protective clothing as described in section 8.
Avoid inhalation, skin, and eye contact. Avoid generating airborne dust. An eye wash station should be readily available when this product is handled.

Safe Storage:
Store in original packaging protected from direct sunlight in a dry, cool and well-ventilated area. Protect packaging from physical damage. Do not store near incompatible materials (see Section 10 below) including food and drink. Keep away from moisture. Store to minimize dust generation. Keep packaging sealed until ready for use. Packaging that has been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled packaging. Use appropriate containment to avoid environmental contamination.

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8. Exposure Controls/Personal Protection -

Exposure Limits:	Calcium Hydroxide TWA OEL-RL: 5mg/m3	Short Term OEL-RL: 20mg/m3
	Magnesium Oxide TWA OEL-RL: 10mg/m3	

Respiratory protection, gloves and safety goggles are required in dusty conditions.

Engineering Controls:

Use with adequate general or local exhaust ventilation and / or containment enclosures to maintain exposure below occupational exposure limits.

Environmental Exposure Controls:
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual Protection Measures (Personal Protective Equipment)-

Hygiene measures:
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Remove potentially contaminated clothing. Wash contaminated clothing before reusing.
Ensure that an emergency eye wash fountain and shower are close to the workstation location.

Specific Eye / Face Protection: Safety glasses with side shields. In windy conditions, or if work activity generates elevated airborne dust levels, dust proof or chemical goggles are recommended. Contact lenses should not be worn.

Specific Skin Protection:
When there is a risk of skin contact, wear appropriate clothing and gloves to prevent contact.
Rubber or PVC gloves and full overalls are required.

Specific Respiratory Protection:
If exposure limits are exceeded, an approved particulate respirator, or supplied air respirator, appropriate for the airborne concentrations, should be used. Selection and use of the respiratory protective equipment must be in accordance with applicable regulations and good industrial hygiene practices. KN-95 or FFP2 mask recommended.

Other skin protection:
Wear appropriate footwear.

9. Physical and Chemical Properties-

Appearance	: White crystalline powder
Odour	: Odourless
Melting point	: 350-580^{o} C loses H20
pH	: Typical 12 (saturated aqueous solution 0,1%)
Solubility	: (water) 0,8 g/l at 0°C
Density	: 2,5 g/cm3 Bulk Density 0.55g/cm3

10. Stability and Reactivity-

Reactivity:
Reacts with acids to form calcium and magnesium salts, releasing heat. Reacts over time with carbon dioxide in air to form calcium magnesium carbonate. See also Incompatibility below.

Chemical stability:
Stable under normal storage and handling conditions. Possibility of Hazardous Reactions: See “reactivity” above.

Conditions to avoid:
Vicinity of incompatible materials.

Incompatibility-
This product should not be mixed or stored with the following materials, due to the potential for violent reaction and release of heat:

- acids
- reactive fluoridated compounds
- reactive brominated compounds
- reactive powdered metals
- reactive phosphorous compounds
- aluminium powder
- organic acid anhydrides
- nitro-organic compounds
- interhalogenated compounds

Hazardous decomposition products:
None

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11. Toxicology-

Inhalation:
Dust may cause severe irritations to the respiratory system and mucous membranes.

Skin Contact:
Contact can cause severe irritation or burning of skin, especially in the presence of moisture. Produces 3rd degree alkali burns on skins after 2 hours. (pH as high as 12,2).

Eye Contact:
Dust may cause severe irritation. Particles readily adhere to the conjunctiva, they often induce ulceration of the corneal epithelium and stromal opacities but rarely penetrate the iris or lens.

Ingestion:
This product can cause severe irritation or burning of gastrointestinal tract if swallowed.

Long Term Exposure:
May cause dermatitis.

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12. Ecology-

Toxicity:
Environmental fate, mobility, persistence, degradation, bioaccumulation and effect on effluent treatment: Calcium Hydroxide: LD_{50}/oral/rat 7340 mg/kg

Because of the elevated pH of this product, it might be expected to produce some ecotoxicity upon exposure to certain aquatic organisms and aquatic systems in high concentrations.

Persistence and Degradability:
Over time Soil Stabilisation Lime will recarbonate to form dolomite – a widely used agricultural liming material which may be taken up / utilised by plants.

Bioaccumulative Potential:
This material shows no bioaccumulation effect or food chain concentration toxicity.

Mobility in Soil:
Soil Stabilisation Lime is not mobile in soil and is used to react with active clays. Over time Soil Stabilisation Lime will recarbonate to form dolomite – a widely used agricultural liming material which may be taken up / utilised by plants. Soil Stabilisation Lime will elevate the soil pH.

13. Disposal Considerations-

Waste Treatment Methods:
Disposal of material should comply with local, provincial, or national legislation. Bury on an authorized landfill site. Do not dispose of material in natural water ways including lakes, dams, rivers, or the ocean.

Disposal of Packaging:
Soil Stabilisation Lime packaging is fully recyclable.

Physical / Chemical properties affect waste treatment options:
The fine particles in Soil Stabilisation Lime and its elevated pH need to be considered when handling the product for disposal.

Sewage Disposal:
Soil Stabilisation Lime in sewage or septic tank systems may negatively impact the bacteria populations because of its high pH.

Special Precautions:
The fine particles in Soil Stabilisation Lime and its elevated pH need to be considered when handling the product for disposal.
Refer to sections 6, 7 and 8 as required.

14. Transport-

CAS No 39445-23-3
CAS No 58398-71-3

Not regulated as dangerous for transport.
Soil Stabilisation Lime should always be transported in closed packaging that is sealed and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15. Regulations-

Users should ensure that they comply with any relevant local, provincial, or national legislation.

16. Other-

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors or omissions or the consequences thereof. It is the user's obligation to determine the conditions of safe use of the material.