SECTION 1: Identification of the Substance / Mixture and of the Company / Undertaking

1.1. Product Identifier

Name	:	Calcium Hydroxide
Other means of identification	:	Hydrated Lime, Calcium Hydrate.
Formula	:	$Ca(OH)_2$
Uses of the product	:	Water treatment, pH adjustment, drilling, clarification and alkalization in sugar mills, specialized chemical processes.

1.2. Details of the Distributor of the Safety Data Sheet

Company Name	:	GreenSol Limited
Address	:	#39-41 Marryat Street, San Fernando, Trinidad, West Indies
Telephone	:	+1(868) 225-4858
Mobile	:	+1(868) 720-2517
Email	:	sdeokiesingh@greensolltd.com

1.3. Emergency Telephone Number

Emergency Number	:	+1(868) 720-2517 (GREENSOL)
	:	+1(800) 424-9300 (CHEMTREC)

SECTION 2: Hazard Identification

2.. Label Elements

Hazard Pictogram :

GHS08

GHS05

Signal Word : **DANGER**

Hazard Statements :
H 315: Causes skin irritation.
H 318: Causes serious eye damage.
H 335: May cause respiratory irritation 3.

Precautionary Statements :
P102: Keep out of the reach of children.
P103: Read the label before use.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P260: Do not breathe dust.
P264: Wash hands thoroughly after handling.

Emergency Response : P314: Get medical advice/attention if you feel unwell.

		P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P302 + P352: IF ON SKIN: Wash with plenty of water and soap. P332 + P313: IF SKIN IRRITATION OCCURS: Get medical advice /attention. P305 + P351: IF IN EYES: Rinse cautiously with water for several minutes. P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Storage	:	P402: Store (dry product) in a dry place.
Disposal	:	P501: Dispose of contents/container in accordance with local, regional, national, and international regulations.
WHMIS/ GHS	:	Skin corrosion/irritation - Category 2 Serious eye damage/eye irritation - Category 1

SECTION 3: Composition / Information on Ingredients

Chemical Name	Concentration/ Weight % (or range)	CAS Number	Classification
Calcium Hydroxide $Ca(OH)_2$	72.0 - 92.0%	1305-62-0	Skin corrosion/irritation –1C (H314) Serious eye damage/eye irritation –1 (H318) Skin corrosion/irritation –2 (H315) May cause respiratory irritation –3 (H335)
Calcium Carbonate-$CaCO_3$	2.0 – 5.0%	1317-65-3	Not classified as hazardous under GHS.
Silicon Dioxide - SiO_2	0.10 – 2.0%	14808-60-7	May cause cancer (H350) Specific target organ toxicity – repeated exposure1 (H372)

SECTION 4: First Aid Measures

In case of accidental exposure to the product, proceed as follows:

Inhalation	:	Remove the person from the dust source or move them to fresh air. Get medical attention immediately. If not breathing, provide artificial respiration.
Ingestion	:	If the person is conscious, rinse the mouth with water to neutralize the alkaline effect. Do NOT induce vomiting. Obtain medical attention immediately.
Skin contact	:	Immediately wash the affected area with water and soap. If the substance has penetrated clothing, remove the clothing and

		wash the skin with water. If irritation persists, seek medical attention.
Eye Contact	:	Immediately rinse eyes with plenty of water for at least 15 minutes, occasionally lifting the eyelids (remove contact lenses if present). Seek medical attention if irritation persists.

SECTION 5: Firefighting measures

Flammability	:	Not considered a fire hazard.
Explosion Hazard	:	Not considered an explosion hazard.
Fire Extinguishing Media	:	The product is not combustible or flammable. Use extinguishing measures appropriate to the surrounding fire.
Special Information	:	Heat may be generated during dissolution or hydration; product is not combustible and water is suitable for surrounding fires.

SECTION 6: Accidental Release Measures

- Ventilate the area of the spill or release.
- Keep dust levels to a minimum.
- Keep unnecessary and unprotected personnel away from the spill area.
- Use appropriate personal protective equipment (see Section 8).
- Avoid inhalation of dust; ensure adequate ventilation or use suitable respiratory protection (see Section 8).
- Spills: Collect and place in an appropriate container for recovery or disposal using a method that does not generate dust.
- Do not rinse or dispose of residues into drains.
- Spill residues can be diluted with water and neutralized with a dilute acid such as acetic, hydrochloric, or sulfuric acid.
- Absorb the neutralized caustic residue on clay or another inert material and place in a suitable container for disposal in accordance with local, regional, national, and international regulations for waste management and recycling.

SECTION 7: Handling & Storage

Handling	:	Avoid contact with eyes and skin. Wear protective goggles with side shields, ensure adequate ventilation, and use a suitable dust mask or respirator when handling the product. An eye wash station and safety shower should be readily available where the material is frequently used. Do not wear contact lenses while handling this product.
Ventilation	:	Control dust sources and use sufficient local exhaust ventilation (dust collector) at work points. Maintain airborne concentrations below the permissible exposure limit.

Storage	:	Store in clean, dry areas away from heat or ignition sources. Ensure emergency eyewash facilities are available. Avoid storing near combustible or flammable materials. Keep at ambient temperature and prevent contact with moisture. Do not store outdoors. For bulk transport, use silo trucks; if packaged, transport in covered trucks.

SECTION 8: Exposure Controls / Personal Protection

Exposure Limits		
Calcium Hydroxide ACGIH: TLV – TWA	:	5 mg/m³ as an average over an 8-hour work shift.
OSHA PEL	:	15 mg/m³ over an 8-hour work shift for total dust. 5 mg/m³ over an 8-hour work shift for the respirable fraction of dust.
NIOSH REL (USA, 10/2013)	:	TWA: 5mg/m3 / 10h
MSHA PEL	:	TWA: 8/40 h: 5mg/m3.
NOM-010-STPS-2014	:	5mg/m3/8h
Silica ACGIH: TLV – TWA	:	0.025 mg/m³ as an average over an 8-hour work shift for the respirable fraction.
OSHA PEL	:	10 mg/m³ over an 8-hour work shift (respirable fraction).
Ventilation	:	Maintain adequate ventilation in the workplace. Normal ventilation for routine manufacturing operations is generally sufficient. Local exhaust hoods should be used during operations that generate or release significant amounts of product. Mechanical ventilation should be provided in low-lying or confined areas.
Safety showers and eyewash Stations	:	Ensure that emergency eyewash facilities are available in the workplace.
Personal Protective Equipment		
Eye protection	:	Wear chemical safety goggles and/or a full-face shield where dust is present or where splashes of solutions are possible.
Skin protection	:	Wear dry protective gloves and suitable protective clothing (long-sleeved) that covers the body. Avoid gloves made of open-weave fabrics.
Respiratory Protection	:	Use a suitable dust mask or respirator when handling the product.
Foot protection	:	Wear closed-toe footwear.
Hygiene	:	Handle the product following good industrial hygiene and safety practices. Use clean, dry personal protective equipment. Protective cream may help reduce dryness and irritation. Workers with high exposure should shower immediately
Environmental Controls:	:	Ventilation systems should be equipped with filters before discharge to the atmosphere.

SECTION 9: Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Molecular Formula	:	$Ca(OH)_2$
Molecular Weight	:	74.10 g/mol
Physical State	:	Solid powder
Colour	:	White or slightly yellowish.
Odour	:	Characteristic.
Stability	:	Reactive.
Flammability	:	Not flammable.
Explosiveness	:	Not explosive.
Ignition Point	:	Not combustible
Melting Point	:	580 °C, dehydrates at this temperature.
Boiling Point	:	Not applicable
Vapor Density	:	Not applicable
Solubility in Water	:	0.185 g /100 ml (at 0 °C) 0.077 g /100 ml (at 100 °C)
pH	:	12.0 – 14 at 25 °C (aqueous solution)
% Volatile Content	:	0
Density	:	2.211 g/ml; Bulk density 0.5 – 0.7 g/ml depending on particle size.
Vapor Pressure	:	Not applicable
Freezing Point	:	Not applicable
Auto-ignition Temperature	:	Not applicable
Viscosity	:	Not applicable
Partition Coefficient	:	Not applicable
Evaporation Rate	:	Not applicable
Decomposition Temperature	:	540°C
Specific Gravity	:	2.3 – 2.4

SECTION 10: Stability and Reactivity

Reactivity	:	Reacts violently with strong acids. Reacts chemically with acids and other compounds to form calcium-based compounds. May form explosive mixtures when combined with organic nitrogen compounds. Calcium hydroxide absorbs carbon dioxide from the air, forming calcium carbonate. Reacts slowly with water, releasing heat and producing a strong alkaline solution.
Chemical Stability	:	The product is stable under normal conditions of use and storage. Calcium hydroxide reacts gradually with carbon dioxide when exposed to air, forming calcium carbonate.
Possibility of Hazardous Reactions	:	The material will not undergo hazardous polymerization. Reacts exothermically with acids, forming calcium salts.
Conditions to Avoid	:	Contact with moisture and acidic materials.

Incompatible Materials	:	Strong oxidizing agents. The material, when wet, is alkaline and reacts with acids, ammonium salts, aluminum, and other reactive metals. Examples include: boron trifluoride, chlorine trifluoride, ethanol, fluorine, hydrogen fluoride, phosphorus pentoxide, and strong acids.
Hazardous Decomposition Products	:	Undergoes thermal decomposition at 540 °C, producing calcium oxide and water.

SECTION 11: Toxicological Information

If exposure occurs above the permissible limits, the following signs and symptoms may occur:

Acute Effects

Skin	:	Irritates and dries the skin, depending on exposure, moisture, and duration of contact.
Eyes	:	Hazardous in case of eye contact. May cause injury and blindness if untreated over prolonged exposure. (Rabbit 10 mg/24 hr – severe damage).
Inhalation	:	Inhalation of dust may cause respiratory irritation, coughing, and sneezing.
Ingestion	:	May cause gastrointestinal irritation and pain, vomiting, diarrhea, hypotension, dizziness, and headache. Severity depends on the amount ingested. (Rat LD_{50}: 7340 mg/kg).

Chronic Effects

Dermatitis	:	Prolonged contact may cause redness, scaling, and cracking of the skin.
Inhalation	:	This product may contain small amounts of crystalline silica. Excessive inhalation of respirable dust can cause respiratory diseases, including silicosis, pneumoconiosis, and pulmonary fibrosis.
Carcinogenicity	:	No carcinogenicity data are available for this product. Calcium hydroxide is not listed as a carcinogen by ACGIH, MSHA, OSHA, NTP, DFG, RSST, or IARC.

SECTION 12: Ecological Information

Toxicity	:	Severe aquatic toxicity at high concentrations due to high alkalinity (pH 12.454) at concentrations of 1 g/L.
Persistence and Degradability	:	Not relevant for inorganic substances
Bioaccumulative Potential	:	Not applicable for inorganic substances.
Mobility in Soil	:	Low solubility and mobility under most soil conditions.
Other Adverse Effects	:	No relevant information available.
Additional Information	:	The product is generally not hazardous at low concentrations. Frequently used in water and soil treatment.

SECTION 13: Disposal Considerations

Recover uncontaminated product whenever possible and reuse or recycle for other beneficial purposes.

If recovery is not feasible, dispose of in accordance with federal, state, or local requirements.

Processing, use, or contamination of this product may alter the characteristics of the waste and affect disposal options.

Do not discharge into waterways.

SECTION 14: Transportation Information

Calcium hydroxide is not classified as hazardous for transport.

Refer to regulations for the transport of hazardous materials and wastes by land.

Transport in closed containers in an upright and secure position. Ensure that personnel transporting the product are aware of the procedures to follow in case of an accident or spill.

SECTION 15: Regulatory Information

Consult applicable regulations in your country. The applicability of some regulations is presented below:

Law 769 of 2002. National Land Traffic Code. Article 32: Vehicle cargo must be properly packed, labeled, packaged, and covered according to national technical standards.

Resolution 2400/79 Ministry of Labor and Social Security, Articles 155, 157, and 158. Environmental pollution.

Decree 1609 of July 31, 2002. Regulates the handling and land transport of hazardous goods by road.

Decree 1832 of August 1994. Article 37. Table of occupational diseases.

Decree 02/82 Ministry of Health. Air emissions.

Resolution 01 of January 2015. Regulations on the control of chemical substances and products.

Resolution 0773 of 2021. Implementation of the Globally Harmonized System (GHS) for classification and labeling of chemicals in workplaces and other provisions.

United States Federal Regulations:
SARA 302/304 Emergency planning and release notification – Not listed.

SARA 311	Hazard categories (40 CFR 370) – regulated under OSHA: Acute and chronic.
SARA 312	Emergency planning and release notification – Not listed.
SARA 313	Toxic Release Inventory (TRI) – Chemical list: Not listed.
CWA 311	Calcium hydroxide has been removed from the hazardous substances list under the Clean Water Act (CWA) (11/13/79) (44 FR 65400).
FDA	Calcium hydroxide is generally recognized as safe (GRAS) under 21 CFR 184.1205.
TSCA	Calcium hydroxide is listed in the TSCA inventory maintained by the EPA of chemicals currently commercialized, CAS No. 1305-62-0, Active.

SECTION 16: Other Information

Hazardous Materials Information System (HMIS) : **Health:** 3
Flammability: 0
Physical Hazards: 1

HMIS ratings are based on a scale of 0–4, with 0 representing minimal hazards or risks, and 4 representing severe hazards or risks.

CAS : 1305-62-0

Definitions : **ACGIH:** American Conference of Governmental Industrial Hygienists.
CAS: Chemical Abstracts Service (CAS Registry Number).
FDA: Food and Drug Administration
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
HMIS: Hazardous Materials Identification System.
IARC: International Agency for Research on Cancer.
IATA: International Air Transport Association
IBC: Intermediate Bulk Container.
IMDG: International Maritime Dangerous Goods.
MARPOL: International Convention for the Prevention of Pollution from Ships
NFPA: National Fire Protection Association.
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit.
REL: Recommended Exposure Limit.
SARA: Superfund Amendments and Reauthorization Act – Emergency planning and notification of hazardous chemicals.
TWA: Time-Weighted Average
TLV: Threshold Limit Value.
WHMIS: Workplace Hazardous Materials Information System.

Notice to Reader:

This SDS provides the information contained in this document in good faith but makes no representation as to its accuracy. This document is intended solely to guide the safe handling of the material by a properly trained individual. The final determination of the suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be handled with caution. Although some hazards are described, it cannot be guaranteed that these are the only hazards that exist.

Version	Date of Change	Change Description	Responsible Person
6	20-04-2022	Format update to Calidra version	Laboratory Coordinator
7	22-06-2022	Added information in Section 2: Hazard Identification	Laboratory Coordinator
8	14-08-2023	Added information in Section 2: Hazard Identification	Laboratory Coordinator
9	14-10-2025	Added information in Section 1	Laboratory Coordinator