SAFETY DATA SHEET CALCIUM HYDROXIDE

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

1.1	**Product Identifier:**	Calcium Hydroxide
1.1.1	**Substances**	
1.1.2	**Alternate names and trade name**	SpiraLithCa® CO_2 Absorbent
1.1.3	**Mixture name:**	Not applicable
1.2	**Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:**	An absorbent for Carbon Dioxide removal
1.3	**Details of the Supplier of the Safety Data Sheet**	Micropore Inc. 1000 Konica Drive Elkton, MD 21921 USA P; +1 302-731-4100 F: +1 302-731-8214
1.4	**Emergency Telephone Number**	VELOCITY EHS: 1-800-255-3924 (ERR: Micropore, Inc., Contract# MIS1133959) Domestic North America, Puerto Rico, and U.S. Virgin Islands +1-813-248-0585 For International, Collect Calls Accepted 24 HR, 365 DAYS

2. Hazards Identification

2.1 Classification of the Substance or mixture:		
2.1.1 GHS Classification [EC Regulation No 1272/2008 and US OSHA regulations]	Skin Irritant Category 2 Eye Irritant Category 2	
2.2 Label Elements:		
2.2.1 Hazard Pictograms(s):		
2.2.2 Signal Word:	Warning	
Hazard Statement(s):	Harmful if swallowed.	H302
	Causes skin irritation	H315
	Causes serious eye irritation	H319

Precautionary Statement(s):	Wear protective gloves/protective clothing/eye protection/face protection	P280
	Get medical advice/attention if you feel unwell	P314
	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	P305 P351 P338
	IF ON SKIN: Wash with plenty of soap and water	P302P352
	IF SKIN IRRITATION OCCURS: Get medical advice/attention	P332 P313
2.3 Other Hazards	None	

3. Composition / Information on Ingredients

3.1 Substances

3.1.1 GHS Classification (EC: Regulation No 1272/2008; US: OSHA regulations)

Chemical Name	CAS #	EC No	EC Index No	REACH Reg No	Wt.%	Classification, Hazard Statement Codes
Calcium Hydroxide	1305-62-0	215-137-3	Not avail.	Not avail.	75-85%	Skin Irritant Cat. 2 H315
Sodium Hydroxide	1310-73-2	215-185-5	Not avail.	Not avail.	<1.0	Skin Corrosion Cat. 1A H314 Eye Damage 1 H318
Calcium Chloride	10043-52-4		Not avail.	Not avail.	<5.0	
Ethyl Violet	2390-59-2	219-231-5	Not avail.	Not avail.	<0.001	Not hazardous
Polyethylene	9002-88-4	Not avail.	Not avail.	Not avail.	<3%	Not hazardous

4. First Aid Measures

4.1 Description of First Aid Measures

Eyes	Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.
Skin	Immediately flush with plenty of water while removing contaminated clothing and/or shoes, and thoroughly wash with soap and water. Obtain immediate medical attention. Contact a medical doctor if necessary.
Ingestion	Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.
Inhalation	Remove to fresh air. If breathing discomfort occurs and persists, see a medical doctor. If breathing has stopped, give artificial respiration and see a medical doctor immediately.

4.2 Most Important Symptoms and effects, both acute and delayed

This product is corrosive.

4.3 Indication of any immediate medical attention and special treatment needed.

Notes to medical doctor:

This product is corrosive to the skin, eyes and mucous membranes of the respiratory and gastrointestinal tracts. Consideration should be given to gastric lavage, with endotracheal tube in place. Treatment is controlled removal of exposure with symptomatic and supportive care.

5. Firefighting Measures

5.1 Extinguishing Media Dry chemical, CO_2, water spray or regular foam

5.2 Special Hazards Arising From the Substance or Mixture

Hazardous combustion products	None
General Hazard	None
Properties contributing to Flammability	None
Flashpoint	Not applicable
Flammable limits in air	Not applicable
Auto ignition temperature	Not applicable
Sensitivity to static discharge	Not applicable
Sensitivity to static impact	Not applicable

5.3 Advice for Firefighters

Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for firefighting. This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency. Do not breathe smoke, gases or vapors generated. (See Section 10 Stability and Reactivity)

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Before cleanup measures begin, review the entire SDS with particular attention to Section 2, Hazards Identification; and Section 8, Exposure Controls/Personal Protection.

6.2 Environmental Precautions

Do not wash into drains. Dispose of at qualified waste disposal facility

6.3 Methods and Materials for Containment and Cleaning Up

Collect and place in suitable transport container. Dispose of waste according to all local and Federal laws and regulations

6.4 Reference to other sections

Before cleanup measures begin, review the entire SDS with particular attention to Section 2, Hazards Identification; and Section 8, Exposure Controls/Personal Protection.

6.5 Additional Information

Not specified

7. Handling and Storage

7.1 Precautions for safe handling

Do not get in eyes, on skin or clothing. Wash thoroughly after handling. Avoid breakage or abrasion that produces dust.

7.2 Conditions for safe storage, including any incompatibilities

Keep container closed. Store away from acids and water.

7.3 Specific end use(s)

Not available. Chemical safety assessment has not been completed for this product.

8. Exposure Controls/Personal Protection

8.1 Control Parameters

EXPOSURE LIMITS

Chemical Name	EU STEL	EH LTEL	USA (ACGIH) TWA	USA (ACGIH) CL
Calcium Hydroxide	none*	5 mg/m3	5 mg/m3	none*
Sodium Hydroxide	2 mg/m^3	none*	none*	2 mg/m3
Calcium Chloride	none*	none*	5 mg/m3	3 mg/m3
Ethyl Violet	none*	none*	none*	none*
Polyethylene	none*	none*	none*	none*

*No occupational exposure limit value

8.2 Exposure Controls

Engineering controls:

Use local exhaust ventilation to keep airborne concentrations below exposure limits.

Personal protective equipment

In normal use avoid direct contact with material. In emergencies the following personal protective equipment is required.

Eyes and Face: Safety glasses or goggles if risk of eye contamination

Respiratory: When engineering controls are not adequate, wear a respirator approved for protection against inorganic dusts.

US: NIOSH or MSHA approved.

Europe: CEN Class P type

Skin Protection: Suitable gloves (consider your own risk assessment: e.g. breakthrough times, rates of diffusions and degradation, tasks undertaken)

Work Hygienic Practices

Quick drench eye wash and safety shower.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	White sheet
Odor:	Odorless
Odor threshold:	Not applicable
pH: EPA SW-846 Method 9045D	12.39, SD= 0.01
Melting point:	Not applicable
Boiling point:	Not applicable
Flash point:	Not applicable
Evaporation rate(butyl acetate = 1):	Not applicable
Flammability:	Not flammable
Flammable limits:	Not applicable
Vapor pressure:	Not applicable
Vapor density (air = 1):	Not applicable
Specific gravity:	2.2 g/cc
Solubility in water:	Slightly soluble
Partition coefficient n-octanol/ water:	Not available
Autoignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not applicable

Explosive properties:	Not explosive

9.2 Other information

Self-reactive properties	Does not meet classification criteria.
Pyrophoric properties	Does not meet classification criteria.
Self-heating properties	Does not meet classification criteria.
Water reactive properties	Does not meet classification criteria.
Corrosive to metals	Reactive with metals
Molecular Weight	Calcium Hydroxide 74.09; Sodium Hydroxide 39.99

10. Stability and Reactivity

10.1	**Reactivity**	Reacts with acids.
10.2	**Chemical stability**	Stable
10.3	**Possibility of hazardous reaction**	Hazardous polymerization will not occur
10.4	**Conditions to avoid**	Contact with acids, metals, chlorinated or nitrated organics
10.5	**Incompatible materials**	Acids, metals, chlorinated or nitrated organics
10.6	**Hazardous decomposition properties**	None

11. Toxicological Information

11.1 Information on toxicological effects

Substance/mixture	Oral:	Dermal:	Inhalation:
Calcium Hydroxide	LD(50) = 7300mg/kg rat	Based on available data, the classification criteria are not met.	Based on available data, the classification criteria are not met
Sodium Hydroxide	LD(lc) = 500 mg/kg rabbit	LD(50) = 1350 mg/kg rabbit	Based on available data, the classification criteria are not met
Calcium Chloride	LD(50)= 1000 mg/kg rat	LD(50)= 2637 mg/kg rat	Based on available data, the classification criteria are not met

11.2 Carcinogenicity, Mutagenicity, Reproductive Toxicity: No classification

Ingredient	IARC Group 1	IARC Group 2A	IARC Group 2B	NTP Known	NTP Suspect	OSHA
Calcium Hydroxide	No	No	No	No	No	No
Sodium Hydroxide	No	No	No	No	No	No
Calcium Chloride	No	No	No	No	No	No

12. Ecological Information

12.1 Toxicity: Aquatic Toxicity

Substance/mixture	Toxicity to Algae	Toxicity to Fish
Calcium Hydroxide	Based on available data, the classification criteria are not met.	LC(50) = 160 mg/L Gambusia affinis 96 hour

12.2 Persistence and degradability
No data available for the product

12.3 Bioaccumulative potential
No data available for the product

12.4 Mobility in soil
No data available for the product

12.5 Results of PBT and vPvB assessment
No data available for the product

12.6 Other adverse effects
None

13. Disposal Considerations

13.1 Waste treatment methods
Use a qualified industrial waste disposal facility. Dispose of waste according to local and Federal laws and regulations.

14. Transport Information

14.1	**Restrictions**	None, Not Regulated
14.2	**DOT Number**	None
14.3	**UN Number**	None
14.4	**IATA Number**	None
14.5	**IMDG Number**	None

15. Regulatory Information

TSCA Inventory: This product is a mixture. The CAS numbers of all components are listed on the TSCA inventory.

Ingredient	SARA EHS (302)	SARA EHS TPQ (lbs)	CERCLA RQ (lbs)	OSHA Floor list	SARA 313
Calcium Hydroxide				Yes	
Sodium Hydroxide			1000	Yes	
Calcium Chloride				No	

16. Other Information

This material is intended for use as a Carbon Dioxide absorbent.

REVISION SUMMARY: Revision # 1 pH testing results using EPA 9045D were added 6 17 2025.

This SDS has been prepared to meet European Regulation (EC) No 1907/2006 [and No 1272/2008], U. S. OSHA Hazard Communication Standard, and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.