



SAFETY DATA SHEET





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 | ExtendAir® CO2 Absorbent PowerCube® CO2 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., Contact# 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 Pictogram(s): | | |
| 2.2.2 | Signal Word: | Warning | |
| | Hazard Statement(s): | Harmful if swallowed. | H302 |

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. Fire-Fighting Measures

5.1 Extinguishing Media Dry chemical, CO₂, 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 Advise for Fire Fighters

Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for fire fighting. 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.

| | | |
|-----------------------------|--|----------------|
| | 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.%, Dry | Classification, Hazard Statement Codes |
|---------------------|-----------|------------|-------------|--------------|-----------|--|
| Calcium Hydroxide | 1305-62-0 | 215-137-3 | not avail. | not avail. | >85% | Skin Irritant Cat. 2 H315 |
| Sodium Hydroxide | 1310-73-2 | 215-185-5 | not avail. | not avail. | <5 % | Skin Corrosion Cat. 1A Eye Damage 1 H314 H318 |
| Potassium Hydroxide | 1310-58-3 | 215-181-3 | not avail. | not avail. | <5 % | Skin Corrosion Cat. 1A Eye Damage 1 H314 H318 |
| Polyethylene | 9002-88-4 | Not avail. | not avail. | not avail. | <10 % | 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:

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/m ³ | 5 mg/m ³ | none* |
| Sodium Hydroxide | 2 mg/m ³ | none* | none* | 2 mg/m ³ |
| Potassium Hydroxide | none* | none* | none* | 2 mg/m ³ |
| 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: | (1% solution) @ 25°C: 12-13 |
| 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; Potassium Hydroxide 56.10 |

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. |
| Potassium Hydroxide | LD(50) = 740 mg/kg rat | Based on available data, the classification criteria are not met. | 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 |
| Potassium Hydroxide | 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 PBET 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 | |
| Potassium Hydroxide | | | 1000 | Yes | |
| Sodium Hydroxide | | | 1000 | Yes | |

| | | | | | | |
|------------------|----|----|----|----|----|----|
| Sodium Hydroxide | No | No | No | No | No | No |
|------------------|----|----|----|----|----|----|

16. Other Information

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

REVISION SUMMARY: Revision # 0. All sections revised. New format

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.

Copyright 2014. Micropore, Inc. All rights reserved. ExtendAir® and PowerCube® are registered trademarks of Micropore, Inc.