



**DENTAL
TECHNOLOGIES**

Safety Data Sheet

Safety Data Sheet (in compliance with 29 CFR Part 1200 and 29 CFR Part 1020)

Document Number: SDS 064.004
Date Revised: 03/14/24

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier:

Trade Name (as labeled): Alpha-Cal® Calcium Hydroxide Paste
Part/Item Number: 414-0200

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:

Recommended Use: Dental Cavity Liner
Restrictions on Use: For Professional Use Only

1.3 Details of the Supplier of the Safety Data Sheet:

Manufacturer/Supplier Name: Dental Technologies, Inc.
Manufacturer/Supplier Address: 6901 N. Hamlin Avenue
Lincolnwood, IL 60712
Manufacturer/Supplier Telephone Number: 800-835-0885 or 847-677-5500 (Product Information)
Email address: info@dentaltech.com

1.4 Emergency Telephone Number:

Emergency Contact Telephone Number: 800-424-9300 Chemtrec

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture:

The product as manufactured is a solid composed of encapsulated chemical ingredients. No hazardous exposures are anticipated during normal product handling and use conditions.

GHS Classification:		
Health	Environmental	Physical
Acute Oral Toxicity, Category 4, H302 Skin Corrosion, Category 1, H314 Serious eye damage, Category 1, H318	Not Hazardous	Not Hazardous

2.2 Label Elements:



GHS05 GHS07

Signal Word: Danger

Hazard Phrases	Precautionary Phrases
H302 – Harmful if swallowed H314 – Causes severe skin burns and eye damage. H318 – Causes serious eye damage.	P260 – Do not breathe dust/fume/gas/mist/vapors/spray. P264 – Wash hands thoroughly after handling. P270 – Do not eat, drink, or smoke when using this product. P280 – Wear protective gloves/protective clothing/eye protection/face protection. P301+P312 – IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell. P301+P330+P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P330 – Rinse mouth. P363 – Wash contaminated clothing before reuse. P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 – Immediately call a POISON CENTER or doctor/physician. P321 – See section 4 for specific treatment. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P405 – Store locked up. P501 – Dispose of contents/container in accordance with local and national regulations.

2.3 Other Hazards: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixture:

Hazardous Components	C.A.S. #	Classification	WT %
Calcium Hydroxide	1305-62-0	Skin irritation, Category 2, H314 Serious eye damage, Category 1, H318 Specific target organ toxicity (single exposure), Category 3, H335 Acute aquatic toxicity, Category 3, H402	25-50%

The exact concentration is being withheld as a trade secret.

Refer to Section 16 for the full text of the GHS Classifications.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures:

Eye	Immediately flush victim's eyes with large quantities of water for 15 minutes, holding the eyelids apart. Have eyes examined and tested by medical personnel.
Skin	Remove contaminated clothing. Immediately flush skin with plenty of water. Get medical attention immediately. Launder clothing separately before re-use.
Inhalation	No specific treatment is necessary since this material is not likely to be hazardous by inhalation.
Ingestion	Rinse out mouth with water. DO NOT induce vomiting. Give victim a glass of water or milk. Call a physical or poison control center. Never give anything by mouth to an unconscious person.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed:
Causes eye burns. Causes skin burns. Ingestion of this material can cause mouth, throat, esophageal, and gastrointestinal tract irritation. Inhalation is not expected for this product.





4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed:
No data available.
Note to Physicians (Treatment, Testing, and Monitoring): Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
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5.2 Special Hazards Arising from the Substance or Mixture:
None known.

5.3 Advice for Fire-Fighters:	
Fire Fighting Procedures:	General: Evacuate all personnel; use protective equipment for firefighting.
Precautions for Fire Fighters:	Firefighters should wear full emergency equipment and approved positive pressure self-containing breathing apparatus.

Recommended Protective Equipment for Fire Fighters:			
EYES/FACE	HANDS	RESPIRATORY	THERMAL
			

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:
Avoid contact with skin, eyes or clothing. Wear appropriate protective clothing as described in Section 8.

Recommended Personal Protective Equipment for Containment and Clean-up:			
EYES/FACE	HANDS	RESPIRATORY	SKIN
			

6.2 Environmental Precautions:
Prevent entry into sewers and waterways. Report releases as required by local, state, and national authorities. Avoid contact with skin, eyes or clothing. Wear appropriate protective clothing as described in Section 8.

6.3 Methods and Material for Containment and Cleaning up:

Clean up with absorbent material and remove residue with alcohol damp wipe. Rinse spill area with water.

6.4 Reference to Other Sections:

Refer to Section 8 for Personal Protective Equipment and Section 13 for Disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

Avoid contact with the eyes, skin and clothing. Wear protective clothing and equipment as described in Section 8. Wash thoroughly after handling. See product labeling.

7.2 Conditions for Safe Storage, Including Any Incompatibilities:

Store in a cool-dry place. See product labeling.

7.3 Specific End Use (s): For professional use only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters: Not determined.

8.2 Exposure Controls:



Individual Protection Measures (PPE)

Specific Eye/face Protection: Chemical safety goggles should be worn if needed to avoid eye contact.

Specific Skin Protection: Wear impervious gloves such as natural rubber or neoprene if needed to avoid skin contact. Consult glove supplier for thickness and breakthrough times.

Specific Respiratory Protection: None should be needed under normal use. Good ventilation should be sufficient.

Recommended Personal Protective Equipment

EYES/FACE	HANDS	RESPIRATORY	SKIN
			

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties:

Appearance:	White paste	Explosive limits:	Not Determined
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Odor:	Odorless or no characteristic odor	Vapor pressure (mmHg):	Not Determined
Odor threshold:	Not Determined	Vapor density:	Not Determined
pH:	12.00-13.00	Relative density:	1.40 to 1.44g/cc @25oC/77oF
Melting/freezing point:	Not Determined	Solubility(ies):	Partially Soluble
Initial boiling point and boiling range:	Not Determined	Partition coefficient: n-octanol/water:	Not Determined
Flash point:	Not Determined	Auto-ignition temperature:	Not Determined
Evaporation rate:	Not Determined	Decomposition temperature:	Not Determined
Flammability (solid, gas):	Not Determined	Viscosity:	Not Determined

9.2 Other Information: None available

10. STABILITY AND REACTIVITY

10.1 Reactivity: None known.
10.2 Chemical Stability: Stable.
10.3 Possibility of Hazardous Reactions: Contact with acids liberates toxic gas.
10.4 Conditions to Avoid: Acidic conditions. Heat will dry up the paste.
10.5 Incompatible materials: Avoid acids and oxidizing materials.
10.6 Hazardous Decomposition Products: When heated to decomposition, caustic calcium oxide and sulfur oxide forms.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

<u>Potential Health Effects:</u>
<u>Eyes:</u> May cause moderate irritation with redness, tearing and blurred vision.
<u>Skin:</u> Prolonged or repeated contact may cause mild skin irritation redness, rash and swelling.
<u>Ingestion:</u> Ingestion may cause irritation to the mouth, throat and stomach with abdominal pain and nausea. May cause gastrointestinal irritation and central nervous system depression.
<u>Skin:</u> Repeated or prolonged contact may cause irritation, drying, defatting of the skin and dermatitis.
<u>Ingestion:</u> Ingestion of large amounts may cause gastrointestinal upset.
<u>Inhalation:</u> Not an inhalation hazard in the paste form. When dried, powder may cause respiratory tract irritation.
<u>Chronic Health Effects:</u> Device is biocompatible when used as directed by dental professionals per ISO 10993-1.

Calcium Hydroxide:

Acute Oral Toxicity LD50 – Oral – Rat:	7,340 mg/kg
Skin corrosion/irritation – Skin – Rabbit:	Irritating to skin
Serious eye damage/eye irritation – Rabbit:	Severe eye irritation

12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Calcium Hydroxide:

LC50 – Clarias gariepinus – 96h: 33.884 mg/L

EC50 – Daphnia Magna – 48h: 49.1 mg/L

EC50 – Pseudokirchneriella subcapitata – 72h: 184.6 mg/L

12.2 Persistence and Degradability: Not Determined.

12.3 Bio-accumulative Potential: Not Determined.

12.4 Mobility in Soil: Not Determined.

12.5 Results of PBT and vPvB Assessment: Not Determined.

12.6 Other Adverse Effects: Not Determined.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Regulations: Dispose in accordance with national and local regulations.

Properties (Physical/Chemical) Affecting Disposal: None known.

Waste Treatment Recommendations: Dispose in accordance with national and local regulations.

14. TRANSPORT INFORMATION

14.1. UN number

UN 3262

14.2. UN proper shipping name

CORROSIVE SOLID, BASIC, INORGANIC, N.O.S.

14.3 Transport hazard class(es)

8 (corrosive)

14.4. Packing group

III

14.5. Environmental hazards

N/A

14.6 Special Precautions for User

N/A

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

N/A

15. REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:

Calcium Hydroxide:

SARA 311/312 Hazards	Acute Health
Massachusetts Right to Know Components	Calcium Hydroxide (CAS No. 1305-62-0)
Pennsylvania Right to Know Components	Calcium Hydroxide (CAS No. 1305-62-0)
New Jersey Right to Know Components	Calcium Hydroxide (CAS No. 1305-62-0)

15.2 Chemical Safety Assessment: None required.

16. OTHER INFORMATION

HMIS Hazard Rating:

Health: 2	Flammability: 0	Reactivity: 0
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Full text of Classification abbreviations used in Section 2 and 3:

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation
H402	Harmful to aquatic life

Supersedes: September 30, 2019

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Revision Summary: September 15, 2015: Converted MSDS to Reach SDS. Updated all sections. September 30, 2019: Updated all sections of SDS. March 14, 2024: Updated to revised GF-404 Rev001 Template.

Data Sources: US NLM ChemID Plus and HSDB, Substance SDS for components, IUCLID Dataset EU Chemical Bureau, ESIS, Country websites for occupational exposure limits.

Manufacturer disclaimer:

FOR DENTAL USE ONLY. The information and recommendations are taken from sources (raw material MSDS(s), SDS(s) and manufacturers knowledge) believed to be accurate; however, the manufacturer makes no warranty with respect to the accuracy of the information or the suitability of the recommendation and assumes no liability to any user thereof. Each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.