

1. Product and Company Identification	
Product Name DYCAL® Radiopaque Calcium Hydroxide Composition	MSDS Code Number 523899
Trade Name & Synonyms DYCAL® Radiopaque Calcium Hydroxide Composition	Date of Last Revision 02/19/07
Chemical Name N. A. C.A.S. Number N. A.	Manufacturer DENTSPLY/Caulk Address 38 West Clarke Avenue Milford DE 19963-1805 http://www.caulk.com
Grades or Minor Variant Identifiers Ivory or Dentin Shades Product Use (in Canada) N. A.	Information Telephone Number (302) 422-4511 (8:00 AM - 4:30 PM Eastern Time) Emergency Telephone Number (302) 422-4511 (8:00 AM - 4:30 PM Eastern Time)

2. Composition Of Ingredients - Base Paste			
Hazardous Components	C.A.S. Number	Exposure Limits	%
Calcium Tungstate	7790-75-2	5 mg/M ³	< than 50
Zinc Oxide	1314-13-2	10 mg/M ³	< than 15
Disalicylate ester of 1,3 butylene glycol	73240-13-8	Not Established	< than 50
Other Information: Colorants are synthetic inorganic iron oxides.			

2. Composition Of Ingredients - Catalyst Paste			
Hazardous Components	C.A.S. Number	Exposure Limits	%
Calcium Hydroxide	1305-62-01	5 mg/M ³	< than 55
Zinc Oxide	1314-13-2	10 mg/M ³	< than 15
Titanium Dioxide	13463-67-7	10 mg/M ³	< than 10

3. Hazard Identification					
Emergency Overview: Material is an irritant.					
Routes of Exposure	Signs and Symptoms	Single, Repeated, or Lifetime Exposure	Severity (Mild, Moderate, Severe)	Acute and Chronic Health Effect(s)	Target Organ(s)
Eye	Material may cause irritation	Single & Repeated	Moderate	Irritation and possible corneal damage due to the caustic nature of ingredient used in the product.	Not Applicable
Skin	Material may cause irritation	Single & Repeated	Mild	Irritation or possible allergic response.	Not Applicable
Inhalation	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Ingestion	Material may cause irritation	Not Applicable	Mild	Irritation due to the caustic nature of ingredients used in the product.	Not Applicable
Other	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Medical Conditions Aggravated by Exposure: Open sores and wounds of the skin.					
Carcinogenicity: NTP: Not listed. IARC monographs: Not listed. ORHA regulated? No. All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.					
Potential Environmental Effects: Do not allow to enter sewers, surface or ground water.					
NPPA Hazard Classification Ratings (Etoxic D-4), Health = 1, Fire = 0, Reactivity = 0					

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4. First Aid Measures			
Routes of Exposure	First Aid Instructions	Immediate Medical Attention	Delayed Effects
Eye	Rinse opened eye for several minutes under running water. If symptoms persist consult physician.	Not Applicable	Not Applicable
Skin	Immediately wash with soap and water and rinse thoroughly. If symptoms persist consult physician.	Not Applicable	Not Applicable
Inhalation	Supply fresh air. If symptoms persist consult physician.	Not Applicable	Not Applicable
Ingestion	Rinse out mouth and then drink plenty of water. Consult a physician immediately.	Not Applicable	Not Applicable
Other	Not Applicable	Not Applicable	Not Applicable
Note to Physicians (Treating, Testing and Monitoring): Treat symptomatically.			

5. Fire and Explosion Data			
Flashpoint Method: Not Applicable	Flammable (Explosive) Limits in Air: LEL: Not Applicable UEL: Not Applicable	Autoignition Temperature: Not Applicable	Other: Not Applicable
Flame Propagation or Burning Rate (for Solids): Not Applicable	Properties Contributing to Fire Intensity: Not Applicable	Flammability Classification: Not Applicable	
Extinguishing Media: CO ₂ , powder or water spray.	Extinguishing Media to Avoid: Not Applicable		
Precaution and Procedures for Firefighters: Firefighters should wear self-contained respiratory protective devices.			
Unusual Fire and Explosion Hazards: Formation of toxic gases is possible during heating or in case of fire.			

6. Accidental Release Measures		
Containment Techniques: Material is a paste, but will flow somewhat.		
Spill/Leak Cleanup Procedures and Equipment: Absorb with liquid binding material (sand, vermiculite, diatomite, acid binders, universal binders or sawdust). Scoop up bulk material and place in a labeled plastic or metal container.		
Evacuation Procedures: Not Applicable	Special Instructions: Not Applicable	Reporting Requirements: Not Applicable

7. Handling and Storage	
Handling Practices and Warnings: Product is intended for dental use only. Handling of this product should be by trained dental healthcare professionals only. Observe normal care for working with chemicals.	
Storage Practices and Warnings: Store only in the original package. Keep package tightly sealed. Store in a dry area. Store away from food and beverages.	

8. Exposure Control / Personal Protection		
Ventilation: None required during normal intended use of this product.	Other Engineering Controls: Not Applicable	
Routes of Entry	Personal Protective Equipment (PPE) for Normal Use	PPE for Emergencies
Eye/Face	Safety Glasses	Not Applicable
Skin	The glove material has to be impermeable and resistant to the product.	Not Applicable
Inhalation	Not Required	Not Applicable
Body Protection	Protective work clothing	Not Applicable
General Hygiene Considerations and Work Practices: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before meals, and at end of work. Avoid contact with the eyes and skin.		
Protective Measures: Thorough Repair and Maintenance of Contaminated Equipment: Not Applicable		
Other Protective Measures and Equipment: Not Applicable		

9. Physical and Chemical Characteristics		
Appearance: High-light yellow colored paste, catalyst-white paste.	Other: Basic color of crown, Catalyst Odorless.	
Internal Physical State: Paste	Melting Point: Not Applicable	
Specific Gravity: Base 2.0 g/cm ³ Catalyst 1.8 g/cm ³	Solubility in Water: Not soluble	pH: Base/Not Applicable, Catalyst 11.5
Vapor Pressure (mm Hg): Not Applicable	Vapor Density (AIR=1): Not Applicable	Evaporation Rate (BODAC Acid at 25°C): Not Applicable
Other: Not Applicable		

10. Stability and Reactivity Data		
Instability: (Materials to Avoid): Not Applicable		
Hazardous Products Produced During Decomposition: Not Applicable		
Hazardous Polymerization: May Occur	May Not Occur	Conditions to Avoid: None known
Stability: Stability: Not Applicable		Conditions to Avoid: None known

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11. Toxicological Information

Toxicity Data: Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic Effects, Reproductive Effects, or Surface Activity Data:
Irritating to skin and mucous membranes.

12. Ecological Information

Toxicity Data: Environmental Fate: Physical/Chemical Data: ecotoxicity Data Supporting Environmental Hazard Statements: Water Hazard class: (Self-assessment): slightly hazardous for water. Do not allow unlabelled product or large quantities of it to reach ground water, water streams or sewage system.
Toxic to fish. Also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms.

1.3. The proposed ϵ -approximation algorithm

Requirements: Must not be disposed of together with household waste	Household waste: This not allow products to be a sewage system
Disposal of material as a solid waste in a closed container	Disposal of in accordance with Federal, State and Local regulations
Properties (Physical/Chemical): Affecting Disposal	Disposal of material as solid waste in a closed container

14. Transport Information

Regulated for Shipping: No, Not Regulated	DOT Shipping Name: Not Regulated	Packing Group: Not Applicable
Do Changes in Quantities, packaging, or shipment method change product classification? No	DOT Hazard Class: Not Applicable	UN Number: Not Applicable

15. Regulatory Information

[illegible]

16. Other Information

To the best of our knowledge this product does not contain gluten, wheat grains, flaxseed, natural rubber, or natural latex. All components are synthetically produced; none are derived from animal products.