

# MATERIAL SAFETY DATA SHEET

## Calcium Peroxide



MSDS Ref. No.: 1305-79-9-1

Date Approved: 06/10/2009

Revision No.: 10

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This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200 and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Calcium Peroxide

**SYNONYMS:** Calcium Peroxide, Food Grade (75% Min. Assay); Calcium Superoxide

**GENERAL USE:** Used as a curing agent in certain rubber compounds. Other uses included starch modification, dough conditioner, and as an ingredient in deodorants, cosmetics and dentrifices.

### MANUFACTURER

FMC CORPORATION  
FMC Peroxygens  
1735 Market Street  
Philadelphia, PA 19103  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (Email - General Information)

### EMERGENCY TELEPHONE NUMBERS

(303) 595-9048 (Medical - U.S. - Call Collect)

For leak, fire, spill, or accident emergencies, call:  
(800) 424-9300 (CHEMTREC - U.S.A. & Canada)

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## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW:

- White to yellowish, almost odorless, powder.
- Oxidizer.
- Contact with combustibles may cause fire.
- Under fire conditions product may decompose releasing oxygen that intensifies fire.
- Deluge container with water at safe distance or in protected area.
- Severely irritating to the eyes.

**POTENTIAL HEALTH EFFECTS:** Airborne dust may be irritating to eyes, nose, throat and lungs. No significant long term inhalation hazard; irritation usually subsides after exposure ceases.

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Calcium Peroxide	1305-79-9	75	215-139-4	Xi-O; R8-R41
Calcium Hydroxide	1305-62-0	25	215-137-3	Xi; R41

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### 4. 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:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**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 difficulty or discomfort occurs and persists, obtain medical attention.

**NOTES TO MEDICAL DOCTOR:** This product is expected to have low oral, dermal and inhalation toxicity. It may be severely irritating to the eyes. It is expected to be irritating to the skin, mucous membranes and upper respiratory tract. Treatment is symptomatic and supportive. Direct contact with the eyes may have serious consequences; therefore, direct contact with eyes should be avoided. Contaminated external surfaces should be flooded with water, and direct eye contact deserves ophthalmologic evaluation. If ingested, gastrointestinal irritation but not caustic burns are to be expected; dilution with water indicated as may be gastric evacuation via emesis or lavage if large doses or severe irritation is evident. Demulcents should be helpful. No systemic effects are expected though human toxicity data is sparse.

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### 5. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Water

**FIRE / EXPLOSION HAZARDS:** Under fire conditions, may decompose and release oxygen gas. Mixtures with polysulfide polymers may ignite.

**FIRE FIGHTING PROCEDURES:** Use flooding quantities of water. Use water spray to keep fire exposed containers cool.

**FLAMMABLE LIMITS:** Non-Combustible

**SENSITIVITY TO IMPACT:** Oxidizable materials can be ignited by grinding and may become explosive.

**SENSITIVITY TO STATIC DISCHARGE:** Not available

## 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Confine spill and place into container; dilute with a large quantity of water for disposal. Do not return product to the original container. Runoff to sewer may create fire or explosion hazard (do not flush powdered material to sewer).

## 7. HANDLING AND STORAGE

**HANDLING:** Avoid contact by using personal protective equipment. Use respiratory protective equipment when release of airborne dust is expected. If compounded with organics or combustible materials be sure to exclude moisture.

**STORAGE:** Keep material dry. Store in a clean cool place. Do not store near or expose to heat sources i.e., steam pipes, radiant heaters, hot air vents or welding sparks. Avoid contact with reducing agents. Reacts with moisture. Keep container tightly closed when not in use.

**COMMENTS:** VENTILATION: Provide mechanical general and/or local exhaust ventilation to prevent release of dust into work environment. If ventilation is inadequate or not available, use dust respirator and eye protection.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Calcium Hydroxide	5 mg/m <sup>3</sup> (TWA)	5 mg/m <sup>3</sup> (PEL) (respirable fraction) 15 mg/m <sup>3</sup> (PEL) (total dust)	5 mg/m <sup>3</sup> (TWA)

**ENGINEERING CONTROLS:** Provide mechanical local exhaust ventilation to prevent the release of vapors or mist into the work area. If release is expected use respiratory protection.

## PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Chemical goggles or face shield.

**RESPIRATORY:** Use approved dust respirator with full face piece.

**PROTECTIVE CLOTHING:** Long sleeve shirt, impervious apron or clothing.  
Rubber or neoprene footwear.

**GLOVES:** Rubber or neoprene gloves. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>ODOR:</b>	None
<b>APPEARANCE:</b>	White to yellow powder
<b>AUTOIGNITION TEMPERATURE:</b>	Non-combustible
<b>BOILING POINT:</b>	Not applicable
<b>COEFFICIENT OF OIL / WATER:</b>	Not available
<b>DENSITY / WEIGHT PER VOLUME:</b>	27 lb/ft <sup>3</sup> bulk density
<b>EVAPORATION RATE:</b>	Not applicable (Butyl Acetate = 1)
<b>MELTING POINT:</b>	Decomposes on heating (About 275°C)
<b>ODOR THRESHOLD:</b>	Not applicable
<b>OXIDIZING PROPERTIES:</b>	Oxidizer
<b>PERCENT VOLATILE:</b>	Not applicable
<b>pH:</b>	1 @ 25 °C slurry (1% solution)
<b>SOLUBILITY IN WATER:</b>	Insoluble
<b>SPECIFIC GRAVITY:</b>	Approximately 2.92 (H <sub>2</sub> O=1)
<b>VAPOR DENSITY:</b>	Air=1: Not available
<b>VAPOR PRESSURE:</b>	Not applicable

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## 10. STABILITY AND REACTIVITY

<b>CONDITIONS TO AVOID:</b>	Heat (decomposes at 275°C), moisture, reducing agents. Grinding with organics.
<b>STABILITY:</b>	Stable (decomposition could occur when exposed to heat or moisture)
<b>POLYMERIZATION:</b>	Will not occur

**INCOMPATIBLE MATERIALS:** Grinding mixtures with organics (oxidizable materials can be ignited by grinding and may become explosive); heavy metals.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxygen that supports combustion and calcium hydroxide.

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## 11. TOXICOLOGICAL INFORMATION

**EYE EFFECTS:** Severely irritating to unwashed eyes.  
Minimally irritating to washed eyes. (rabbit) [Ref. FMC I88-1053]

**SKIN EFFECTS:** Non-irritating (rabbit) [FMC Ref. I88-1054]

**DERMAL LD<sub>50</sub>:** > 10 g/kg (rat) [FMC Study Number: ICG/T-79.026]

**ORAL LD<sub>50</sub>:** > 5 g/kg (rat) [FMC Ref. I88-1052]

**INHALATION LC<sub>50</sub>:** > 17 mg/l (1 h) (rat) [FMC Ref. ICG/T-79.026]

**TARGET ORGANS:** Eyes and respiratory passages

**ACUTE EFFECTS FROM OVEREXPOSURE:** Dust is irritating to eyes, nose, throat, and lungs.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** No data available for the product.

### CARCINOGENICITY:

<b>NTP:</b>	Not listed
<b>IARC:</b>	Not listed
<b>OSHA:</b>	Not listed
<b>OTHER:</b>	ACGIH: Not listed

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## 12. ECOLOGICAL INFORMATION

**ECOTOXICOLOGICAL INFORMATION:** Effect of low concentrations on aquatic life are unknown.  
[Ref. NIOSH RTECS No. 79-100]

**CHEMICAL FATE INFORMATION:** As indicated by chemical properties oxygen is released into the environment.

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## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Dissolve in water to allow the release of oxygen and dispose via a treatment system in accordance with governmental agencies regulations. Contact appropriate regulatory agency prior to disposal.

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## 14. TRANSPORT INFORMATION

### U.S. DEPARTMENT OF TRANSPORTATION (DOT)

<b>PROPER SHIPPING NAME:</b>	Calcium Peroxide
<b>PRIMARY HAZARD CLASS / DIVISION:</b>	5.1 (Oxidizer)
<b>UN/NA NUMBER:</b>	UN 1457
<b>PACKING GROUP:</b>	II
<b>LABEL(S):</b>	5.1 (Oxidizer)
<b>PLACARD(S):</b>	5.1 (Oxidizer)
<b>MARKING(S):</b>	Oxidizing solid, N.O.S. (calcium peroxide), UN 1457
<b>REPORTABLE QUANTITY (RQ):</b>	Not applicable
<b>ADDITIONAL INFORMATION:</b>	49 STCC Number: 49187717  This material is shipped in 30 lb and 100 lb. fiber drums, as well as 1000-2000 lb. IBC's (supersacks).

### INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

<b>PROPER SHIPPING NAME:</b>	Calcium Peroxide
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### ADR - EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD

<b>PROPER SHIPPING NAME:</b>	Calcium Peroxide
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**INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) /  
INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)**

**PROPER SHIPPING NAME:** Calcium Peroxide

**OTHER INFORMATION:**

CANADIAN TRANSPORT (TDG):

Proper Shipping Name: Calcium Peroxide

UN Number: 1457

Primary Hazard Class / Division: 5.1 (Oxidizer)

Packing Group: II

Place spilled product in suitable container and wash residue with plenty of water.

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## **15. REGULATORY INFORMATION**

### **UNITED STATES**

#### **SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

##### **SECTION 311 HAZARD CATEGORIES (40 CFR 370):**

Fire Hazard, Immediate (Acute) Health Hazard

##### **SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):**

The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:  
None

##### **SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):**

This product does not contain any toxic chemicals subject to the reporting requirements of Section 313, Title III of the SARA (Superfund Amendments and Reauthorization Act) of 1986.

#### **CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)**

##### **CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):**

Calcium Peroxide (unlisted), RQ = 100 lbs., Ignitability

#### **TSCA (TOXIC SUBSTANCE CONTROL ACT)**

##### **TSCA INVENTORY STATUS (40 CFR 710):**

All components are listed or exempt.

#### **RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)**

##### **RCRA IDENTIFICATION OF HAZARDOUS WASTE (40 CFR 261):**

Waste Number: Calcium Peroxide, D001

## CANADA

### WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Product Identification Number: 1457

Hazard Classification / Division: D2B, E, C

Ingredient Disclosure List: Calcium hydroxide

Domestic Substance List: All components are listed or exempt.

## INTERNATIONAL LISTINGS

Calcium peroxide:

Australia (AICS): Listed

China: Listed

Japan (ENCS): (1)-190

Korea: KE-04597

Philippines (PICCS): Listed

New Zealand: Listed

Calcium hydroxide

Australia (AICS): Listed

China: Listed

Japan (ENCS): (1)-181

Korea: KE-04518

Philippines (PICCS): Listed

New Zealand: Listed

## HAZARD AND RISK PHRASE DESCRIPTIONS:

EC Symbols: Xi (Irritant)  
O (Oxidizer)

EC Risk Phrases: R8 (Contact with combustible material may cause fire)  
R41 (Risk of serious damage to eyes.)

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## 16. OTHER INFORMATION

**HMIS**

Health	2
Flammability	0
Physical Hazard	1
Personal Protection (PPE)	J

Protection = J (Safety goggles, gloves, apron & combination dust & vapor respirator)

HMIS = Hazardous Materials Identification System

Degree of Hazard Code:

4 = Severe  
 3 = Serious  
 2 = Moderate  
 1 = Slight  
 0 = Minimal

**NFPA**

Health	2
Flammability	0
Reactivity	1
Special	OX

SPECIAL = OX (Oxidizer)

NFPA (National Fire Protection Association)

Degree of Hazard Code:

4 = Extreme  
 3 = High  
 2 = Moderate  
 1 = Slight  
 0 = Insignificant

**REVISION SUMMARY:**

This MSDS replaces Revision #9, dated April 30, 2006.

Changes in information are as follows:

Section 1 (Product and Company Identification)  
 Section 3 (Composition / Information on Ingredients)  
 Section 4 (First Aid Measures)  
 Section 14 (Transport Information)  
 Section 15 (Regulatory Information)  
 Section 16 (Other Information)

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