

MATERIAL SAFETY DATA SHEET

PermeOx® Plus



MSDS Ref. No: 1305-79-9-2

Version: US/Canada

Date Approved: 06/06/2002

Revision No: 8

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PermeOx® Plus

SYNONYM(s): PermeOx-Solid Peroxygen, Calcium Superoxide, Calcium Peroxide

GENERAL USE: Permeox is a solid peroxygen chemical designed for environmental applications. The product provides controlled release of oxygen in-situ which permeates throughout the substrate.

MANUFACTURER

FMC Corporation
Active Oxidant Division
1735 Market Street
Philadelphia, PA 19103
General Information: (866) 860-4760

Emergency Telephone Numbers:

CHEMTREC (U.S.): (800) 424-9300
Emergency Phone (303) 595-9048
(Medical) Call Collect
Emergency Phone (716) 879-0400
(Plant/Other) Call Collect

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS#</u>	<u>Wt.%</u>
Calcium Peroxide	1305-79-9	>75
Calcium Hydroxide	1305-62-0	<25

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: 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.

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.

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: Modest irritation is the only expected effect, and should have no serious consequences except perhaps in the case of direct eye contact. 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.

5. FIRE FIGHTING MEASURES

FLAMMABLE LIMITS: Non-combustible

EXTINGUISHING MEDIA: Deluge with plenty of 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.

AUTOIGNITION TEMPERATURE: Non-combustible

FLASH POINT: Not applicable

SENSITIVITY TO STATIC DISCHARGE: Not available

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

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

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 hair 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

<u>Chemical Name</u>	<u>TWA</u> <u>(ACGIH)</u>	<u>STEL/Ceiling</u> <u>(ACGIH)</u>	<u>PEL</u> <u>(OSHA)</u>	<u>STEL/Ceiling</u> <u>(OSHA)</u>
Calcium Hydroxide	5 mg/m ³		5 mg/m ³	

ENGINEERING CONTROLS: Provide mechanical local exhaust ventilation to prevent release of dust 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: Rubber or neoprene gloves. Long sleeve shirt, impervious apron or clothing. Rubber or neoprene footwear.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR: None

APPEARANCE: Off-white fine granular solid

pH: (1% solution) @ 25°C: Slurry 10.5 - 11.8

PERCENT VOLATILE: Not applicable

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: (Air = 1): Not applicable

BOILING POINT: No data available

MELTING POINT: Decomposes on heating (About 275°C)

SOLUBILITY IN WATER: Slightly soluble

EVAPORATION RATE: (Butyl Acetate = 1): Not applicable

DENSITY: Not available

SPECIFIC GRAVITY: (H₂O=1): Approx. 2.92 bulk density 27 lbs/cu. ft.

COEFF. OIL/WATER: Not available

ODOR THRESHOLD: Not available

OXIDIZING PROPERTIES: Oxidizer

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Heat (decomposes at 275°C), moisture, reducing agents. Grinding with organics.

STABILITY: Stable (decomposition could occur when exposed to heat or moisture)

POLYMERIZATION: Will not occur

HAZARDOUS DECOMPOSITION PRODUCTS: Oxygen which supports combustion.

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

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) [Ref. FMC I88-1054]

DERMAL LD₅₀: >10 g/kg (rat) [Ref. FMC ICG/T-79.026]

ORAL LD₅₀: >5 g/kg (rat) [Ref. FMC I88-1052]

INHALATION LC₅₀: >17 mg/L (1 hr.) (rat) [Ref. FMC 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:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: ACGIH: Not listed

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.

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.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PROPER SHIPPING NAME: Calcium Peroxide

PRIMARY HAZARD CLASS/DIVISION: 5.1 (Oxidizer)

UN/NA NUMBER: UN 1457

PACKING GROUP: II

PLACARDS: 5.1 (Oxidizer)

LABEL: 5.1 (Oxidizer)

OTHER SHIPPING INFORMATION:

DOT Marking: Calcium Peroxide, UN 1457

Hazardous Substance/RQ: Not applicable

49 STCC Number: 49187717

This material is shipped in 100 lb. fiber drums

SPECIAL SHIPPING NOTES: IMDG: Calcium Peroxide

IATA: Calcium Peroxide

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

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 311 HAZARD CATEGORY (40 CFR 370): Fire Hazard, Immediate (Acute) Health Hazard

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370): 10,000 lbs.

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372): Not listed

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA REGULATORY (40 CFR 302.4): Not applicable

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS (40 CFR 710): Listed

RCRA STATUS: Calcium Peroxide: Waste No. D001

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

Product Identification No.: 1457

Hazard Classification: Class D, Div 2, Subdiv. B, Class C (Oxidizer)

Ingredient Disclosure List: Listed (calcium hydroxide)

16. OTHER INFORMATION

REVISION SUMMARY

This MSDS replaces Revision #7, dated March 19, 2002. Changes in information are as follows:

Section 16 (Other Information): HMIS Headings

HMIS RATING

HEALTH:	2
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NFPA RATING

HEALTH:	2
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FLAMMABILITY	0
PHYSICAL HAZARD:	1
PERSONAL PROTECTION (PPE):	J

FLAMMABILITY	0
REACTIVITY:	1
SPECIAL:	OX

Key

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

HMIS RATINGS NOTES:

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

The contents and format of this MSDS are in accordance with OSHA Hazard Communication Standard and Canada's Workplace Hazardous Information System (WHMIS).

National Fire Protection Association (NFPA)

SPECIAL = OX (Oxidizer)

Hazardous Materials Identification System (HMIS)

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