

SAFETY DATA SHEET
PermeOx® Ultra

SDS # : 1305-79-9-2
Revision date: 2021-02-09
Format: NA
Version 1.03



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name PermeOx® Ultra
CAS-No 1305-79-9
Synonyms Calcium Peroxide.
Alternate Commercial Name PermeOx® Ultra 2018

Recommended use of the chemical and restrictions on use

Recommended Use: Environmental applications; For the remediation of contaminated groundwater
Restrictions on Use No uses to be advised against were identified.

Manufacturer/Supplier

PeroxyChem LLC
2005 Market Street
Suite 3200
Philadelphia, PA 19103
Phone: +1 267/ 422-2400 (General Information)
E-Mail: sdsinfo-pxc@evonik.com

Emergency telephone numbers

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)
+1 303/ 389-1409 (Medical - U.S. - Call Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Oxidizing Solids	Category 2

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Danger

Hazard Statements

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H272 - May intensify fire; oxidizer



Precautionary Statements - Prevention

P280 - Wear eye protection/ face protection

P261 - Avoid breathing dust.

P271 - Use only outdoors or in a well-ventilated area

P210 - Keep away from heat

P220 - Keep/Store away from clothing/combustible materials

P221 - Take any precaution to avoid mixing with combustibles

Precautionary Statements - Response

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 - Call a POISON CENTER or doctor if you feel unwell

P370 + P378 - In case of fire: Use water spray for extinction

Precautionary Statements - Storage

P403 - Store in a well-ventilated place

Precautionary Statements - Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Reacts with moisture to liberate oxygen

Unknown acute toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Calcium Peroxide	1305-79-9	>75
Calcium Hydroxide	1305-62-0	<25

4. FIRST AID MEASURES

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids intermittently. Consult a physician.
Skin Contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If breathing difficulty or discomfort occurs and persists, obtain medical attention.
Ingestion	Rinse mouth with water and afterwards drink plenty of water or milk. Do not induce vomiting or give anything by mouth to an unconscious person. Call a poison control center or doctor immediately for treatment advice. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	Corneal lesions and irreversible damage if contact with the eyes.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Flood with water.
Unsuitable extinguishing media	Dry chemical. Foam.
Specific Hazards Arising from the Chemical	Not flammable. Decomposes under fire conditions to release oxygen that intensifies the fire.
Explosion data	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Move containers from fire area if you can do it without risk.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with the skin and the eyes. Avoid dust formation. Ensure adequate ventilation. For personal protection see Section 8.
Other	For further clean-up instructions, call PeroxyChem Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
Environmental Precautions	Prevent material from entering into soil, ditches, sewers, waterways, and/or groundwater. See Section 12, Ecological Information for more detailed information.
Methods for Containment	Vacuum or shovel waste into a drum and label contents for disposal. Do not return product to the original storage container/tank due to risk of decomposition. Keep combustibles (wood, paper, oil, etc) away from spilled material.
Methods for cleaning up	After cleaning, flush away traces with water. Do not flush powdered material to sewer; Runoff to sewer may create fire or explosion hazard.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin and eyes. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment if release of airborne dust is expected. If compounded with organics or combustible materials be sure to exclude moisture.
Storage	Keep tightly closed in a dry and cool place. Do not store near combustible materials. Keep away from heat and sources of ignition i.e., steam pipes, radiant heaters, hot air vents or welding sparks. Reacts with moisture. Keep container tightly closed.
Incompatible products	Heavy metals. Combustible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Calcium Hydroxide 1305-62-0	TWA: 5 mg/m ³	TWA: 15 mg/m ³ TWA: 5 mg/m ³	TWA: 5 mg/m ³	Mexico: TWA 5 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Calcium Hydroxide 1305-62-0	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering measures Ensure adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	For dust, splash, mist or spray exposure, wear chemical protective goggles.
Skin and Body Protection	Wear suitable protective clothing. Protective shoes or boots.
Hand Protection	Rubber/latex/neoprene or other suitable chemical resistant gloves. Wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.
Respiratory Protection	For dust, splash, mist or spray exposures wear a filtering mask.
Hygiene measures	Clean water, preferably an eyewash station and a safety shower, should be available for

washing in case of eye or skin contamination. Handle in accordance with good industrial hygiene and safety practice.

General information

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Powder
Physical State	Solid
Color	White to off white
Odor	odorless
Odor threshold	Not applicable
pH	11.4 - 11.7 (1 % suspension in water) @ 25 °C
Melting point/freezing point	Decomposes on heating @ ~275 °C
Boiling Point/Range	No information available
Flash point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	Substance does not burn but will support combustion
Flammability Limit in Air	Not applicable
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	No information available
Specific gravity	2.92
Water solubility	slightly soluble
Solubility in other solvents	Soluble in acids
Partition coefficient	No information available
Autoignition temperature	Product is not self-ignitable.
Decomposition temperature	275 °C
Viscosity, kinematic	No information available (Solid)
Viscosity, dynamic	No information available
Explosive properties	Not explosive
K_{st}	0
Oxidizing properties	Strong oxidizer
Other Information	
Molecular weight	72.8 (CaO ₂)
Bulk density	544.6 kg/m ³ - (34 lb/cu ft)

10. STABILITY AND REACTIVITY

Reactivity	Oxidizer: Avoid contact with combustible materials.
Chemical Stability	Stable under recommended storage conditions. Decomposition can occur on exposure to heat or moisture.
Possibility of Hazardous Reactions	Contamination, heat, and humid conditions will enhance and accelerate decomposition. However, unlike most oxidizers, decomposition is endothermic.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heat. (decomposes at 275 °C). Humid air. Contamination. Grinding with organics.
Incompatible materials	Heavy metals. Combustible materials.

Hazardous Decomposition Products Oxygen which supports combustion. Calcium oxides.

11. TOXICOLOGICAL INFORMATION

Product Information

Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity

LD50 Oral > 5 g/kg (rat)
LD50 Dermal > 10 g/kg (rat)
LC50 Inhalation > 17 mg/L 1 hr (rat)

Serious eye damage/eye irritation Corrosive. Risk of serious damage to eyes.
Skin corrosion/irritation Non-irritating (rabbit). May cause skin irritation in susceptible persons.

Sensitization No information available.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation	NOAEL Oral Value
Calcium Hydroxide (1305-62-0)	7340 mg/kg (Rat)			

Information on toxicological effects

Symptoms Dust is irritating eyes, nose, throat, and lungs.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity There are no known carcinogenic chemicals in this product.

Mutagenicity This product is not recognized as mutagenic by Research Agencies

Reproductive toxicity This product is not recognized as reprotox by Research Agencies.

STOT - single exposure May cause respiratory irritation.
STOT - repeated exposure No information available.

Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Ecotoxicity effects The environmental impact of this product has not been fully investigated

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to Microorganisms	Toxicity to daphnia and other aquatic invertebrates
Calcium Hydroxide		96 h LC50: = 160 mg/L (Gambusia affinis) static		

Persistence and degradability Biodegradability does not pertain to inorganic substances.

Bioaccumulation Does not bioaccumulate.

Mobility No information available.

Other Adverse Effects None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Dispose of in accordance with local regulations.

US EPA Waste Number D001.

Contaminated Packaging Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION**DOT**

UN/ID no 1457
Proper Shipping Name CALCIUM PEROXIDE MIXTURE
Hazard class 5.1
Packing Group II

TDG

UN/ID no 1457
Proper Shipping Name CALCIUM PEROXIDE MIXTURE
Hazard class 5.1
Packing Group II

ICAO/IATA

UN/ID no 1457
Proper Shipping Name CALCIUM PEROXIDE MIXTURE
Hazard class 5.1
Packing Group II

IMDG/IMO

UN/ID no 1457
Proper Shipping Name CALCIUM PEROXIDE MIXTURE
Hazard class 5.1
Packing Group II

ADR/RID

UN/ID no	UN 1457
Proper Shipping Name	CALCIUM PEROXIDE MIXTURE
Hazard class	5.1
Packing Group	II

OTHER INFORMATION This material is shipped in 25 lb. plastic pails, and 30 lb. and 100 lb. fiber drums.

15. REGULATORY INFORMATION

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

This product has the following hazards that are reportable under The Emergency Planning and Community Right-to-Know rule (EPCRA Tier II):

- Oxidizer
- Serious eye damage/eye irritation
- Specific Target Organ Toxicity (STOT) - Single Exposure

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA/EPCRA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

CWC (Chemical Weapons Convention) - Annex on Chemicals Not applicable

US State Regulations**U.S. State Right-to-Know Regulations**

This product contains the following substances regulated under state Right-to-Know laws:

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Calcium Peroxide		X			
Calcium Hydroxide	X	X	X		X

California Proposition 65

This product does not contain any Proposition 65 chemicals

CANADA**Environmental Emergencies**

This product contains no substances listed under Canada's Environmental Emergency regulations.

Canadian National Pollutant Release Inventory

This product contains no substances reportable under Canada's National Pollutant Release Inventory regulations.

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/EL INCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)	NZIoC (New Zealand)
Calcium Peroxide 1305-79-9	X	X	215-139-4	X	X	X	X	X	X
Calcium Hydroxide 1305-62-0	X	X	215-137-3	X	X	X	X	X	X

All ingredients are directly listed on the active TSCA Inventory

Mexico

Mexico - Grade

Moderate risk, Grade 2

16. OTHER INFORMATION

NFPA	Health Hazards 2	Flammability 0	Stability 1	Special Hazards OX
HMIS	Health Hazards 2	Flammability 0	Physical hazard 1	Special precautions J

NFPA/HMIS Ratings Legend

Special Hazards: OX = Oxidizer
 Protection=J (Safety goggles, gloves, apron, combination dust and vapor respirator)

Revision date:

2021-02-09

Revision note

SDS sections updated: 1.

Issuing Date:

2021-02-08

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Prepared By:

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End of Safety Data Sheet