

# SAFETY DATA SHEET

## PermeOx® Ultra Granular

SDS #: 1305-79-9-3  
Revision date: 2018-01-31  
Version 1.03



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

#### 1.1. Product Identifier

Chemical name	CALCIUM PEROXIDE MIXTURE
Product Name	PermeOx® Ultra Granular
Alternate Commercial Name	PermeOx® Ultra Pellets
Synonyms	Calcium Peroxide
CAS-No	1305-79-9
EC-No	215-39-4

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use: Environmental applications; For the remediation of contaminated groundwater

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

PeroxyChem LCC  
Only Representative: PeroxyChem Spain s.l.u.  
C/ Afueras s/n 50784 La Zaida (Zaragoza) Spain  
Tel: +34 976 179600

##### Manufacturer

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

##### Manufacturer/Supplier

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Only Representative: PeroxyChem Spain s.l.u.  
C/ Afueras s/n 50784 La Zaida (Zaragoza) Spain  
Tel: +34 976 179600

##### Contact point

Email: sdsinfo-emea@peroxychem.com

#### 1.4. Emergency telephone numbers

La Zaida:  
Tel: +34 976 17 96 00  
Fax: +34 976 17 96 01

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

Classified as dangerous in accordance with Regulation (EC) No 1272/2008.

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

For the full text of the H- and EUH- phrases mentioned in this Section, see Section 16.

### 2.2. Label Elements



#### Signal word:

DANGER

#### Hazard Statements

H272 - May intensify fire; oxidizer  
H318 - Causes serious eye damage  
H335 - May cause respiratory irritation

#### Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P221 - Take any precaution to avoid mixing with combustibles  
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P261 - Avoid breathing dust.

### 2.3. OTHER INFORMATION

#### General Hazards

Reacts with moisture to liberate oxygen

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance/preparation Multi-constituent substance

**CALCIUM PEROXIDE MIXTURE**

Chemical name	EC-No	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Calcium Peroxide	Present	1305-79-9	>75	Eye corr. 1 (H318) STOT SE 3 (H335) Ox. Sol. 2 (H272)	Ongoing
Calcium Hydroxide	Present	1305-62-0	<25	Eye corr. 1 (H318) Skin irrit. 2 (H315) STOT SE 3 (H335)	-
Monoammonium phosphate	Present	7722-76-1	0.25	-	01-2119488166-29-XXX X
Ammonium sulfate	Present	7783-20-2	0.25	-	-

For the full text of the H- and EUH- phrases mentioned in this Section, see Section 16

**4. FIRST AID MEASURES****4.1. Description of first-aid measures**

<b>Skin Contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids intermittently. Consult a physician.
<b>Inhalation</b>	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.
<b>Ingestion</b>	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.

**4.2. Most important symptoms and effects, both acute and delayed**

**Most important symptoms and effects, both acute and delayed** Corneal lesions and irreversible damage if contact with the eyes

**4.3. Indication of immediate medical attention and special treatment needed, if necessary**

**Indication of immediate medical attention and special treatment needed, if necessary** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****5.1. Extinguishing media**

**Suitable Extinguishing Media**  
Flood with water

**5.2. Special hazards arising from the substance or mixture**

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases**  
Decomposes under fire conditions to release oxygen that intensifies the fire.

**5.3. Advice for firefighters**

**Special protective equipment for fire-fighters**  
As in any fire, wear self-contained breathing apparatus and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin and the eyes. Avoid dust formation. Ensure adequate ventilation. For personal protection see Section 8.

### 6.2. Environmental Precautions

Local authorities should be advised if significant spillages cannot be contained. Try to prevent the material from entering drains or water courses.

### 6.3. Methods and materials for containment and cleaning up

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. After cleaning, flush away traces with water Do not flush powdered material to sewer; Runoff to sewer may create fire or explosion hazard

### 6.4. Reference to other sections.

See section 13 for disposal information.

## 7. HANDLING AND STORAGE

### 7.1. Precautions for Safe 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.

### 7.2. Conditions for safe storage, including any incompatibilities

#### 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.

#### Materials to avoid

Heavy metals. Combustible materials.

### 7.3. Specific end uses

Refer to Section 1 and the Annex.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure Limits

The product does not contain any hazardous materials with occupational exposure limits established for the EEC or its members

Chemical name	European Union	The United Kingdom	Ireland
Calcium Hydroxide 1305-62-0	TWA 5 mg/m <sup>3</sup>	STEL 15 mg/m <sup>3</sup> TWA 5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup> STEL 15 mg/m <sup>3</sup>
Chemical name	France	Spain	Portugal
Calcium Hydroxide 1305-62-0	TWA 5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>
Chemical name	Germany	Italy	The Netherlands
Calcium Hydroxide 1305-62-0	AGW 1 mg/m <sup>3</sup>		TWA 5 mg/m <sup>3</sup>
Chemical name	Denmark	Finland	Norway
Calcium Hydroxide 1305-62-0	TWA 5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup> STEL 5 mg/m <sup>3</sup>

Chemical name	Sweden	Austria	Slovenia
Calcium Hydroxide 1305-62-0	LLV 3 mg/m <sup>3</sup> STV 6 mg/m <sup>3</sup>	STEL 4 mg/m <sup>3</sup> TWA 2 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>
Chemical name	Slovakia	Switzerland	Belgium
Calcium Hydroxide 1305-62-0	TWA 5 mg/m <sup>3</sup>	SS-C** TWA 5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>
Chemical name	Luxembourg	Poland	Estonia
Calcium Hydroxide 1305-62-0	TWA 5 mg/m <sup>3</sup>	TWA 2 mg/m <sup>3</sup> TWA 1 mg/m <sup>3</sup> STEL 4 mg/m <sup>3</sup> STEL 6 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>
Chemical name	Latvia	Lithuania	Czech Republic
Calcium Hydroxide 1305-62-0	TWA 5 mg/m <sup>3</sup>	S* TWA 5 mg/m <sup>3</sup>	TWA 2 mg/m <sup>3</sup> Ceiling 4 mg/m <sup>3</sup>
Chemical name	Romania	Bulgaria	Russia
Calcium Hydroxide 1305-62-0	TWA 5 mg/m <sup>3</sup>	TWA 5.0 mg/m <sup>3</sup>	S* MAC 2 mg/m <sup>3</sup>
Monoammonium phosphate 7722-76-1			MAC 10 mg/m <sup>3</sup>
Ammonium sulfate 7783-20-2		TWA 10.0 mg/m <sup>3</sup>	MAC 10 mg/m <sup>3</sup>
Chemical name	Greece	Hungary	Croatia
Calcium Hydroxide 1305-62-0	TWA 5 mg/m <sup>3</sup>	TWA 5mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>

## 8.2. Exposure Controls

### Engineering measures

Ensure adequate ventilation.

### Personal protective equipment

#### 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.

#### Respiratory Protection

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust): Effective dust mask. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

#### Eye/Face Protection

For dust, splash, mist or spray exposure, wear chemical protective goggles.

#### Skin and Body Protection

Long sleeved clothing. Chemical resistant apron. Rubber or plastic 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.

### 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.

### Environmental exposure controls

The product should not be allowed to enter drains, water courses or the soil.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

Appearance	Powder
Color	White to off white
Physical State	Solid
Odor	odorless
Odor threshold	Not applicable
pH	11.4 - 11.7 @ 25 °C
Flash point	Not flammable
Method	No information available.
Melting Point/Range	Decomposes on heating @ ~275 °C
Freezing Point	No information available

<b>Boiling Point/Range</b>	No information available
<b>Autoignition temperature</b>	No information available Product is not self-ignitable.
<b>Explosive properties</b>	Not explosive
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative Density</b>	~ 2.92
<b>Partition coefficient</b>	No information available
<b>Water solubility</b>	slightly soluble
<b>Viscosity</b>	Not applicable
<b>Evaporation Rate</b>	No data available
<b>Decomposition temperature</b>	275 °C

## **9.2. OTHER INFORMATION**

<b>Bulk Density</b>	45 34 lb/cu ft (loose) 72.8 (CaO <sub>2</sub> )
No information available	

## **10. STABILITY AND REACTIVITY**

### **10.1. Reactivity**

None under normal use conditions

### **10.2. Chemical Stability**

Stable under recommended storage conditions.

### **10.3. Possibility of Hazardous Reactions**

Contamination, heat, and humid conditions will enhance and accelerate decomposition. However, unlike most oxidizers, decomposition is endothermic.

### **10.4. Conditions to avoid**

Heat. (decomposes at 275 °C). Humid air. Contamination. Grinding with organics.

### **10.5. incompatible materials**

Heavy metals. Combustible materials.

### **10.6. Hazardous Decomposition Products**

Oxygen which supports combustion. Calcium oxides

## **11. TOXICOLOGICAL INFORMATION**

### **11.1. Information on toxicological effects**

#### **Acute toxicity**

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

<b>Skin Contact</b>	Not irritating.
<b>Eye Contact</b>	Corrosive to the eyes and may cause severe damage including blindness.
<b>Inhalation</b>	Irritating to respiratory system.

#### **Chronic toxicity**

<b>Sensitization</b>	No information available.
<b>Carcinogenicity</b>	There are no known carcinogenic chemicals in this product.
<b>Mutagenicity</b>	This product is not recognized as mutagenic by Research Agencies

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### 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		

### 12.2. Persistence and degradability

Biodegradability does not pertain to inorganic substances.

### 12.3. Bioaccumulative potential

Does not bioaccumulate.

### 12.4. Mobility in soil

No information available.

### 12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment is not required for inorganic substances.

### 12.6. Other Adverse Effects

None known.

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

<b>Product / Packaging disposal</b>	Dispose of as hazardous waste in compliance with local and national regulations.
<b>Contaminated Packaging</b>	Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### ADR/RID

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

### IMDG/IMO

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

**Transport Symbol****Environmental Hazards**

This product contains no chemical substance that is listed as a marine pollutant according to DOT

**Special Precautions for users**

According to United Nations "Recommendations on the transport of dangerous goods"

**Transport in bulk according to MARPOL 73/78 and the IBC Code**

See IMDG above

**15. REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELI NCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)	NZIoC (New Zealand)
Calcium Peroxide 1305-79-9	X	X	X	X	X	X	X	X	X
Calcium Hydroxide 1305-62-0	X	X	X	X	X	X	X	X	X
Monoammonium phosphate 7722-76-1	X	X	X	X	X	X	X	X	X
Ammonium sulfate 7783-20-2	X	X	X	X	X	X	X	X	X

**Directive 2008/98/EC on waste**

Applicable

**CWC (Chemical Weapons Convention) - Annex on Chemicals**

Not applicable

**EU Export and import of dangerous chemicals (Regulation (EC) No 304/2003)**

Not Applicable

**Water contamination class (Germany):**

No information available

**15.2. Chemical Safety Report**

A Chemical Safety Assessment has not yet been completed for this substance.

**16. OTHER INFORMATION****Full text of H-phrases referred to in sections 2 and 3**

H272 - May intensify fire; oxidizer



H318 - Causes serious eye damage  
 H335 - May cause respiratory irritation

**Issuing Date:** 2017-10-17

**Restrictions on Use**

This product's foreseen or recommended applications are: Environmental applications, For the remediation of contaminated groundwater

**Revision date:** 2018-01-31

**Revision note** (M)SDS sections updated: 2 11, 14,

**List of Abbreviations and Acronyms**

ATE Acute Toxicity Estimate  
 ADR European Agreement concerning the International Carriage of Dangerous Goods by Road  
 AND European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
 CE50 Concentración Efectiva Media  
 CEN European Committee for Standardisation  
 C&L Classification and Labelling  
 CLP Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008  
 CLV Ceiling Limit Value Par CAS# Chemical Abstracts Service number  
 CMR Carcinogen, Mutagen, or Reproductive Toxicant  
 CSA Chemical Safety Assessment  
 CSR Chemical Safety Report  
 DNEL Derived No Effect Level  
 DOT Department of Transportation  
 DPD Dangerous Preparations Directive 1999/45/EC  
 DSD Dangerous Substances Directive 67/548/EEC  
 DU Downstream User  
 EC European Community  
 ECHA European Chemicals Agency  
 EC-Number EINECS and ELINCS Number (see also EINECS and ELINCS)  
 EEA European Economic Area (EU + Iceland, Liechtenstein and Norway)  
 EEC European Economic Community  
 EINECS European Inventory of Existing Commercial Substances  
 ELINCS European List of notified Chemical Substances  
 EN European Standard  
 EQS Environmental Quality Standard  
 EU European Union  
 Euphrac European Phrase Catalogue  
 EWC European Waste Catalogue (replaced by LoW –see below)  
 FDS Ficha de Datos de Seguridad  
 GES Generic Exposure Scenario  
 GHS Globally Harmonized System  
 IATA International Air Transport Association  
 ICAO-TI Technical Instructions for the Safe Transport of Dangerous Goods by Air  
 IMDG International Maritime Dangerous Goods  
 IMO International Maritime Organization  
 IMSBC International Maritime Solid Bulk Cargoes  
 IT Information Technology  
 IUCLID International Uniform Chemical Information Database  
 IUPAC International Union for Pure Applied Chemistry  
 JRC Joint Research Centre  
 Kow octanol-water partition coefficient  
 LC50 Lethal Concentration to 50 % of a test population  
 Lethal Dose to 50% of a test population (Median Lethal Dose)  
 LE Legal Entity  
 LLV Level Limit Value  
 LoW List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)  
 LR Lead Registrant  
 M/I Manufacturer / Importer  
 MS Member States  
 MSDS Material Safety Data Sheet  
 NOEC No observed effect concentration  
 OC Operational Conditions  
 OECD Organization for Economic Co-operation and Development  
 OEL Occupational Exposure Limit  
 OJ Official Journal  
 OR Only Representative

OSHA European Agency for Safety and Health at work  
PBT Persistent, Bioaccumulative and Toxic substance  
PEC Predicted Effect Concentration/PNEC(s) Predicted No Effect Concentration(s)  
PPE Personal Protection Equipment(Q)SAR Qualitative Structure Activity Relationship  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006  
RID Regulations concerning the International Carriage of Dangerous Goods by Rail  
RIP REACH Implementation Project  
RMM Risk Management Measure  
SCBA Self-Contained Breathing Apparatus  
SDS Safety data sheet  
SIEF Substance Information Exchange Forum  
SME Small and Medium sized Enterprises  
STEL Short-term exposure limit  
STOT Specific Target Organ Toxicity (STOT)  
RE Repeated Exposure(STOT)  
SE Single Exposure Par SVHC Substances of Very High Concern  
TSCA Toxic Substances Control Act  
TWA Time Weighted Average  
UN United Nations  
vPvB Very Persistent and Very Bioaccumulative / mPmB Muy Persistente y Muy Bioacumulativo  
WGK Wassergefährdungsklassen

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**Prepared By:**

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**End of Safety Data Sheet**