PermeOx® Plus
Calcium Peroxide (CAS NO 1305-79-9)

Introduction
PermeOx® Plus is an economical and effective oxygen-generating compound for use in odor control, metals removal and bioremediation. It is a specially formulated form of food-grade calcium peroxide (patent pending). PermeOx® Plus provides a passive, in-situ approach to delivering oxygen to enhance bioremediation. Successful bioremediation depends on proper mix of nutrient, oxygen, and microbes. Often the limiting factor of aerobic degradation of contaminants is oxygen availability. PermeOx® Plus releases oxygen so that indigenous and/or supplemental aerobic microbes may degrade organic containments more rapidly than via natural attenuation.

Formula
\[ \text{CaO}_2 \quad \text{MW (100% product) is 72.8} \]
\[ \text{CaO}_2 + 2\text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + \text{H}_2\text{O}_2 \]
\[ 2\text{H}_2\text{O}_2 \rightarrow \text{O}_2 + 2\text{H}_2\text{O} \]

Description
White granular material
One pound of CaO₂ yields 3 liters of O₂

Specifications
Calcium peroxide, % 75.0 % min
Active Oxygen, % 16.6 % min
Typical application rates are 2 to 6 pound/cubic yard soil

Uses
Bioremediation - hazardous wastes into soil/sludge composting
Petroleum hydrocarbon remediation
Wastewater Treatment Plant Odor Control
Creosote remediation
Partially halogenated hydrocarbon remediation

Typical Properties
Solubility Practically insoluble in water Soluble in acid
pH of a 1% slurry at 25° C, approximate 10.5 to 11.8
Loose Bulk Density, approximate lb/cu ft 45-65
Odor/Appearance None/Yellow/White Powder

Standard Containers
Fiber Drums, polyethylene lined 30 lbs and 100 lbs (45.25 kg)
IBC-Polypropylene sack, polyethylene lined 2000 lbs (905 kg)
Shipping
PermeOx® Plus 75% to 80% is shipped in the above standard containers. It is classified by DOT as “Oxidizer – 5.1” and containers carry the yellow oxidizer label.

Safety/Handling/Storage
Calcium peroxide is among the safest to handle of peroxide compounds. It represents no significant hazards with regards to skin contact, inhalation, or ingestion. Airborne dust is irritating to eyes, nose, throat, and lungs. Calcium peroxide should be handled in well ventilated, dust controlled areas. When handling large quantities, the use of dust mask, goggles, and gloves is recommended.

Calcium peroxide is an oxidizer, thus contact with combustible materials (paper, cotton, organics, wood, leather, reducing agents, and other oxidizers) should be avoided. Calcium peroxide is not flammable but will contribute oxygen to feed a fire. Contamination, heat, and humid conditions will enhance and accelerate decomposition. Fires involving calcium peroxide are best controlled by using large quantities of water. However, unlike most oxidizers, decomposition is endothermic.

Calcium peroxide should be stored in a clean, dry place. Do not expose to heat sources or high humidity. Store away from combustible materials. Keep containers closed when not in use. Handle spills by dilution with water. (Refer to MSDS for more detailed information)

Customer Service
To place orders, obtain general information or technical support, please call our Regional Distributor:

Panther Technologies, Inc.
220 Route 70 East, Suite B
Medford, NJ 08055
Tel (609) 714-2420

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