IXPER® 35M Magnesium Peroxide
for Soil and Groundwater Remediation
Application Data Sheet

IXPER® 35M Magnesium Peroxide is a fine, white, odorless powder that contains ~ 35% magnesium peroxide. IXPER® 35M Magnesium Peroxide is mainly used for the enhanced natural attenuation of pollutants in soil and groundwater such as petrochemical spills and other aerobic biodegradable compounds.

Technical Information
Formula \( \text{MgO}_2 \)
CAS Number 1335-26-8
Molecular Weight 56.3

Physical Properties
Item \nAppearance White amorphous odorless powder
Mean Particle Size 15μ
Solubility in Water (20ºC) <0.01%

Other properties can be found in the technical datasheet entitled “IXPER® 35M Magnesium Peroxide Properties” posted on the web address at the bottom of this document.
### Chemical Properties

<table>
<thead>
<tr>
<th>Item</th>
<th>Typical Properties</th>
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</thead>
<tbody>
<tr>
<td>Magnesium Peroxide (%)</td>
<td>37 ± 2</td>
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<tr>
<td>Available Oxygen (%)</td>
<td>10.5 ± 0.6</td>
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<tr>
<td>pH (1% suspension)</td>
<td>10.8 ± 0.4</td>
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IXPER® 35M Magnesium Peroxide decomposes slowly in contact with water with the generation of oxygen.

\[
2\text{MgO}_2 + 2\text{H}_2\text{O} \rightarrow 2\text{Mg(OH)}_2 + \text{O}_2
\]

The rate of gaseous oxygen generation is influenced by the physical and chemical properties of the surrounding medium such as pH, and temperature.

### Applications

IXPER® 35M Magnesium Peroxide is used for enhanced aerobic bioremediation. This is a process in which organic contaminants found in soil and/or groundwater are degraded by indigenous or inoculated microorganisms transforming them to innocuous end products.

Enhanced bioremediation with the use of IXPER® 35M Magnesium Peroxide is achieved through the extended release of oxygen into the subsurface to supplement the rate limiting oxygen requirement by aerobic microorganisms.

The most common pollutants that can be treated include:
- BTEX (benzene, toluene, ethylbenzene and xylenes)
- MTBE (methyl tertiary butyl ether)
- TPH (total petroleum hydrocarbons) from light and heavy fuel oils
- Non-halogenated volatile solvents such as methylethylketone, methanol, ethanol, acetone, ethyl acetate, acetonitrile, tert-butyl alcohol (TBA), etc.
- Phenols such as phenol and cresols
- PAHs (polycyclic aromatic hydrocarbons) such as naphthalene and methylnaphthalenes
- Some halogenated compounds such as vinyl chloride (VC), chlorobenzenes, pentachlorophenol (PCP), etc.
- High explosives.

IXPER® 35M Magnesium Peroxide has a very low solubility in water which allows the product to continue to release its active oxygen content for many months. The duration of oxygen release depends upon many factors including soil type, its pH and buffering capacity, kind of contaminants and their concentration, the presence of other organics or metals in the soil, etc.

### Certifications


Solvay Chemicals, Inc. corporate offices are also 9001:2000 ISO Certified.

### Packaging

The product is packaged in 50lb fiberboard drums with a polyethylene liner. There are 18 drums to a pallet.
Storage and Handling

- Store in a dry location away from heat and out of direct sunlight in original containers. Storage temperature: <104°F (40°C).
- Store in an area away from acids, bases, metals, metal salts, reducing agents, organic materials or flammable substances.
- Never return unused product to the storage container.
- Equipment used for handling this material should be made of plastic, stoneware, glass or stainless steel. Enameled or resin coated equipment is also suitable. Copper and copper alloys should be avoided.
- Holding equipment must be adequately vented to prevent any pressure build up in the event of product decomposition.

Safety

- Ensure all personnel who may come in contact with this material are aware of the potential hazards, first aid measures and the proper storage and use techniques outlined in the most recent Material Safety Data Sheet (MSDS) available on the web site.
- Storage and use areas should be equipped with a safety shower and eyewash station.
- Use appropriate eye and skin protection.
- Dispose of according to applicable federal, state and local regulations.

Water is the preferred extinguishing medium in case of fire involving this product.

First Aid

**Eye contact:** Flush eyes with running water for 15 minutes, while keeping eyelids wide open. Consult with an ophthalmologist in all cases.

**Skin contact:** Wash the affected skin with water. Remove and clean contaminated clothing. Call a physician in case of persistent pain or redness.

**Inhalation:** Remove the victim from the dusty environment. Call a physician in case of respiratory symptoms.

**Ingestion:** Consult with a physician in all cases. DO NOT induce vomiting. If victim is conscious, rinse mouth and give fresh water. Never give anything by mouth to an unconscious person.

Regulatory Information

IXPER® 35M Magnesium Peroxide is not regulated.

Customer Service

The safety of our customers is our highest concern. To discuss safety and handling of IXPER® 35M Magnesium Peroxide, contact Solvay Chemicals, Inc. at 1-800-SOLVAY-C (765-8292) or 713-525-6500. 24 hour Emergency Phone Number – 1-800-424-9300
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Before using, read the Material Safety Data Sheet (MSDS) for the chemical.