

Oxygen Release Compound (ORC[®])
MATERIAL SAFETY DATA SHEET (MSDS)

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Section 1 - Material Identification

Supplier:



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Chemical Description: A mixture of Magnesium Peroxide (MgO₂), Magnesium Oxide (MgO), and Magnesium Hydroxide [Mg(OH)₂]

Chemical Family: Inorganic Chemical

Trade Name: Oxygen Release Compound (ORC[®])

Product Use: Used to remediate contaminated soil and groundwater (environmental applications)

Section 2 – Chemical Identification

<u>CAS#</u>	<u>Chemical</u>
14452-57-4	Magnesium Peroxide (MgO ₂)
1309-48-4	Magnesium Oxide (MgO)
1309-42-8	Magnesium Hydroxide [Mg(OH) ₂]
7758-11-4	Dipotassium Phosphate (HK ₂ O ₄ P)
7778-77-0	Monopotassium Phosphate (H ₂ KO ₄ P)
Assay:	25-35% Magnesium Peroxide (MgO ₂)

Section 3 - Physical Data

Melting Point:	Not Determined (ND)
Boiling Point:	ND
Flash Point:	Not Applicable (NA)
Self-Ignition Temperature:	NA
Thermal Decomposition:	Spontaneous Combustion possible at $\approx 150^{\circ}\text{C}$
Density:	0.6 – 0.8 g/cc
Solubility:	Reacts with Water
pH:	Approximately 10 in saturated solution
Appearance:	White Powder
Odor:	None
Vapor Pressure:	None
Hazardous Decomposition Products:	Not Known
Hazardous Reactions:	Hazardous Polymerization will not occur
Further Information:	Non-combustible, but will support combustion

Section 4 – Reactivity Data

Stability:	Product is stable unless heated above 150°C. Magnesium Peroxide reacts with water to slowly release oxygen. Reaction by product is Magnesium Hydroxide
Conditions to Avoid:	Heat above 150°C. Open Flames.
Incompatibility:	Strong Acids. Strong Chemical Agents.
Hazardous Polymerization:	None known.

Section 5 - Regulations

Permissible Exposure Limits in Air **Not Established. Should be treated as a nuisance dust.**

Section 6 – Protective Measures, Storage and Handling

Technical Protective Measures

Storage: **Keep in tightly closed container. Keep away from combustible material.**

Handling: **Use only in well ventilated areas.**

Personal Protective Equipment (PPE)

Respiratory Protection: **Recommended (HEPA Filters)**

Hand Protection: **Wear suitable gloves.**

Eye Protection: **Use chemical safety goggles.**

Other: **NA**

Industrial Hygiene: **Avoid contact with skin and eyes**

Protection Against Fire & Explosion: **NA**

Disposal: **Dispose via sanitary landfill per state/local authority**

Further Information: **Not flammable, but may intensify a fire**

After Spillage/Leakage/Gas Leakage: **Collect in suitable containers. Wash remainder with copious quantities of water.**

Extinguishing Media: **NA**

Suitable: **Carbon Dioxide, dry chemicals, foam**

Further Information: **Self contained breathing apparatus or approved gas mask should be worn due to small particle size. Use extinguishing media appropriate for surrounding fire.**

First Aid: **After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention.**

Section 7 – Information on Toxicology
