



MAGNESIUM OXIDE

SAFETY DATA SHEET

1. Product Identification

Synonyms: Magnesia, calcined magnesia, MagOx
Recommended Use: Buffering of groundwater contaminated with chlorinated solvents and other anaerobically degradable compounds.
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Date of Current Revision: January 9, 2020

2. Hazards Identification

Emergency Overview

Danger May causes irritation to skin, eyes, respiratory tract, and gastrointestinal tract.

Health Rating: 0 - None
Flammability Rating: 0 - None
Reactivity Rating: 0 - None
Contact Rating: 0 - None
Lab Protective Equipment: Goggles; Lab Coat; Vent Hood; Proper Gloves
Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation: May cause respiratory irritation. At high concentrations, may cause cough or upon repeated or prolonged exposure, may pose risk of rhinitis.

Ingestion: With intended use, the material is not expected to be an ingestion hazard. Large quantities may cause diarrhea.

Skin Contact: With prolong contact, causes slight skin irritation. In case of repeated contact, may cause dry or chapped skin.

Eye Contact: Causes moderate eye irritation.

Chronic Exposure: No information found.
Aggravation of Pre-existing Conditions: No information found.



3. Composition

Ingredient	Synonym	CAS #	Percent	Hazardous
Magnesium Oxide	MgO	1309-48-4	100	No

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Rinse mouth and administer fresh water. Never give anything by mouth to an unconscious person. Get medical attention if adverse symptoms occur.

Skin Contact:

Causes irritation. Wash affected area with plenty of soap and water. If irritation persists, seek medical attention.

Eye Contact:

Immediately flush eyes with plenty of water for at least 5 minutes, lifting lower and upper eyelids occasionally. Get medical attention.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire including foam, dry powder, carbon dioxide, water spray, or sand. .

Special Information:

Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Avoid breathing dust. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Wash the area clean with water and detergent.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances including strong acids or oxidizers. Avoid contact with water or humidity.



8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

TVL ACGIH-USA (TWA) 10 mg/m³; OSHA PEL Total Dust – 15 mg/m³, Respirable fraction 5 mg/m³. NIOSH (1994) 5 mg/m³.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves made of PVC, natural rubber, or neoprene and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles and/or full-face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White powder

Molecular Weight:

40.3 g/mole MgO

Odor:

Odorless.

Solubility:

86 mg/L at 18 C (65 F). Soluble in acid, ammonium chloride solution. .

Bulk Density:

500 kg/m³ (18.7 lbs/ft³)

pH:

10.3 saturated solution

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

3600 C

Melting Point:

2500-2800C

Flash Point

Not applicable

Autoignition Temperature

No information found

Decomposition Temperature

>350 C

Vapor Density (Air=1):

No information found

Vapor Pressure (mm Hg):

No information found



Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Avoid exposure to moisture.

Reactivity:

Slight

Hazardous Decomposition Products:

None

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Acids

Conditions to Avoid:

Adsorbs moisture and carbon dioxide from air.
Exothermic reaction when dissolved in water.

11. Toxicological Information

Magnesium Oxide

Oral man no observed effect at 800 mg/m³ after repeated exposure. Inhalation rat, after repeated exposure, 3 mg/m³ no observed effect
None.

Cancer Lists:

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

Acute Crustaceans *Daphia magna*, EC₅₀, 48 hours 190 mg/L

Chronic ecotoxicity Fish *Salmo gairdneri*, LC₅₀, 28 days 1,35 mg/L magnesium.

Crustaceans *Daphia magna*, EC₅₀, reproduction 21 days, 125 mg/L (magnesium)

Degradability

Hydrolysis as function of pH.

Soil Mobility

No information found

Bioaccumulation Potential

Not bioaccumulated.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use, or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

Listed on the United States TSCA (Toxic Substances Control Act) inventory. Yes.

Listed on the Canadian DSL (Domestic Substances List) inventory).



WHMIS Classification: Not regulated.

16. Other Information

NFPA Ratings:

Label Hazard Warning:

Label Precautions:

Label First Aid:

Health: **0** Flammability: **0** Reactivity: **0**

Exposure could cause irritation, but only minor residual injury even if no treatment is given...

Eye, skin, and respiratory irritant

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In all cases, get medical attention.

Product Use:

Buffering soil and groundwater

Revision Information:

SDS Section(s) changed since last revision of document includes: None

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