

# Material Safety Data Sheet

## Magnesium oxide

ACC# 13450

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Magnesium oxide

**Catalog Numbers:** AC193430000, AC193430100, AC205150000, AC205150025, AC205155000, AC222530000, AC222531000, AC222535000, AC263830000, AC263830025, AC263835000, AC423890000, AC423890500, AC423895000, S80066, M300-500, M3494-500, M51-100, M51-500, M68-3

**Synonyms:** Magnesia.

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1309-48-4	Magnesium oxide	>95	215-171-9

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white powder.

**Caution!** May cause eye irritation. May cause respiratory tract irritation. Inhalation of fumes may cause metal-fume fever. Hygroscopic (absorbs moisture from the air).

**Target Organs:** Respiratory system, eyes.

#### Potential Health Effects

**Eye:** May cause eye irritation. A slight irritation of the eyes and nose was observed in 95 workers exposed to an unspecified concentration of magnesium oxide dust. (Documentation of TLV)

**Skin:** Dust may cause mechanical irritation. Not absorbed through the skin. Not irritating to the skin, but use of rigorous washing procedures to remove dust may cause skin irritation.

**Ingestion:** No hazard expected in normal industrial use. Practically non-toxic by ingestion.

**Inhalation:** Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. Inhalation of dust may cause irritation of the nose and throat.

**Chronic:** No information found. Does not accumulate. Excess magnesium ion is rapidly excreted in the urine.

### Section 4 - First Aid Measures

**Eyes:** Gently lift eyelids and flush continuously with water. If irritation develops, get medical aid.

**Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible. Magnesium oxide, as a fume, is produced when magnesium is burned in high-temperature processes or exposed to fire conditions.

**Extinguishing Media:** Use extinguishing media most appropriate for the surrounding fire.

**Flash Point:** Not available.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 0

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Avoid breathing dust and fume.

**Storage:** Store in a cool, dry place. Keep away from strong acids. Store protected from moisture.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Magnesium oxide	10 mg/m3 TWA (inhalable fraction)	750 mg/m3 IDLH (fume)	15 mg/m3 TWA (total particulate)

**OSHA Vacated PELs:** Magnesium oxide: 10 mg/m3 TWA (total particulate)

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Glove protection is not normally required.

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Powder

**Appearance:** white

**Odor:** odorless

**pH:** 10.3 (saturated aq soln)

**Vapor Pressure:** 0 mm Hg @ 25 deg C

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 3600 deg C

**Freezing/Melting Point:** 2800 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Very slightly .0086g/100ml

**Specific Gravity/Density:** 3.58

**Molecular Formula:** MgO

**Molecular Weight:** 40.30

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions. Absorbs carbon dioxide from the air. Hygroscopic: absorbs moisture or water from the air.

**Conditions to Avoid:** Dust generation, moist air, prolonged exposure to air.

**Incompatibilities with Other Materials:** Strong acids, interhalogens.

**Hazardous Decomposition Products:** None.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 1309-48-4: OM3850000

**LD50/LC50:**

Not available.

**Carcinogenicity:**

CAS# 1309-48-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** Controlled human exposure studies have demonstrated that magnesium oxide is less toxic than other metal oxide fumes of the same aerodynamic particle size.

**Teratogenicity:** No data available.

**Reproductive Effects:** No data available.

**Mutagenicity:** No data available.

**Neurotoxicity:** No data available.

## Other Studies:

### Section 12 - Ecological Information

No information available.

### Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

### Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	Not regulated	Not Regulated
<b>Hazard Class:</b>		
<b>UN Number:</b>		
<b>Packing Group:</b>		

### Section 15 - Regulatory Information

#### US FEDERAL

##### TSCA

CAS# 1309-48-4 is listed on the TSCA inventory.

##### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

##### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

##### Section 12b

None of the chemicals are listed under TSCA Section 12b.

##### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

##### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

##### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

##### Section 313

No chemicals are reportable under Section 313.

##### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

##### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

##### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

##### STATE

CAS# 1309-48-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

##### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

#### European/International Regulations

##### European Labeling in Accordance with EC Directives

##### Hazard Symbols:

Not available.

##### Risk Phrases:

##### Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

##### WGK (Water Danger/Protection)

CAS# 1309-48-4: 1

##### Canada - DSL/NDSL

CAS# 1309-48-4 is listed on Canada's DSL List.

##### Canada - WHMIS

This product has a WHMIS classification of Not controlled..

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

##### Canadian Ingredient Disclosure List

## Section 16 - Additional Information

**MSDS Creation Date:** 12/12/1997

**Revision #5 Date:** 5/25/2004

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*