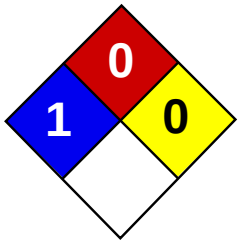


| | |
|---|---|
| Health | 1 |
| Fire | 0 |
| Reactivity | 0 |
| Personal Protection | E |

# Material Safety Data Sheet
## Magnesium oxide MSDS

## Section 1: Chemical Product and Company Identification

**Product Name:** Magnesium oxide

**Catalog Codes:** SLM2716, SLM4093

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

**RTECS:** OM3850000

**TSCA:** TSCA 8(b) inventory: Magnesium oxide

**CI#:** Not available.

**Synonym:** Magnesia; Calcined Brucite; Magnesium Oxide, Heavy Powder

**Chemical Name:** Magnesium Oxide

**Chemical Formula:** MgO

**Contact Information:**

**Sciencelab.com, Inc.**
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

**CHEMTREC (24HR Emergency Telephone), call:** 1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

## Section 2: Composition and Information on Ingredients

**Composition:**

| Name | CAS # | % by Weight |
|---|---|---|
| Magnesium oxide | 1309-48-4 | 100 |

**Toxicological Data on Ingredients:** Not applicable.

## Section 3: Hazards Identification

**Potential Acute Health Effects:** Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

**Potential Chronic Health Effects:**
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

## Section 4: First Aid Measures

**Eye Contact:**
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention if irritation occurs.

**Skin Contact:** Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

**Serious Skin Contact:** Not available.

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

**Serious Inhalation:** Not available.

**Ingestion:**
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Not applicable.

**Explosion Hazards in Presence of Various Substances:**
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:**
Magnesium Oxide may ignite and explode when heated with sublimed sulfur, magesium powder, or aluminum powder. It reacts violently with interhalogens (bromine pentafluoride, chlorine trifluoride) and produces flame. When combined with phosphorus pentachloride, it incandesces.

**Special Remarks on Explosion Hazards:**
Magnesium Oxide may ignite and explode when heated with sublimed sulfur, magesium powder, or aluminum powder.

## Section 6: Accidental Release Measures

**Small Spill:**
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:**
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:** Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids.

**Storage:**

Moisture Sensitive. Air Sensitive. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 24°C (75.2°F).

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:**
TWA: 10 (mg/m3) from ACGIH (TLV) [United States] Inhalation Total. TWA: 4 STEL: 10 (mg/m3) [United Kingdom (UK)] Inhalation Respirable. TWA: 15 (mg/m3) from OSHA (PEL) [United States] Inhalation Total. TWA: 10 (mg/m3) [United Kingdom (UK)] Total.Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Powdered solid.)

**Odor:** Odorless.

**Taste:** Not available.

**Molecular Weight:** 40.3 g/mole

**Color:** White.

**pH (1% soln/water):** Not available.

**Boiling Point:** 3600°C (6512°F)

**Melting Point:** 2800°C (5072°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 3.58 @ 25 C (Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** Not available.

**Solubility:**
Very slightly soluble in cold water. Soluble in dilute acids and ammonium salt solutions. Insoluble in alcohol.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, moisture, air.

**Incompatibility with various substances:** Reactive with oxidizing agents, acids.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:**
Reacts violently with ClF3 (Chlorine Trifluoride) and PCl5 (Phosphorous Pentachloride). Hygroscopic. Air Sensitrive. Readily absorbs moisture and carbon dioxide when exposed to air. Hydrates slowly in contact with moisture. Takes up carbon dioxide and water from the air. This happens more readily for the light form vs. the heavy form. Slight alkaline reaction to water.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:**
LD50: Not available. LC50: Not available.

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** May cause cancer (tumorigenic) based on animal data. No human data found.

**Special Remarks on other Toxic Effects on Humans:**
Acute Potential Health Effects: Skin: Mild Alkali. May cause skin irritation. Eyes: Mild Alkali. May cause eye irritation. Inhalation: May cause respiratory tract irritation. Ingestion: May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea. Chronic Potential Health Effects: Inhalation: Repeated or prolonged exposure may result in Metal Fume Fever. Metal Fume Fever is a flu-like condition consisting of fever, chills, sweating, aches, pains, cough, weakness, headache, nausea, vomiting, and breathing difficulty. There is no permanent ill-effect. Metal Fume Fever resulting from Magnesiuim Oxide fumes has reportedly occurred in foundry workers. Repeated or prolonged exposure may also affect the blood and brain based on animal data. No human data found

## Section 12: Ecological Information

**Ecotoxicity:** May cause alkalinization of water rendering it inhospitable to aquatic life.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**
Illinois toxic substances disclosure to employee act: Magnesium oxide Rhode Island RTK hazardous substances: Magnesium oxide Pennsylvania RTK: Magnesium oxide Minnesota: Magnesium oxide Massachusetts RTK: Magnesium oxide New Jersey: Magnesium oxide California Director's List of Hazardous Substances: Magnesium oxide TSCA 8(b) inventory: Magnesium oxide

**Other Regulations:** EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):** Not controlled under WHMIS (Canada).

**DSCL (EEC):**
This product is not classified according to the EU regulations. Not applicable.

**HMIS (U.S.A.):**

**Health Hazard:** 1

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 1

**Flammability:** 0

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Safety glasses.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/10/2005 08:22 PM

**Last Updated:** 11/06/2008 12:00 PM

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