



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

# MATERIAL SAFETY DATA SHEETS

## SECTION I

### PRODUCT AND COMPANY IDENTIFICATION

**Product: Magnesium oxide**  
**This MSDS is valid for all grades and catalog #'s**

Synonyms: Magnesia; Calcined Brucite; Magnesium Oxide, Light Powder, USP  
Formula: MgO  
Manufacturer: PHARMCO-AAPER  
58 Vale Road  
Brookfield, Connecticut 06804, USA  
Phone (203) 740-3471  
Fax (203) 740-3481  
  
1101 Isaac Shelby Drive  
Shelbyville, KY 40065  
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Emergency Contact:  
CHEMTREC 1-800-424-9300

## SECTION II

### COMPOSITION /INFORMATION ON INGREDIENTS

% by weight	Material	CAS #	TLV/PEL	LC50/LD50
100	Magnesium oxide	1309-48-4	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	Not available

## SECTION III

## 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 IV FIRST AID

Obtain medical attention for all cases of over-exposure.  
**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.  
**Hazardous 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.  
**Hazardous 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.  
**Hazardous Ingestion:** Not available.

## SECTION V FIRE FIGHTING MEASURES

**Fire:**  
Flammability of the Product: Non-flammable.  
Auto-Ignition temperature: Not applicable.  
Flash point: Not applicable.  
Flammable limits: Not applicable.  
Products of Combustion: Not available.  
**Fire Hazards:** Not applicable.  
**Explosion Hazards:** 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 Extinguishing Media:** Not applicable.

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

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#### SECTION VI

##### SPILL/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.

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#### SECTION VII

##### 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).

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#### SECTION VIII

##### 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/m<sup>3</sup>) from ACGIH (TLV) [United States] Inhalation Total. TWA: 4 STEL: 10 (mg/m<sup>3</sup>) [United Kingdom (UK)] Inhalation Respirable. TWA: 15 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] Inhalation Total. TWA: 10 (mg/m<sup>3</sup>) [United Kingdom (UK)] Total. Consult local authorities for acceptable exposure limits.

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#### SECTION IX

##### PHYSICAL AND CHEMICAL PROPERTIES

**Physical State/Appearance:** Solid. (Powdered solid.)

**Molecular Weight:** 40.3 g/mole

**Odor:** Odorless.

**Taste:** Not available.

**Color:** White.

**pH (1% Solution in 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 (mm Hg):** Not applicable.

**Vapor Density (Air=1):** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Water/Oil Dist. Coefficient:** 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.

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#### SECTION X

##### STABILITY/REACTIVITY INFORMATION

**Stability:** The product is stable.

**Instability Temperature:** Not available.

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

**Incompatibilities:** Reactive with oxidizing agents, acids.

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

**Special Information:** Reacts violently with ClF<sub>3</sub> (Chlorine Trifluoride) and PCl<sub>5</sub> (Phosphorous Pentachloride).

Hygroscopic. Air Sensitive. 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.

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#### SECTION XI

##### 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 Information on Toxicity to Animals:** Not available.

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

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## **SECTION XII 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 Information on Products of Biodegradation:** Not available.

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## **SECTION XIII DISPOSAL CONSIDERATIONS**

**Waste Disposal:** Recycle, if possible. Consult your local or regional authorities.

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## **SECTION XIV TRANSPORTATION INFORMATION**

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

**UN:** Not applicable.

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

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## **SECTION XV REGULATORY INFORMATION**

**Federal and State Regulations:** Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **NONE**

**Other Classifications:**

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

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

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

**References:** Not available.

**Other Special Considerations:** Not available.

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The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.