

Material Safety Data Sheet

Identity: Magnesium oxide

Formula: MgO

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 40.30

CAS #	OSHA PEL	ACGIH TLV	%
1309-48-4	15mg/m ³	10mg/m ³	0-100%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 3600.00 °C

Melting Point: 2500.00 °C

Rate: N/A

Solubility in water: Soluble

Sets to cement like hardness in water

Vapor Pressure (vs. air or mmHg): N/A

Vapor Density vs. air=1): N/A Evaporation

Percent Volatile:

Specific Gravity (H₂O=1) 3.58 AT 25.0 °C

Percent Volatile: N/A

Appearance and odor: Colorless to white, very fine powder and pieces, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Flash Point: 3600.00 °C

Method Used: N/A

Explosive Limits: LEL: N/A

UEL: N/A

Extinguishing Media:

Use suitable extinguishing media for surrounding materials and type of fire.

Special Fire Fighting Procedures: Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards: Magnesium oxide takes up carbon dioxide and water from the air. It combines with water to form magnesium hydroxide, it may have a violent reaction or ignite on contact with interhalogens, and it has an incandescent reaction with phosphorous pentachloride.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility: Moisture, water, interhalogens, phosphorous pentachloride, chlorine trifluoride, bromine pentafluoride.

Hazardous Decomposition or Byproducts: Magnesium hydroxide

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation? Skin? Eyes? Ingestion? Other?

Signs and symptoms of Overexposure:

Inhalation: May cause cough, mucous production, shortness of breath, nausea, malaise, muscular weakness, paralysis, general depression, lethargy, hypotension, and cardiac arrest.

Ingestion: May cause gastrointestinal disturbances, skin lesions, and nervous afflictions.

Skin: May cause redness and itching.

Eye: May cause redness, itching, burning and watering.

Health Hazards (Acute and Chronic):

Magnesium compounds have variable toxicity. The inhalation of fumes of freshly sublimed magnesium oxide may cause metal fume fever. There is no evidence that magnesium produces true systemic poisoning. Protections necessary for personal handling and processing magnesium is usually no different from that which is necessary for other metals (Sax, Dangerous Properties of Industrial Materials, eighth edition).

Inhalation:

Acute: Toxic by inhalation of dust. May cause fever, coughing, mucous production and shortness of breath. May depress the central nervous system.

Chronic: Inhalation of finely divided dust may cause lung damage, pulmonary fibrosis, and paralysis of the respiratory, cardiovascular and central nervous system.

Ingestion:

Acute: No acute or chronic health effects recorded.

Chronic:

Skin:

Acute: May cause mild irritation.

Chronic:

Eye:

Acute: Dust may cause irritation.

Chronic:

Target Organ: May affect respiratory system, mucous membranes and eyes.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Conditions Aggravated by Exposure: Pre-existing respiratory disorders.

Emergency and First Aid Procedures:

Inhalation: Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention.

Ingestion: Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

Skin: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist.

Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII-Control Measures. Isolate spill area, provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste disposal method:

Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended.

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established