

MATERIAL SAFETY DATA SHEET

PREMIER CHEMICALS

MSDS No.: 2800

Date Prepared: 1/06

This Revision: 12/06

Phone: PREMIER CHEMICALS: 1-800-227-4287
 CHEMTREC, 24-Hr Emergency Assistance: 1-800-424-9300

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material / Product Name(s): MAGOX® 98 HR
CAS Number: 1309-48-4
Chemical Family: Inorganic Oxide
General Use: A high reactivity, chemical grade magnesium oxide powder.
Manufacturer / Supplier: PREMIER CHEMICALS
 300 Barr Harbor
 Suite 250
 West Conshohocken, PA 19428-2998

SECTION 2. INGREDIENTS / COMPOSITION

| Ingredient name: | CAS Number: | Percent: | IARC/NTP/OSHA: | Exposure Limits: |
|-------------------------|--------------------|-----------------|-----------------------|--|
| Magnesium Oxide | 1309-48-4 | 100 | No | Nuisance Particulate OSHA PEL:TWA 15mg/m ³ ;respirable: 5mg/m ³ . ACGIH TLV:TWA Total dust:10mg/m ³ ; respirable dust: 5mg/m ³ . |

Typical Chemical Analysis, Wt. % (Loss Free Basis)

| | | |
|--------------------------------|-------|--|
| LOI (1000°C) | 3.00 | (includes 0.05% SO ₃ and 0.3% Cl) |
| SiO ₂ | 0.35 | |
| Fe ₂ O ₃ | 0.15 | |
| Al ₂ O ₃ | 0.10 | |
| CaO | 0.65 | |
| MgO | 98.20 | |

The oxides shown in the typical chemical analysis do not exist in the magnesium oxide as free, uncombined oxides, but are combined in complex mineralogical phases.

SECTION 3. HAZARDS IDENTIFICATION

HMIS

| | |
|---------------------|---------------------|
| HEALTH HAZARD | 1 - SLIGHT |
| FLAMMABILITY HAZARD | 0 - MINIMAL |
| REACTIVITY HAZARD | 1 - SLIGHT |
| PERSONAL PROTECTION | B - Glasses, Gloves |

EMERGENCY OVERVIEW:

White, free flowing powder. Will react with water generating heat. Not a fire or spill hazard. Low toxicity. Dust is classified as a "nuisance particulate not otherwise regulated".

Target Organs: Chronic overexposure may cause lung damage.

Primary route(s) of entry: Inhalation

Acute effects: Excessive exposure to airborne particulate may cause eye and upper respiratory irritation.

Chronic effects: Product dust is classified as a "nuisance particulate, not otherwise regulated" as specified by ACGIH and OSHA. The excessive, long-term inhalation of mineral dusts may contribute to the development of industrial bronchitis, reduced breathing capacity, and may lead to the increased susceptibility to lung disease.

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HAZARD IDENTIFICATION continued from page 1

Signs & symptoms of overexposure:

Eye contact: Particulate is a physical eye irritant.

Skin contact: Prolonged contact may cause slight skin irritation.

Inhalation: Chronic overexposure by inhalation of airborne particulate may irritate upper respiratory system as well as the throat.

Ingestion: An unlikely route of exposure. If ingested in sufficient quantity, may cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea.

SECTION 4. FIRST AID MEASURES

Eye contact: Flush eyes, including under the eyelids, with large amounts of water. If irritation persists, seek medical attention.

Skin contact: Wash affected areas with mild soap and water.

Inhalation: Remove victim to fresh air. If not breathing, give artificial respiration. Get immediate medical attention.

Ingestion: Ingestion is an unlikely route of exposure. If ingested in sufficient quantity and victim is conscious, give 1-2 glasses of water or milk. Never give anything by mouth to an unconscious person. Leave decision to induce vomiting to qualified medical personnel, since particles may be aspirated into the lungs. Seek immediate medical attention.

SECTION 5. FIRE FIGHTING MEASURES

NFPA code: Flammability: 0, Health: 0, Reactivity: 1, Special: 0.

Flash point: Not Combustible

Unusual Fire Hazard / Extinguishing Media: Product will react with water generating heat. If contact with water is unavoidable, use sufficient water to dissipate any excessive heat buildup.

Hazardous Decomposition Products: None

Firefighting Instructions: Firefighters should wear NIOSH-approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill procedures: Carefully, clean up and place material into a suitable container, being careful to avoid creating excessive dust from dried product. If conditions warrant, clean up personnel should wear approved respiratory protection, gloves, and goggles to prevent irritation from contact and/or inhalation.

SECTION 7. HANDLING AND STORAGE

Storage: Store in dry, protected storage. Do not allow water to get inside containers; reaction with water will cause product to swell, generate heat, and burst its container. Exposed, unprotected magnesium oxide will absorb moisture and carbon dioxide from the air. Minimize dust generation during material handling and transfer.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering controls: Provide sufficient ventilation, in both volume and air flow patterns to control mist/dust concentrations below allowable exposure limits.

Personal protective equipment: The use of eye protection, gloves and long sleeve clothing is recommended.

Respiration protection: For dust concentrations above allowable nuisance particulates limit provide employee with NIOSH/MSHA approved particulate dust respirator in accordance with requirements of 29 CFR 1910.134.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: The white, free flowing powder; odorless.

Boiling Point: Not Applicable

Specific Gravity (g/cc): 3.56

Melting Point: >3800°F (>2100°C)

Bulk Density (lbs./cu.ft.): 22

Water Solubility: Slight <1%

% Volatile by volume: 0

pH (10% aqueous slurry): 10-11

Evaporation rate: Not Applicable

SECTION 10. STABILITY AND REACTIVITY

Hazardous Polymerization: Will not occur

Chemical Incompatibilities: Magnesium oxide is soluble in aqueous acids generating heat and steam; violent reaction or ignition with interhalogens (e.g., bromine pentafluoride; chlorine trifluoride). Incandescent reaction with phosphorus pentachloride. Will react with water generating some heat.

Hazardous Decomposition Products: None

SECTION 11. TOXICOLOGICAL INFORMATION

Magnesium Oxide CAS #1309-48-4 Toxic and Hazard Review: low toxicity - a nutrient and/or dietary supplement food additive. THERAP CAT: antacid. (Sax) an experimental tumorigen. Inhalation of fume (not MgO dust particulate) produced upon decomposition of magnesium compounds can produce a febrile reaction and leukocytosis in humans.

TOXICITY DATA: ihl-hmn TClO:400mg/m³; itr-ham TDLo:480 mg/kg/30w-I:ETA.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicological / Chemical Fate Information:

No data available on any adverse effects of this material on the environment.

SECTION 13. DISPOSAL INFORMATION

Waste Management/Disposal: This product does not exhibit any characteristics of a hazardous waste. The product is suitable for landfill disposal. Follow all applicable federal, state and local regulations for safe disposal.

SECTION 14. TRANSPORT INFORMATION

US Department of Transportation: Not regulated by DOT as a hazardous material. No hazard class, no label or placard required, no UN or NA number assigned.

Canadian TDG Hazard Class & Pin: Not regulated.

SECTION 15. REGULATORY INFORMATION

SARA TITLE III: This product does not contain any substances reportable under Sections 302, 304 or 313. Sections 311 and 312 do apply. (Routine Reporting and Chemical Inventories)

TSCA: All substances in this product are listed in the Chemical Substance Inventory of the Toxic Substances Control Act.

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SECTION 16. OTHER INFORMATION

ACRONYMS AND REFERENCES USED IN PREPARATION OF MSDS':

| | |
|---------------------|--|
| ACGIH: | American Conference of Governmental Industrial Hygienists |
| CAS#: | CAS Registration Number is an assigned number to identify a material. CAS stands for Chemical Abstracts Service. |
| CERCLA: | Comprehensive Environmental Response, Compensation & Liability Act |
| EPCRA: | Emergency Planning and Community Right-to-Know Act of 1986 |
| HMISTM: | Hazardous Materials Identification System (National Paint & Coatings Association) |
| IARC: | International Agency for Research on Cancer |
| MSHA: | Mine Safety and Health Administration |
| mg/m ³ : | Milligrams per cubic meter |
| NIOSH: | National Institute for Occupational Safety and Health |
| NFPA: | National Fire Protection Association |
| NTP: | National Toxicology Program |
| OSHA: | Occupational Safety and Health Administration |
| PEL: | Permissible Exposure Limit (OSHA) |
| REL: | Recommended Exposure Limit (OSHA) |
| SARA: | Superfund Amendments and Reauthorization Act |
| TITLE III: | Emergency Planning and Community Right-to-Know Act |
| Section 302: | Extremely Hazardous Substances |
| Section 304: | Emergency Release |
| Section 311: | <i>Community Right-to-Know</i> , MSDSs or List of Chemicals |
| Section 312: | <i>Community Right-to-Know</i> , Inventory and Location, (Tier I/II) |
| Section 313: | Toxic Chemicals, Toxic Chemical Release Reporting, Form R |
| TLV: | Threshold Limit Values (ACGIH) |
| TWA: | Time Weighted Average |
| 29CFR1910.134: | OSHA Respiratory Protection Standard |

REFERENCES:

Sax, N. Irving: Dangerous Properties of Industrial Materials, Ninth Edition, Van Nostrand Reinhold Co., Inc., 1996.
Kirk, R. and Othmer, D., Encyclopedia of Chemical Technology, Third Edition, Wiley-Interscience, New York, NY 1982.
Clansky, K.B., Suspect Chemicals Sourcebook, 1992-2nd Edition, Roytech Publications, Bethesda, Maryland.
Sax, N. Irving and Lewis, R.J. Hawley's Condensed Chemical Dictionary, Eleventh Ed., Van Nostrand Reinhold Co., Inc., NY
Manufacturers / Suppliers, Material Safety Data Sheets on Raw Materials Used
American National Standard for Hazardous Industrial Chemicals - Material Safety Data Sheets - Preparation, American National Standards Institute, Inc., 11 West 42nd St, New York, NY 10036.

Prepared/revised: Mark A. Shand

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