Magnesium Stick

ChemicalStore.com

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MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION

Trade Name: Magnesium Formula: Mg
CAS #: 7439-95-4 Molecular Weight: 24.31

HAZARDOUS INGREDIENTS

Hazardous Components	% OSHA/PEL	ACGIH/TLV
Magnesium	0-100 5 mg/m3 (For MgO fume)	10 mg/m3 (For MgO fume)

HMIS Ratings (Solid): Health: 0 Flammability: 0 Reactivity: 0
HMIS Ratings (Finely Divided Powder): Health: 1 Flammability: 3 Reactivity: 2

PHYSICAL DATA

Boiling Point 760 mm Hg: 1107 oC

Melting Point: 648.8 oC
Specific Gravity: 1.74

Vapor Density: Not Applicable
Vapor Pressure: 1.33 hPa at 621 oC

Solubility in H2O: Insoluble
Appearance and Odor: Silver-white solid or powder, no odor.

% Volatiles: Not Applicable

FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/A
Flammable Limits: Upper: N/A Lower: N/A

Extinguishing Media: DO NOT USE WATER! Use melting flux, dry sand, metal extinguishing powders such as G-1, MET-L-X, etc.

Special Firefighting Procedures: Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Use of water on a magnesium fire will produce hydrogen gas and may cause an explosion. In fire conditions, protect eyes and skin against flying particles. Avoid direct viewing of magnesium fires as eye injury may result.

Unusual Fire & Explosion Hazards: Combustible metal. Fine powder, oil or turnings are easily ignited and burn with intense heat and brilliant white flame. Powders form explosive mixtures with air which may be ignited by a spark. Pieces >3 mm thick difficult to ignite but possible when sufficient heat is applied. In finely divided form will react with water, halogens, oxidizing agents and acids.

HEALTH HAZARD INFORMATION

Effects of Exposure:
To the best of our knowledge the chemical, physical and toxicological properties of magnesium have not been thoroughly investigated and reported.

Inhalation of magnesium compounds may cause metal fume fever. Metallic magnesium which perforates the skin may cause local lesions. Some magnesium salts have produced muscle weakness, cardiac arrhythmias, respiratory effects and changes in blood chemistry following ingestion. Dust is an irritant to eyes and mucous membranes. Small particles imbedded in skin may cause ulceration which may become infected. Inhalation of excessive concentrations of oxide fume may cause metal fume fever.

Acute Effects:

Inhalation: Dust may cause irritation to upper respiratory tract.
Ingestion: If dusts are produced, amounts ingested incidental to industrial handling are not likely to cause injury, however, ingestion of larger amounts could cause serious injury, even death, because the acute oral toxicity of magnesium is considered moderate.
Skin: May cause irritation. Skin absorption is unlikely due to physical properties.
Eye: May cause irritation.

Chronic Effects: Based on available data, repeated exposures are not anticipated to cause any significant adverse effects.
Medical Conditions Aggravated by Exposure: Damaged skin, eye disorders, cardiopulmonary disease.
Carcinogenicity: NTP: No IARC: No OSHA: No

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult, seek immediate medical attention.
INGESTION: Remove from exposure, seek immediate medical attention.
SKIN: Remove any contaminated clothing, brush material off of skin, flush with running water, wash carefully with soap and water. Remove splinters to avoid delays in healing.
EYE: Flush with copious amounts of water for 15 minutes.

REACTIVITY DATA

Stability: Stable
Conditions to Avoid: Water/moisture, extreme heat
Incompatibility (Material to Avoid): Water/moisture, oxidizing agents, halocarbons, halogens, acid chlorides.
Hazardous Decomposition Products: Contact with water releases extremely flammable gases.
Hazardous Polymerization: Will not occur

SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: Wear appropriate respiratory and protective equipment. Isolate spill area and provide ventilation. Clean up using non-sparking tools. No smoking or open flames in clean up area. Do not flush with water or aqueous cleansing agents.

Waste Disposal Method: In accordance with Local, State and Federal Waste Disposal Regulations.

SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type): NIOSH-approved respirator when high concentrations encountered.
Ventilation: Use local exhaust to maintain concentrations at low exposure levels. General exhaust is recommended.

Protective Gloves: Impervious gloves
Eye Protection: Safety Glasses

Other Protective Clothing or Equipment: Protective work clothing.

SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storage: Powder: Handle and store under dry protective gas. Keep container tightly sealed. Store in cool, dry place away from water/moisture and oxidizing agents. Solid: Protect against physical damage. Store finely divided chips or shavings in tightly sealed containers protected from moisture and away from halogens, acids, and all sources of ignition. Dust can combine with air to form an explosive mixture.

Other Precautions:

Magnesium and magnesium alloys should be preheated to a minimum temperature of 149 oC to eliminate moisture prior to use in any melting operation. Water, in any form, if added to molten metal, will quickly generate steam and hydrogen and may cause an explosion. When magnesium is melted, or added to a molten bath, proper molten metal handling techniques should always be followed, including proper personal protective equipment, such as full-body covering flame retardant clothing, hard hat, face shield, side-shield safety glasses, flame retardant gloves, and steel-toed boots with metatarsal guards.

If operations involving magnesium, such as machining, produce fines, such as dust, powder, chips, or turnings, proper measures should be taken to prevent dust clouds around these operations. These fines should be collected frequently and should be stored and disposed of in accordance with National Fire Protection Agency guidelines. If these fines should become ignited, they can be extinguished using procedures described in Section IV of this document.

Handle magnesium and magnesium alloy product forms to avoid damage or personal injury. Store in dry location. Wet, moist or high humidity storage may lead to corrosion of the material and may produce highly explosive hydrogen gas. Store away from other combustible materials. See National Fire Protection Association Bulletins NFPA 480, “Storage, Handling, and Processing of Magnesium Powder” and NFPA 651, “Manufacture of Aluminum and Magnesium Powder” for more detailed information.

US Precautionary Labeling: POISON!! DANGER!! CAUSES SEVERE IRRITATION. HARMFUL IF SWALLOWED OR INHALED. Do not get in eyes, on skin, on clothing. Do not breathe vapor. Keep in tightly closed container. Loosen closure cautiously. Use with adequate ventilation. Wash thoroughly after handling. In case of spill neutralize with soda ash or lime and place in dry container.

International Labeling: Avoid contact with eyes. After contact with skin, wash immediately with plenty of water. Keep container tightly closed.

Work 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 and smoking. Do not blow dust off clothing or skin with compressed air. Maintain eyewash capable of sustained flushing, safety drench shower and facilities for washing.

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Chemical Store shall not be held liable for any damage resulting from handling or from contact with the above product.