



MTI Corporation – Magnesium MSDS

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Product: Magnesium metal (Mg), powder and pieces

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(1) Identification

Chemical Family

Metal

D.O.T. Hazard Classification

UN1869, Magnesium, 4.1, PGIII

(2) Hazardous Ingredients

Ingredients / Composition

Magnesium metal

C.A.S. # 7439-95-4

% Wight: 0.0-100.0%

ACGIH TLV: N.E.; OSHA PEL: N.E.; Other Limits: N.E.

(3) Physical Data

Boiling Point

1107.00 deg C (2024.6 deg F)

Melting Point

648.80 deg C (1199.8 deg F)

Evaporation Point:

No data. (VS Butyl acetate = 1)

Solubility in Water

Decomposes

Physical State/Appearance

Solid, Silver-white powder and pieces

Volatile by Weight

N.A.

Specific Gravity

1.74 at 20.0 C (68.0 F) (Water = 1)

Vapor Pressure

1 mm at 621.0 C (1149.8 F) (VS. AIR or MM HG)

Vapor Density

1.7 (VS. AIR = 1)

Odor

No

(4) Fire and Explosion Data

Flash Point

N.A.

Lower/Upper Explosive Limit

N.E.

Extinguishing Media

Use G-1 powder or powdered talc.

Extinguishing media to Avoid

Water or other ordinary extinguishers.

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 Hazards:

DANGEROUS WHEN WET. Dangerous fire hazard in the form of dust or flakes when exposed to flame or oxidizing agents. Powder will autoignite when heated in air even when kept below melting point. Burns vigorously with an intense white flame. Water acts as an accelerant, causing flare-ups, "popping" and will produce hydrogen gas which may result in an explosion. Magnesium fires do not flare up violently unless there is moisture present. May react with moisture and acids to evolve hydrogen. May be ignited by a spark, match flame, or even spontaneously when the material is finely divided and damp, particularly with water-oil emulsion. Ignites in carbon dioxide at 780C, molton carbonate+heat; fluorocarbon polymers+heat; carbon tetrachloride or trichloroethylene; dichlorodifluoromethane+heat. Explosive reaction or ignition with calcium carbonate+hydrogen+heat; gold cyanide+heat; silver oxide+heat; fused nitrates; phosphates; sulfates;

chloroformamidinium nitrate+water; halocarbons; dichlorodifluoromethane; methanol; water. Hypergolic reaction with nitric acid + 2-nitroaniline. Reacts with acetylenic compounds to form explosive magnesium acetylide. Violent reaction with ammonium salts; chlorate salts; beryllium fluoride; boron diiodophosphide; carbon tetrachloride+methanol; 1,1,1 trichloroethane; 1,2-dibromoethane; halogens or interhalogens; hydrogen iodide; metal oxides+heat; nitrogen; silicon dioxide powder+heat; polytetrafluoroethylene powder+heat; sulfur+heat; tellurium+heat; barium peroxide; nitric acid vapor; hydrogen peroxide; ammonium nitrate; sodium nitrate+heat;dinitrogen tetroxide; lead dioxide.

(5) Health Hazard Data and First Aid Procedures

Inhalation

May cause irritation and metal fume fever

Ingestion

Poison by ingestion

Target Organs:

May affect the skin and eyes

Eyes

May cause eye irritation

skin

Powdered metal may ignite readily on skin causing burns.

Particles embedded in skin can produce gaseous blebs with a protracted course

Emergency and First Aid Procedures

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

Skin: Remove contaminated clothing; brush material off skin; wash affected area with mild soap and water; seek medical attention

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

Ingestion: Give 1-2 glasses of milk or water and induce vomiting; never induce vomiting or give anything by mouth to an unconscious person.

(6) Reactivity Data

Hazardous Polymerization

Will not occur

Incompatibility (Materials to Avoid)

Acids; water; chlorinated solvents; methanol; hydrogen peroxide; sulfur compounds; animal & vegetable oils; metal oxides; tellurium compounds; ethylene oxide; metal oxosalts; oxidizing agents; potassium carbonate; Al+KClO₄; [Ba(NO₃)₂ + BaO₂+Zn]; bromobenzyl trifluoride; CaC₂; carbonates; CHCl₃; [CuSO₄ (anhydrous) + NH₄NO₃ +KClO₃+H₂O]; CuSO₄; H₂+CaCO₃; CH₃Cl; NO₂; liquid oxygen; metal cyanides; performic acid; phosphates; KClO₃; KClO₄; AgNO₃; NaClO₄; (Na₂O₂+CO₂); sulfates; trichloroethylene; Na₂O₂.

Conditions to Avoid

None

Hazardous Decomposition Products:

Hydrogen, magnesium acetylide and magnesium oxide

(7) Precautions For Safe Handling

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 and extinguish sources of ignition.

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. Use non-sparking tools.

Waste Disposal Method

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

Hazard Label Information	Store in cool, dry area. Store in tightly sealed container. Wash thoroughly after handling
DOT UN Number	1869
DOT hazard Class	4.1
(8) Control Measures	
Respiratory Protection	NIOSH – approved respirator
Ventilation System:	LOCAL EXHAUST: Use explosion-proof ventilation equipment. SPECIAL: Handle in a controlled environment MECHANICAL (GENERAL): Not recommended OTHER: Handle in an inert gas such as argon
Protective Gloves	Rubber gloves
Eye Protection	Safety glasses
Protective Clothing/Body Protection	Flame resistant clothing that does not create static sparks.
(9) Special Precautions With comments	
When Machining	Prevent dust escape into atmosphere. Do not breathe dust.

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