

MATERIAL SAFETY DATA SHEET

Chemical Product

Product Name: MAGNESIUM METAL POWDER
CAS#: - 7439-95-4
C.I. No.: Not available.
Synonym: Magnesium Metal, Powder, 100 mesh.
Chemical Name: Magnesium
Chemical Formula: Mg

Composition and Information on Ingredients

Name	S.K.U	% by Weight
MAGNESIUM METAL POWDER	GCS-3458	100

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.

First Aid Measures

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. 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. Cold water may be used.

Serious 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.

Serious Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

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.

Serious Ingestion: Not available.

Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: Some metallic oxides.

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat. Flammable in presence of acids, of moisture.

Nonflammable in presence of shocks.

Explosion Hazards in Presence of Various Substances: 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. Explosive in presence of acids, of moisture.

Fire Fighting Media and Instructions :

Flammable solid.

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Magnesium powder is highly flammable. It can be readily ignited. It is difficult to extinguish once ignited. It can reignite after fire is extinguished. Produces flammable gases on contact with water and acid. May ignite on contact with water or moist air. Magnesium fires do not flare up violently unless moisture is present.

Special Remarks on Explosion Hazards: Reacts with acids and water to form hydrogen gas which is highly flammable and explosive. Magnesium powder can be explosive if suspended in air and ignited by sparks or flames

Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Flammable solid. Stop leak if without risk. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids, moisture.

Storage:

Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Moisture sensitive. Dangerous when wet.

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: Not available.

Physical and Chemical Properties

Physical state and appearance	: Solid. (Some Metallic Powder.)
Odor	: Odorless
Taste	: Not available.
Molecular Weight	: 24.31 g/mole
Color	: Silver-white
pH (1% soln/water)	: Not available.
Boiling Point	: 1100°C (2012°F).
Melting Point	: 651°C (1203.8°F)
Critical Temperature	: Not available.
Specific Gravity	: 1.74 (Water = 1)
Vapor Pressure	: Not applicable.
Vapor Density	: Not available.
Volatility	: Not available.
Odor Threshold	: Not available.
Water/Oil Dist. Coeff.	: Not available.
Ionicity (in Water)	: Not available.
Dispersion Properties	: See solubility in water.

Solubility :

Very slightly soluble in hot water. Insoluble in cold water. Insoluble in chromium trioxides,

and mineral acids, alkalis. Slightly soluble with decomposition in hot water. Soluble in concentrated hydrogen fluoride, and ammonium salts.

Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, incompatible materials, water or moisture

Incompatibility with various substances: Reactive with oxidizing agents, acids, moisture. Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Violent chemical reaction with oxidizing agents. Reacts with water to create hydrogen gas and heat. Must be kept dry. Reacts with acids to form hydrogen gas which is highly flammable and explosive. Magnesium forms hazardous or explosive mixtures with aluminum and potassium perchlorate; ammonium nitrate; barium nitrate, barium dioxide and zinc; beryllium oxide; boron phosphodiiodide; bromobenzyl trifluoride; cadmium cyanide; cadmium oxide; calcium carbide; carbonates; carbon tetrachloride; chlorine; chlorine trifluoride; chloroform; cobalt cyanide; copper cyanide; copper sulfate(anhydrous), ammonium nitrate, potassium chlorate and water; cupric oxide; cupric sulfate; fluorine; gold cyanide; hydrogen and calcium carbonate; hydrogen iodide; hydrogen peroxide; iodine; lead cyanide; mercuric oxide; mercury cyanide; methyl chloride; molybdenum trioxide; nickel cyanide; nitric acid; nitrogen dioxide; oxygen (liquid); performic acid; phosphates; potassium chlorate; potassium perchlorate; silver nitrate; silver oxide; sodium perchlorate; sodium peroxide; sodium peroxide and carbon dioxide; stannic oxide; sulfates; trichloroethylene; zinc cyanide; zinc oxide. It slowly oxidizes in moist air.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Toxicological Information

Routes of Entry: Ingestion., Inhalation.

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 Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Magnesium dust can cause skin irritation by mechanical action. Spicules may penetrate wounds and retard healing. Eyes: Magnesium dust can cause eye irritation by mechanical action. Spicules may penetrate the eyes and retard healing. Inhalation: Magnesium dust can cause respiratory tract (nose, throat, lung) irritation. Symptoms may include coughing, wheezing, nasopharyngitis, and/or shortness of breath. When Magnesium metal is heated during welding or smelting process, Metal Fume Fever may result from inhalation of magnesium fumes. Metal Fume Fever is a flu-like condition consisting of fever,

chills, sweating, aches, pains, cough, weakness, headache, nausea, vomiting, and breathing difficulty. Other symptoms may include metallic taste, increased white blood cell count. There is no permanent ill-effect.

Ingestion: Low hazard for usual industrial handling. There are no known reports of serious industrial poisonings with Magnesium. May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea. Acute ingestion may result in Hypermagnesia which may cause hypotension, bradycardia, CNS depression, respiratory depression, and impairment of neuromuscular transmission (hyporeflexia, paralysis).

Toxicological Data on Ingredients : Magnesium LD50: Not available. LC50: Not available..

Ecological Information

Ecotoxicity: Not available.

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 Remarks on the Products of Biodegradation: Not available

Disposal Considerations

Waste treatment

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Transformation Information

Land transport (ADR-RID)

Proper shipping name : MAGNESIUM or MAGNESIUM ALLOYS with more than 50%

magnesium in pellets, turnings or ribbons

UN N° 1869

H.I. nr 40

ADR – Class : 4.1

Labelling – Transport : 4.1 : Flammable solids, self-reactive

substances and desensitized

ADR – Group Sea transport (IMDG) [English only] Proper shipping name : MAGNESIUM or MAGNESIUM ALLOYS with more than UN N° 1869 IMO-IMDG - Class or division : 4.1 : Flammable solids, self-reactive substances and desensitized	explosives. III
IMO-IMDG - Packing group Air transport (ICAO-IATA) [English only] Proper shipping name : MAGNESIUM or MAGNESIUM ALLOYS with more than UN N° 1869 IATA - Class or division : 4.1 : Flammable solids, self-reactive substances and desensitized	explosives. III
IATA - Packing group	explosives. III
Other Regulatory Information Federal and State Regulations: Connecticut hazardous material survey.: Magnesium Rhode Island RTK hazardous substances: Magnesium Pennsylvania RTK: Magnesium Massachusetts RTK: Magnesium Massachusetts spill list: Magnesium New Jersey: Magnesium TSCA 8(b) inventory: Magnesium Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances. Other Classifications: WHMIS (Canada): CLASS B-4: Flammable solid. CLASS B-6: Reactive and very flammable material. DSCL (EEC): R11- Highly flammable. R15- Contact with water liberates extremely flammable gases. S7/8- Keep container tightly closed and dry. S43- In case of fire, use dry chemical. Never use water HMIS (U.S.A.): Health Hazard: 2 Fire Hazard: 1 Reactivity: 0 Personal Protection: E National Fire Protection Association (U.S.A.): Health: 2	

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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