

MAGNESIUM

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1. Product Identification

Synonyms: Magnesium metal powder, cuttings, turnings, granules or ribbon

CAS No.: 7439-95-4

Molecular Weight: 24.31

Chemical Formula: Mg

Product Codes: CHEM-031A and others

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Magnesium	7439-95-4	99-100%	Yes

3. Hazards Identification

Emergency Overview

WARNING! FLAMMABLE SOLID. DUST MAY FORM FLAMMABLE OR EXPLOSIVE MIXTURE WITH AIR. MAY CAUSE IRRITATION TO SKIN AND RESPIRATORY TRACT.

SAF-T-DATA^(tm) Ratings

Health Rating: 1 - Slight

Flammability Rating: 3 - Severe (Flammable)

Reactivity Rating: 3 - Severe (Water Reactive)

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT; CLASS D EXTINGUISHER

Storage Color Code: Red Stripe (Store Separately)

Potential Health Effects

Inhalation:

Inhalation of dust or fumes may cause irritate the respiratory tract and may cause metal fume fever. Symptoms may include coughing, chest pains, fever, and leukocytosis.

Ingestion:

Magnesium metal does not have a well characterized toxicity. May cause abdominal pain and diarrhea.

Skin Contact:

Particles embedded in the skin may cause eruptions. Molten metal may cause serious skin burns.

Eye Contact:

High concentrations of dust may cause mechanical irritation. Watching a magnesium fire can cause eye injury.

Chronic Exposure:

No information found.

Aggravation of Preexisting Conditions:

Existing wounds contaminated with magnesium are very slow to heal.

4. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical advice if irritation develops.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if irritation persists.

5. Fire Fighting Measures

Fire:

Autoignition temperature: 473°C (883°F)

When heated in air to a temperature near its melting point, magnesium may ignite and burn. Dangerous in the form of dust or flakes, and when exposed to flame or by violent chemical reaction with oxidizing agents. Magnesium may react with moisture or acids to evolve hydrogen gas, which is a highly dangerous fire or explosion hazard.

Explosion:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum explosible concentration 0.030 grams/liter. Water used on molten or burning magnesium will produce hydrogen gas and may cause an explosion. Hazardous in contact with oxidizing materials; forms explosive mixtures.

Fire Extinguishing Media:

Use metal extinguishing powders such as G-1® graphite powder, Met-L-X® powder, powdered talc, dry graphite, powdered sodium chloride, soda ash, or dry sand. Warning! Do not use foam, chlorinated products such as Halon®, carbon dioxide, or water to extinguish magnesium fires, because dangerous reactions will occur. Water used on molten or burning magnesium will produce hydrogen gas and may cause an explosion.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Fire fighters should protect their eyes and skin from flying particles. In order to prevent eye injury, do not look directly at magnesium fires.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Collect the spilled material and transfer to a clean, dry metal covered container for recovery or disposal. Do not use water in the collection process. If the spilled magnesium comes in contact with water, proceed with caution. Hydrogen gas may be generated, which may cause fire or explosion. Evacuate the area, put on fire fighting protective equipment and proceed as with a metal fire.

7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, corrosion-proof, ventilated area away from moisture, sources of heat or ignition, combustibles and oxidizers. Protect against physical damage. Store finely divided powder, chips or shavings in detached fire-resistant building, protected from moisture and away from oxidizers, chlorine, bromine, iodine, acids, and all possible sources of ignition. Storage and uses areas must be No Smoking areas. Use non-sparking type tools and equipment, including explosion-proof ventilation. Containers of magnesium may be hazardous when empty since they retain product residues. Observe all warnings and precautions for this product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source. Refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Silver solid or grey powder.

Odor:

Odorless.

Solubility:

Insoluble in water.

Specific Gravity:

1,74 at 20°C (68°F) (solid)

pH:

No information found.

% Volatiles by volume @ 21°C (70°F):

0

Boiling Point:

1100°C (2012°F)

Melting Point:

649°C (1200°F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

1.0 @ 621°C (1150°F)

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Slowly oxidizes in moist air.

Hazardous Decomposition Products:

Toxic gases and vapors may be released if involved in a fire.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Magnesium reacts dangerously with many substances, including oxidizers, carbonates, cyanides, chlorinated solvents, sulfates, acids and other metals. Refer to NFPA publication "Fire Protection Guide on Hazardous Materials" most recent edition. Reacts with acids to release hydrogen gas.

Conditions to Avoid:

Moisture, heat, flame, ignition sources and incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

Ingredient	\ Cancer Lists \		IARC Category
	Known	Anticipated	
Magnesium (7439-95-4)	No	No	None

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)
Proper Shipping Name: MAGNESIUM
Hazard Class: 4.1
UN/NA: UN1869
Packaging Group: III
Information reported for product/size: 500 g

International (Water, I.M.O.)
Proper Shipping Name: MAGNESIUM
Hazard Class: 4.1
UN/NA: UN1869
Packing Group: III
Information reported for product/size: 500 g

15. Regulatory Information

----- \ Chemical Inventory Status - Part 1 \ -----

Ingredient	TSCA	EC	Japan	Australia
Magnesium (7439-95-4)	Yes	Yes	No	Yes

----- \ Chemical Inventory Status - Part 2 \ -----

----- Canada -----

Ingredient	Korea	DSL	NDSL	Phil.
Magnesium (7439-95-4)	Yes	Yes	No	Yes

----- \ Federal, State & International Regulations - Part 1 \ -----

----- -SARA 302- ----- -SARA 313-----

Ingredient	RQ	TPQ	List	Chemical Catg.
Magnesium (7439-95-4)	No	No	No	No

----- \ Federal, State & International Regulations - Part 2 \ -----

----- -RCRA- -TSCA-----

Ingredient	CERCLA	261.33	8(d)
Magnesium (7439-95-4)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: Yes Pressure: No
Reactivity: Yes (Pure / Solid)

Australian Hazchem Code: 4[Y]
Poison Schedule: None allocated.
WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 0 Flammability: 1 Reactivity: 1 Other: **Water reactive**

Label Hazard Warning:

WARNING! FLAMMABLE SOLID. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Label Precautions:

Keep away from heat, sparks and flame.
Avoid contact with eyes, skin and clothing.
Avoid breathing dust.
Use with adequate ventilation.
Keep container closed.
Wash thoroughly after handling.

Label First Aid:

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Product Use:

Laboratory Reagent, Pyrotechnics and Consumer Hobby

Revision Information:

No Changes.

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