

**SAFETY DATA SHEET**

Creation Date 17-Jan-2011

Revision Date 28-Mar-2024

Revision Number 5

**1. Identification**

**Product Name** Magnesium sputtering target

**Cat No. :** 40859

**CAS No** 7439-95-4  
**Synonyms** Magnesium metal (ribbons/turnings)

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet****Company**

Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757

**Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
**Emergency Number US:**001-201-796-7100 / **Europe:** +32 14 57 52 99  
**CHEMTREC** Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

**2. Hazard(s) identification****Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable solids	Category 1
Self-heating substances and mixtures	Category 2
Substances/mixtures which, in contact with water, emit flammable gases	Category 2

**Label Elements****Signal Word**

Danger

**Hazard Statements**

Flammable solid  
Self-heating in large quantities; may catch fire  
In contact with water releases flammable gas

**Precautionary Statements****Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting equipment  
Wear protective gloves/protective clothing/eye protection/face protection  
Keep cool. Protect from sunlight  
Keep away from any possible contact with water, because of violent reaction and possible flash fire  
Handle under inert gas. Protect from moisture

**Skin**

Brush off loose particles from skin. Immerse in cool water/wrap with wet bandages

**Fire**

In case of fire: Use fire-fighting equipment on basis class D for extinction

**Storage**

Maintain air gap between stacks/pallets  
Store away from other materials  
Store in a dry place. Store in a closed container  
Store bulk masses at temperatures not exceeding manufacturer recommendations  
Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

Component	CAS No	Weight %
Magnesium	7439-95-4	>95

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.
<b>Inhalation</b>	Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration.
<b>Ingestion</b>	Do NOT induce vomiting. Get medical attention.
<b>Most important symptoms and effects</b>	No information available.
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Dry chemical. approved class D extinguishers. clay. sodium carbonate.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	500 °C / 932 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	472.8 °C / 883 °F
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

**Specific Hazards Arising from the Chemical**

Water reactive. Produce flammable gases on contact with water. Flammable.

**Hazardous Combustion Products**

Magnesium oxides. Hydrogen.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
0

**Flammability**  
4

**Instability**  
2

**Physical hazards**  
W

## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Remove all sources of ignition.
<b>Environmental Precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for Containment and Clean Up</b>	Pick up and transfer to properly labelled containers. Remove all sources of ignition. Do not expose spill to water.

## 7. Handling and storage

<b>Handling</b>	Protect from moisture. Avoid contact with skin and eyes. Wash hands before breaks and immediately after handling the product. Ensure adequate ventilation. Wear personal protective equipment/face protection.
<b>Storage.</b>	Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Keep from any possible contact with water. Store under an inert atmosphere. Incompatible Materials. Acids. Strong oxidizing agents. Halogens. Acid chlorides.

## 8. Exposure controls / personal protection

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering Measures</b>	Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Personal Protective Equipment</b>	

<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	No special protective equipment required.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Solid
<b>Appearance</b>	Silver
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	7
<b>Melting Point/Range</b>	651 °C / 1203.8 °F
<b>Boiling Point/Range</b>	1107 °C / 2024.6 °F
<b>Flash Point</b>	500 °C / 932 °F
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Vapor Pressure</b>	negligible
<b>Vapor Density</b>	Not applicable
<b>Specific Gravity</b>	No information available
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	472.8 °C / 883 °F
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	Not applicable
<b>Molecular Formula</b>	Mg
<b>Molecular Weight</b>	24.3

## 10. Stability and reactivity

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Stable under normal conditions. Air sensitive. Water reactive.
<b>Conditions to Avoid</b>	Protect from water. Exposure to air. Incompatible products. Exposure to moist air or water.
<b>Incompatible Materials</b>	Acids, Strong oxidizing agents, Halogens, Acid chlorides
<b>Hazardous Decomposition Products</b>	Magnesium oxides, Hydrogen
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

### Product Information Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Magnesium	LD50 = 230 mg/kg ( Rat )	Not listed	Not listed

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**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** May cause irritation

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Magnesium	7439-95-4	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

**Persistence and Degradability** Insoluble in water

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment due its low water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN1869  
 Proper Shipping Name MAGNESIUM  
 Hazard Class 4.1  
 Packing Group III

### TDG

UN-No UN1869  
 Proper Shipping Name MAGNESIUM  
 Hazard Class 4.1  
 Packing Group III

**IATA**

UN-No UN1869  
 Proper Shipping Name MAGNESIUM  
 Hazard Class 4.1  
 Packing Group III

**IMDG/IMO**

UN-No UN1869  
 Proper Shipping Name MAGNESIUM  
 Hazard Class 4.1  
 Packing Group III

**15. Regulatory information****United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Magnesium	7439-95-4	X	ACTIVE	-

**Legend:****TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)**

Not applicable

**TSCA 12(b)** - Notices of Export

Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Magnesium	7439-95-4	X	-	231-104-6	X	X		X	X	KE-22673

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)** Not applicable**Clean Air Act** Not applicable**OSHA** - Occupational Safety and Health Administration Not applicable**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level

pertaining to releases of this material.

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Magnesium	X	X	X	-	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product contains the following DHS chemicals:

**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Magnesium	-

**Other International Regulations****Mexico - Grade**

No information available

**Authorisation/Restrictions according to EU REACH**

Not applicable

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Magnesium	7439-95-4	-	-	-

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Magnesium	7439-95-4	Listed	Not applicable	Not applicable	Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

**Other International Regulations**

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Magnesium	7439-95-4	Not applicable	Not applicable	Not applicable	Not applicable

**16. Other information**

Prepared By

Health, Safety and Environmental Department

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**Revision Summary** New emergency telephone response service provider.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**