

DATE: 08/21/96 ACCT: 888235001  
 INDEX: D62333351 CAT NO: M810Z PO NBR: UNG71589

## \*\*\*\* MATERIAL SAFETY DATA SHEET \*\*\*\*

Magnesium  
13290

## \*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\*\*

MSDS Name: Magnesium

Catalog Numbers:

M11 500, M11-500, M11500, M7 100, M7100, M8 10Z, M8-10Z, M810Z, S71961,  
S71962, S75532, S75551, S75551-1, S75551-2, S755511, S755512

Synonyms:

Magnesium Metal (ribbons/turnings)  
Company Identification: Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

## \*\*\*\* SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

CAS#	Chemical Name	%	EINECS#
7439-95-4	MAGNESIUM	99	unlisted

Hazard Symbols: F  
Risk Phrases: 11 15

## \*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

## EMERGENCY OVERVIEW

Appearance: Silver-white turnings/ribbons.

Warning! Flammable solid. May cause respiratory tract irritation.

Reacts with water. May cause mechanical eye and skin irritation.

Inhalation of fumes may cause metal-fume fever.

Target Organs: None.

## Potential Health Effects

Eye:

Dust may cause mechanical irritation.

Skin:

Dust may cause mechanical irritation.

Particles embedded in skin may cause "chemical gas gangrene," with symptoms including persistent lesions, inflammation, and gas bubbles under the skin.

Ingestion:

May cause irritation of the digestive tract. Low hazard for usual industrial handling.

Inhalation:

May cause respiratory tract irritation. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count.

Chronic:

No information found.

## \*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.

Skin:

Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water.

Get medical aid immediately.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Get medical aid.

Notes to Physician:

The use of calcium gluconate as antidotal treatment for magnesium overdose should be determined only by qualified medical personnel (Medical Toxicology, 1988).

The use of calcium injection as an antidote for magnesium overload should be determined only by qualified medical personnel (from Medical Toxicology, 1988).

## \*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

## General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Flammable solid. May react with acids or moisture

to form explosive hydrogen gas.

Extinguishing Media:

Use only graphite powder, soda ash, powdered sodium chloride, or an appropriate metal-fire-extinguishing dry powder. Do NOT use water, carbon dioxide, or foam.

Autoignition Temperature: 1204 F (651.11 C)

Flash Point: Not applicable.

NFPA Rating: Not published.

Explosion Limits, Lower: Not available.

Upper: Not available.

## \*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition.

## \*\*\*\* SECTION 7 - HANDLING and STORAGE \*\*\*\*

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, sparks or open flames. Avoid ingestion and inhalation.

Storage:

Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

## \*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

Engineering Controls:

Use adequate ventilation to keep airborne concentrations low.

Chemical Name	Exposure Limits		
	ACGIH	NIOSH	OSHA - Final PELs
MAGNESIUM	none listed	none listed	none listed

OSHA Vacated PELs:

MAGNESIUM:

No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:

Wear chemical goggles and face shield.

Skin:

Wear impervious gloves.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29CFR 1010.134. Always use a NIOSH-approved respirator when necessary.

## \*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Physical State:

Solid

Appearance:

Silver-white turnings/ribbons.

Odor:

None reported.

pH:

7 (water solution)

Vapor Pressure:

Negligible.

Vapor Density:

Negligible.

Evaporation Rate:

Negligible.

Viscosity:

Not available.

Boiling Point:

2025 F

Freezing/Melting Point:

1204 F

Decomposition Temperature: Not available.

Solubility:

Insoluble in water.

Specific Gravity/Density:

1.74 (water=1)

Molecular Formula:

Mg

Molecular Weight:

24.305

## \*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials, ignition sources, exposure to air, contact

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with water.  
Incompatibilities with Other Materials:  
Oxygen, moisture, chlorinated solvents, methanol, hydrogen peroxide,  
oxidizing agents, sulfur compounds, metal oxides, metal cyanides,  
metal oxide salts, fluorine, carbonates, halogens, phosphates.  
Hazardous Decomposition Products:  
Oxides of magnesium.  
Hazardous Polymerization: Has not been reported.

\*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

RTECS#:  
CAS# 7439-95-4: OM2100000  
LD50/LC50:  
Not available.  
Carcinogenicity:  
MAGNESIUM -  
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.  
Epidemiology:  
No information available.  
Teratogenicity:  
No information available.  
Reproductive Effects:  
No information available.  
Neurotoxicity:  
No information available.  
Mutagenicity:  
No information available.  
Other Studies:  
None.

\*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Ecotoxicity:  
No information available.  
Environmental Fate:  
No information reported  
Physical/Chemical:  
No information available.  
Other:  
None.

\*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Dispose of in a manner consistent with federal, state, and local regulations.  
RCRA D-Series Maximum Concentration of Contaminants: Not listed.  
RCRA D-Series Chronic Toxicity Reference Levels: Not listed.  
RCRA F-Series: Not listed.  
RCRA P-Series: Not listed.  
RCRA U-Series: Not listed.  
Not listed as a material banned from land disposal according to RCRA.

\*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

US DOT  
Shipping Name: MAGNESIUM  
Hazard Class: 4.1  
UN Number: UN1869  
Packing Group: III  
IMO  
No information available.  
IATA  
No information available.  
RID/ADR  
No information available.  
Canadian TDG  
Shipping Name: MAGNESIUM METAL POWDER  
Hazard Class: 4.3(4.2)  
UN Number: UN1418

\*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

A. Federal  
TSCA  
CAS# 7439-95-4 is listed on the TSCA inventory.  
Health & Safety Reporting List  
None of the chemicals are on the Health & Safety Reporting List.  
Chemical Test Rules  
None of the chemicals in this product are under a Chemical Test Rule.  
Section 12b  
None of the chemicals are listed under TSCA Section 12b.  
TSCA Significant New Use Rule  
None of the chemicals in this material have a SNUR under TSCA.  
SARA  
Section 302 (RQ)  
None of the chemicals in this material have an RQ.  
Section 302 (TPQ)  
None of the chemicals in this product have a TPQ.  
SARA Codes

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CAS # 7439-95-4: acute, flammable, reactive.  
Section 313  
No chemicals are reportable under Section 313.  
Clean Air Act:  
This material does not contain any hazardous air pollutants.  
This material does not contain any Class 1 Ozone depleters.  
This material does not contain any Class 2 Ozone depleters.  
Clean Water Act:  
None of the chemicals in this product are listed as Hazardous  
Substances under the CWA.  
None of the chemicals in this product are listed as Priority  
Pollutants under the CWA.  
None of the chemicals in this product are listed as Toxic Pollutants  
under the CWA.

OSHA:  
None of the chemicals in this product are considered highly hazardous  
by OSHA.

B. State  
MAGNESIUM can be found on the following state right to know lists:  
California, New Jersey, Florida, Pennsylvania, Massachusetts.  
California No Significant Risk Level:  
None of the chemicals in this product are listed.

C. International  
Canada  
CAS# 7439-95-4 is listed on Canada's DSL/NDSL List.  
CAS# 7439-95-4 is not listed on Canada's Ingredient Disclosure List.  
European Labeling in Accordance with EC Directives  
Hazard Symbols: F

Risk Phrases:  
R 11 Highly flammable.  
R 15 Contact with water liberates highly flammable  
gases.  
Safety Phrases:  
S 7/8 Keep container tightly closed and dry.  
S 43A In case of fire, use dry chemical (never use  
water).

Exposure Limits:  
OEL-UNITED KINGDOM:STEL 1 mg/m3

\*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

Additional Information:  
Added NFPA codes to Section 5. Added SARA classifications to Section  
15.  
Section 3, Emer Overview, added "WARNING!.."  
Section 3, Emer Overview, added "FLAMMABLE SOLID.."  
Section 3, Emer Overview, added "MAY CAUSE MECHANICAL EYE AND SKIN  
I.."  
Section 3, Emer Overview, added "INHALATION OF FUMES MAY CAUSE  
METAL.."  
Section 3, Emer Overview, added "MAY CAUSE RESPIRATORY TRACT  
IRRITAT.."  
Section 3, Emer Overview, added "REACTS WITH WATER.."  
Section 3, Eye Effects, added "Dust may cause mechanical  
irritatio.."  
Section 3, Skin Effects, added "Dust may cause mechanical  
irritatio.."  
Section 3, Inhalation Effects, added "May cause respiratory tract  
irritat.."  
Section 3, Inhalation Effects, added "Inhalation of fumes may cause  
metal.."  
Section 3, Ingestion Effects, added "Low hazard for usual  
industrial han.."  
Section 3, Ingestion Effects, added "May cause irritation of the  
digesti.."  
Section 3, Chronic Effects, added "No information found.."  
Section 4, Eye First Aid, added "Immediately flush eyes with  
plenty.."  
Section 4, Eye First Aid, added "Get medical aid.."  
Section 4, Skin First Aid, added "Immediately flush skin with  
plenty.."  
Section 4, Skin First Aid, added "Get medical aid.."  
Section 4, Inhalation First Aid, added "Remove from exposure to  
fresh air i.."  
Section 4, Inhalation First Aid, added "If not breathing, give  
artificial r.."  
Section 4, Inhalation First Aid, added "If breathing is difficult,  
give oxy.."  
Section 4, Inhalation First Aid, added "Get medical aid.."  
Section 4, Ingestion First Aid, added "If victim is conscious and  
alert, g.."  
Section 4, Ingestion First Aid, added "Get medical aid  
immediately.."  
Section 5, Extinguishing Media, added "Use only graphite powder,  
soda ash.."  
Section 5, Extinguishing Media, added "Do NOT use water, carbon  
dioxide, o.."  
Section 5, General Firefighting, added "As in any fire, wear a  
self-contain.."

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Section 5, General Firefighting, added "May react with acids or moisture to."  
Section 5, General Firefighting, added "Flammable solid..".  
Section 6, Spills/Leaks, added "Scoop up with a nonsparking tool, t."  
Section 6, Spills/Leaks, added "Remove all sources of ignition...".  
Section 7, Handling, added "Wash thoroughly after handling...".  
Section 7, Handling, added "Remove contaminated clothing and wa...".  
Section 7, Handling, added "Use with adequate ventilation...".  
Section 7, Handling, added "Ground and bond containers when tra...".  
Section 7, Handling, added "Use spark-proof tools and explosion...".  
Section 7, Handling, added "Avoid contact with eyes, skin, and...".  
Section 7, Handling, added "Avoid ingestion and Inhalation...".  
Section 7, Handling, added "Empty containers retain product res...".  
Section 7, Storage, added "Store in a tightly closed container...".  
Section 7, Storage, added "Store in a cool, dry, well-ventilat...".  
Section 7, Storage, added "Keep away from sources of ignition...".  
Section 8, Engin. Controls, added "Use adequate ventilation to keep ai...".  
Section 8, Eye Protection, added "Wear chemical goggles and face shi...".  
Section 8, Skin Protection, added "Wear impervious gloves...".  
Section 8, Clothing, added "Wear appropriate protective clothin...".  
Section 8, Respirators, added "Follow the OSHA respirator regulati...".  
Section 9, Physical Properties has changed.  
Section 10, Stability, added "Stable under normal temperatures an...".  
Section 10, Condit. to Avoid, added "incompatible materials..".  
Section 10, Condit. to Avoid, added "ignition sources...".  
Section 10, Condit. to Avoid, added "exposure to air...".  
Section 10, Condit. to Avoid, added "contact with water...".  
Section 10, Decomposition Prod., added "oxides of magnesium...".  
Section 10, Incompatibilities has changed.  
Section 11, Epidemiology has changed.  
Section 11, Neurotoxicity has changed.  
Section 11, Teratogenicity has changed.  
Section 11, Mutagenicity has changed.  
Section 11, Reproductive has changed.  
Section 11, Other Info has changed.  
Section 12, Ecology Info has changed.  
Section 12, Environ. Info has changed.  
Section 12, Physical Info has changed.  
Section 12, Other Info has changed.

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