MAGNESIUM 13335

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

MSDS Name: Magnesium
Catalog Number: M-1005, M-1100, M-1205, M-1300, M-1400, M-1500, M-1600, M-1700, M-1800, M-1900, M-2000

Synonyms: Magnesium Metal (ribbons/turnings)

Company Identification: Fisher Scientific

For information, call: 201-768-7100

Emergency Number: 201-768-7100

For CHEMTREC assistance, call: 800-424-9300

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

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Chemical Name</th>
<th>% EINECS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>7439-95-4</td>
<td>MAGNESIUM</td>
<td>99</td>
</tr>
<tr>
<td>7440-52-3</td>
<td>MAGNESIUM</td>
<td>99</td>
</tr>
</tbody>
</table>

Hazard Statements:
- F

Risk Phrases: I15

**** SECTION 3 - HAZARDS IDENTIFICATION ****

- EMERGENCY OVERVIEW

Appearance: Silver-white turnings/ribbons.

Flash Point: Not applicable.

Autoignition Temperature: 205°F (96°C)

NFP Rating: Not applicable.

Explosion Limits: Lower: Not applicable. Upper: Not applicable.

**** 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 immediately.

- SKIN

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

Inhalation: Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid immediately.

- INHALATION

- INGESTION

If victim is conscious and alert, give 2-4 cups of milk or water. Get medical aid immediately.

Notes to Physician:
- The use of calcium gluconate as antidotal treatment for magnesium over doses 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.

- Autocignition Temperature: 205°F (96°C)

Flash Point: Not applicable.

NFP Rating: Not applicable.

Explosion Limits: Lower: Not applicable. Upper: Not applicable.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use personal protective equipment as indicated in Section 6.

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 equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue (liquid and/or vapor), and can be dangerous. Do not puncture, cut, weld, braze, solder, grill, 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 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.

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
<th>Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAGNESIUM</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td></td>
</tr>
</tbody>
</table>

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 1910.134. 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:

205°F

- Freezing/Phalting Point:

120°F

- Decomposition Temperature:

Not available

- 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.

- Incompatible Materials:

Incompatible materials, ignition sources, exposure to air, contact...
with water.

Incompatibilities with Other Materials:
- Oxygen, moisture, chlorinated solvents, methanol, hydrogen peroxide,
- Oxidizing agents, sulfur compounds, metal oxides, metal cyanides,
- Metal oxide salts, fluorene, carbonates, halogens, phosphates.

Hazardous Decomposition Products:
- Oxides of magnesium.

Hazardous Polymerization: Not been reported.

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

RTCA:
- 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 ****

Ecotoxicty:
- 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 F-Series Chronic Toxicity Reference Levels: Not available.

RCRA A-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: UN1889

IMO
- No information available.

IATA
- No information available.

RID/ADR
- No information available.

Canadian TDG
- Shipping Name: Magnesium Metal Powder
- Hazard Class: 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 12c
- 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 a RQ.
- Section 302 (TPQ)
- None of the chemicals in this product have a TPQ.

SARA Codes

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

Additional Information:
- Added NFPA codes to Section 5.
- Added SARA classifications to Section 15.

Section 3
- Emer Overview, added "WARNING!...
- Emer Overview, added "FLAMMABLE SOLID;...
- Emer Overview, added "MAY CAUSE MECHANICAL EYE AND SKIN ...
- Emer Overview, added "INHALATION OF FUMES MAY CAUSE METAL ...

Section 2
- Emer Overview, added "MAY CAUSE RESPIRATORY TRACT...
- Emer Overview, added "REACTS WITH WATER;...
- Eye, added "Dust may cause mechanical irritation;...
- Skin Effects, added "Dust may cause mechanical irritation;...
- Inhalation Effects, added "May cause respiratory tract...

Section 3
- Inhalation Effects, added "Inhalation of fumes may cause metal;...
- Ingestion Effects, added "Low hazard for usual industrial han;...
- Ingestion Effects, added "May cause irritation of the digests;...
- Chronic Effects, added "No information found;...
- Eye First Aid, added "Immediately flush eyes with plenty;...
- Skin First Aid, added "Immediately flush skin with plenty;...
- Skin First Aid, added "Get medical aid;...
- Inhalation First Aid, added "Remove from exposure to fresh air;...
- Inhalation First Aid, added "If not breathing, give artificial...}
- Inhalation First Aid, added "If breathing is difficult, give only...
- Inhalation First Aid, added "Get medical aid;...
- Inhalation First Aid, added "If victim is unconscious and...
- Inhalation First Aid, added "Get medical aid immediately;...
- Extinguishing Media, added "Use only graphite powder, sod...
- Extinguishing Media, added "Do NOT use water, carbon dioxide;...
- General Firefighting, added "As in any fire, wear a self-contain;...
Section 5. General Firefighting, added "May react with acids or moisture to...
Section 6. General Firefighting, added "Flammable solid..."
Section 6. Spills/Leaks, added "Scoop up with a nonsparking tool, t.
Section 7. Handling, added "Wash thoroughly after handling..."
Section 7. Handling, added "Use with adequate ventilation..."
Section 7. Handling, added "Ground and bond containers when transferring..."
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 cool, dry, well-ventilated..."
Section 7. Storage, added "Keep away from sources of ignition..."
Section 8. Engine Controls, added "Use adequate ventilation to keep...al.
Section 8. Eye Protection, added "Wear chemical goggles and face shi...
Section 8. Skin Protection, added "Wear impervious gloves..."
Section 9. Clothing, added "Wear appropriate protective clothin...
Section 9. Respirators, added "Follow the OSHA respirator regulat...
Section 10. Physical Properties has changed.
Section 10. Conditions to Avoid, added "Incompatible materials..."
Section 10. Conditions to Avoid, added "Ignition sources..."
Section 10. Conduct to Avoid, added "Exposure to air..."
Section 10. Conduct 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.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, however arising, even if Fisher has been advised of the possibility of such damages.