



Safety Data Sheet  
**Magnesium Alloys**



SECTION 1: IDENTIFICATION	
<b>Product Name:</b> Magnesium Alloys <b>Chemical Formula:</b> Mg (Alloyed) <b>Other Names:</b> Magnesium, AM50A, AM60B, AZ91D <b>Intended Use / Restrictions on Use:</b> For professional/industrial use only.	<b>Contact Information:</b> Greenwich Metals, Inc. 165 West Putnam Ave. Greenwich, CT 06830 Phone: 203-622-4848  <b>Emergency Contact:</b> Chemtrec – call 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION	
<b>Classification:</b> Substance and Mixture, which in contact with water, emit flammable gasses (Category 1) – H260 Pyrophoric solids (Category 1) – H250 Acute and Chronic Aquatic Toxicity (Category 1) – H400 + H410	
<b>Label Elements:</b> Hazard Pictograms:	
 GHS02	 GHS09
<b>Signal Word:</b>	Danger
<b>Hazard Statements:</b>	H260 – In contact with water release flammable gases which may ignite spontaneously H250 – Catches fire spontaneously if exposed to air. H410 – Very Toxic to aquatic life with long lasting effects.
<b>Precautionary Statements:</b>	P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P273 – Avoid release to the environment. P223 – Keep away from any possible contact with water, because of violent reaction and possible flash fire. P232 – Protect from Moisture. P280 – Wear eye protection, protective clothing, protective gloves. P335 – Brush off loose particles from skin. P370+P378 – In case of fire: Use dry sand, dry chemical, or alcohol resistant foam for extinguishing. P501 – Dispose of contents/container in accordance with local, regional, national and international regulations.
<b>Other Hazards:</b>	None
<b>Unknown Acute Toxicity Statement:</b>	
Not Applicable	

### SECTION 3: COMPOSITION

**Name:** Magnesium Alloys

**Synonyms:** Magnesium, AM50A, AM60B, AZ91D

Chemical Name	CAS Number	% by Weight
Magnesium (Mg)	7439-95-4	89-95%
Aluminum (Al)	7429-90-5	4.5-9.5%
Zinc (Zn)	7440-66-6	0.1-0.9%
Silicon (Si)	7440-21-3	0.02-0.05%
Manganese (Mn)	7439-96-5	0.17-0.50%

**Mixture:**

For exact composition, refer to product specifications or analysis.

### SECTION 4: FIRST AID MEASURES

**Required Treatment:**

After inhalation, move to fresh air and rest in a position comfortable for breathing.

After skin contact, wash skin thoroughly.

After eye contact, remove contact lenses if applicable and flush eyes with water for at least 15 minutes.

After ingestion, do not induce vomiting. Rinse mouth with water. Call poison control center or doctor.

**Important Symptoms & Effects, Acute & Delayed:**

Inhalation may cause metal fume fever. See section 11 for notable symptoms. If feeling un-well after exposure, consult with a doctor.

**Indication of Medical Attention:**

If any acute or chronic symptoms arise or if feeling unwell after exposure, seek medical advice.

### SECTION 5: FIRE-FIGHTING MEASURES

**Extinguishing Techniques/Equipment:**

Use dry agent such as dry powder, sand, or talc. Use extinguishing media appropriate for surrounding environment. Do not use water.

**Chemical Hazards from Fire:**

May react violently with water creating flammable hydrogen gas.

**Special Equipment and Precautions for Firefighters:**

Exercise caution. If entering fire area, wear proper protective equipment including respiratory protection if necessary.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**Emergency Procedures/Personal Protection:**

Avoid all contact with skin, eyes, or clothing. Avoid breathing fumes and dust.

Evacuate all unnecessary personnel.

**Protective Equipment:**

Use appropriate personal protection equipment (PPE), as listed in section 8.

**Methods of Containment & Cleanup:**

Sweep up using a natural fiber brush and non-sparking pan. Dry, clean material may be re-used. Wet or contaminated material should be placed in lock-top drums and stored in a safe outside area physically separated from other activities.

**SECTION 7: HANDLING AND STORAGE****Precautions for Safe Handling:**

When solid, practice good industrial hygiene and safety procedures. Do not allow dust or powder to accumulate on equipment or building surfaces. Clean exposed areas.

**Precautions for Safe Storage:**

Store in cool, dry and well ventilated location. Seal containers. Keep away from incompatible materials such as strong oxidizing agents, acids, acid chlorides, and halogens.

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION****Control Parameters:**

Magnesium has no occupational exposure limit values.

Aluminum:

USA OSHA - TWA ( $\text{mg}/\text{m}^3$ ) –  $15\text{mg}/\text{m}^3$  (Total Dust) – Table Z-1 Limits for Air Contaminants

USA OSHA - TWA ( $\text{mg}/\text{m}^3$ ) –  $15\text{mg}/\text{m}^3$  (Respirable Fraction) – Table Z-1 Limits for Air Contaminants

Zinc has no occupational exposure limit values.

Silicon:

USA OSHA - TWA ( $\text{mg}/\text{m}^3$ ) –  $15\text{mg}/\text{m}^3$  (Total Dust) – Table Z-1 Limits for Air Contaminants

USA OSHA - TWA ( $\text{mg}/\text{m}^3$ ) –  $5\text{mg}/\text{m}^3$  (Respirable Fraction) – Table Z-1 Limits for Air Contaminants

Manganese:

USA OSHA - TWA ( $\text{mg}/\text{m}^3$ ) –  $5\text{mg}/\text{m}^3$  – Table Z-1 Limits for Air Contaminants

**Engineering Controls:**

Ensure adequate ventilation. Emergency eye wash stations and safety showers should be nearby any potential exposure. Ensure national/local regulations are observed.

**Personal Protective Equipment:**

Protective goggles, gloves and clothing. If insufficient ventilation, wear respiratory protection.

**Materials for Protective Clothing:** Wear chemically resistant materials and fabrics.

**Hand Protection:** Wear chemically resistant gloves. If working with molten or hot material, wear thermally resistant gloves.

**Eye Protection:** Chemical goggles or safety glasses should be worn at all times. For furnace work, wear a face shield or safety glasses.

**Respiratory Protection:** If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

**Thermal Hazard Protection:** For furnace work, fire retardant clothing, gloves, and safety shoes should be worn.

**Consumer Exposure Controls:** Do not eat, drink, or smoke during use.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State:</b> Solid (Metal)	<b>Evaporation Rate:</b> N/A
<b>Color:</b> Grey	<b>Flammability:</b> May form combustible dust concentrations in air
<b>Taste:</b> N/A	<b>Upper/Lower Flammability Limits:</b> N/A
<b>Molecular Weight:</b> 24.31 g/mol for Mg	<b>Vapor Pressure:</b> 1 mmHg at 621 °C for Mg
<b>Odor:</b> N/A	<b>Vapor Density:</b> N/A
<b>Odor Threshold:</b> N/A	<b>Relative Density:</b> 1.74 g/mL at 25 °C for Mg
<b>pH:</b> N/A	<b>Solubility:</b> Insoluble in water
<b>Melting Point:</b> 648 °C (1198 °F) for Mg	<b>Partition Coefficient:</b> N/A
<b>Boiling Point:</b> 1090 °C (1994 °F) for Mg	<b>Auto-ignition Temperature:</b> N/A
<b>Boiling Range:</b> N/A	<b>Decomposition Temperature:</b> N/A
<b>Flash Point:</b> N/A	<b>Viscosity:</b> N/A

### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** May react violently with water.

**Stability:** Stable under proper handling and storage conditions.

**Hazardous Reactions:** Oxidation in water leads to hydrogen production.

**Conditions to Avoid:** Avoid incompatible materials, dust generation, moisture, excess heat.

**Incompatible Materials:** Strong oxidizing agents, acids, acid chlorides, halogens.

**Hazardous Decomposition Products:** Hydrogen gas may be produced by oxidation in water. Hydrogen gas is explosive.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### Routes of Exposure

Inhalation of dust, fumes. Skin contact through physical contact. Eye contact through physical contact or dust and fumes. Ingestion through contamination of skin/surfaces.

#### Chronic and Acute Related Symptoms/Effects:

Inhalation of fumes or dust can cause respiratory irritation. Manganese fumes can cause chronic central nervous system damage, secondary Parkinson's disease, and scarring of the lungs. Inhalation of metal and metal oxides (may be formed during processing) can cause metal fume fever which is characterized by nausea, fever, chills, shortness of breath and malaise. Skin contact with molten metal can cause burns. Dust or fumes can cause eye irritation. Ingestion can cause harmful effects.

#### Measures of Toxicology:

Acute Toxicity: Not Classified

Skin Corrosion/Irritation: Not Classified

Serious Eye Damage/ Irritation: Not Classified

Respiratory or Skin Sensitization: Not Classified

**Germ Cell Mutagenicity:** Not Classified

**Reproductive Toxicity:** Not Classified

**Carcinogenic Information:** IARC Group: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

### SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** No data available

**Persistence and Degradability:** No data available

**Bioaccumulative Potential:** No data available

**Mobility in Soil:** No data available

**Other Adverse Effects:**

Prevent entry to sewers and public waterways. Avoid release to the environment. Ensure accordance with national and local regulations.

**SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose of waste in accordance with all local, regional, national, and international regulations.

**SECTION 14: TRANSPORTATION INFORMATION**

UN Number: 1869

UN Proper Shipping Name: Magnesium Alloy

Transport Hazard Classes: 4.1

Packing Group: III

Environmental Hazards: N/A

Transport in Bulk: N/A

Special Precautions: Keep dry.

**SECTION 15: REGULATORY INFORMATION**

**US Federal Regulations:**

For Magnesium:

SARA Section 302 – None

SARA Section 311/312 Hazard Classes – Fire Hazard, Delayed (chronic) Health Hazard, Reactivity Hazard

SARA Section 313 Emissions Reporting – Does not contain any chemical that exceeds established thresholds.

**US State Regulations:**

For Magnesium:

California – Prop. 65 – Non-carcinogenic

Massachusetts – Right To Know List

Pennsylvania – Right To Know List

New Jersey – Right To Know List

**SECTION 16: OTHER INFORMATION**

Date of Preparation: 05/31/15

Prepared in accordance with OSHA HCS 29 CFR 1910.1200.

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