

# Material Safety Data Sheet



## Freeman-Palmer Dowmetal Plates

Date of Preparation: 6/14/01

Revision:

### Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** Freeman-Palmer Dowmetal Plates

**Chemical Formula:**

**CAS Number:**

**Other Designations:**

**General Use:**

**Manufacturer:** Palmer Engineered Products, 25 Bechtle, Springfield, OH 45504, 1-800-531-1833

<b>HMIS</b>	
<b>H</b>	1
<b>F</b>	1
<b>R</b>	0
<b>PPE†</b>	
†Sec. 8	

### ☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

### Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt or % vol
Magnesium Oxide Fume	1309-48-4	91.5-98.5
Aluminum Metal (as Al)	7429-90-5	1.5 - 8.5
Manganese Compounds (as Mn)	7439-96-5	0.5
Zinc Oxide Fume	1314-13-2	0 - 0.8

(Exposure values applicable only if generated)

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Magnesium Oxide Total Particulate -	15mg/m3	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.
Aluminum metal (as Al) Total dust - Respirable fraction	15mg/m3 5mg/m3	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.
Manganese (as Mn) Fume -	5mg/m3 – ceiling	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.
Manganese Compounds If generated -	5mg/m3 – ceiling						
Zinc Oxide fume	5mg/m3	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.

### Section 3 - Physical and Chemical Properties

**Physical State:** N/A

**Appearance and Odor:** Silver solid. No odor.

**Odor Threshold:** N/A

**Vapor Pressure:** N/A

**Vapor Density (Air=1):** N/A

**Formula Weight:** N/A

**Density:** N/A

**Specific Gravity (H<sub>2</sub>O=1, at 4 °C):** 1.76-1.81

**pH:** N/A

**Water Solubility:** N/A

**Other Solubilities:** N/A

**Boiling Point:** Not determined.

**Freezing/Melting Point:** Melts at 875-1160°F (468-627°C)

**Viscosity:** N/A

**Refractive Index:** N/A

**Surface Tension:** N/A

**% Volatile:** N/A

**Evaporation Rate:** N/A

## Section 4 - Fire-Fighting Measures

**Flash Point:** None

**Flash Point Method:** N/A

**Burning Rate:** N/A

**Autoignition Temperature:** N/A

**LEL:** N/A

**UEL:** N/A

**Flammability Classification:** N/A

**Extinguishing Media:** Smother burning magnesium by covering with an extinguishing powder approved for use on magnesium fires, such as G1, METL-X, etc. Consult National Fire Protection Association standards for other extinguishing media which may be applicable to certain operations such as foundries or heat-treat furnaces.

**Unusual Fire or Explosion Hazards:** When heated in air to a temperature near its melting point, magnesium alloys ignite and burn with a white flame. Use of water on molten or burning magnesium will produce hydrogen gas and may cause an explosion.

**Hazardous Combustion Products:** N/A

**Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.

**Fire-Fighting Equipment:** Wear positive pressure self-contained breathing apparatus.

**NFPA HAZARD CLASS:**

Health: 1

Flammability: 1

Reactivity: 0

## Section 5 - Stability and Reactivity

**Stability:** Stable under normal handling conditions.

**Polymerization:** Hazardous polymerization cannot occur.

**Chemical Incompatibilities:** Reacts with acid to form hydrogen gas. In finely divided form, will react with water or acids to release hydrogen.

**Conditions to Avoid:** Build ups of finely divided magnesium metal. Exposure to excessively high temperatures, and open flame.

**Hazardous Decomposition Products:** None under normal use or storage. See incompatibility statement and fire and explosion hazard data for special situations.

## Section 6 - Health Hazard Information

### Potential Health Effects

**Primary Entry Routes:** N/A

**Target Organs:** N/A

#### Acute Effects

**Inhalation:** Dust may cause irritation to upper respiratory tract.

**Eye:** Mechanical injury only. Metal dust or fume may be dangerous to eye and surrounding tissue.

**Skin:** Mechanical injury only. Molten material may burn skin.

**Ingestion:** Ingestion is unlikely due to physical state. If dusts are produced, amounts ingested incidental to industrial handling are not likely to produce injury, however, ingestion of larger amounts could cause serious injury, even death, because the acute oral toxicity of magnesium is considered moderate.

**Carcinogenicity:** Not a listed carcinogen.

**Medical Conditions Aggravated by Long-Term Exposure:** N/A

**Chronic Effects:** Based on available data, repeated exposures are not anticipated to cause any significant adverse effects.

### Emergency and First Aid Procedures

**Inhalation:** Remove to fresh air if dust inhalation effects occur. Consult medical personnel. **Note to Physician** – No specific antidote for dust inhalation. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient.

**Eye Contact:** Irrigate immediately with water for at least 5 minutes. If mechanical injury results, consult a physician or qualified person.

**Skin Contact:** Wash off dust in flowing water or shower. If mechanical injury results, consult a physician or qualified person.

**Ingestion:** Induce vomiting if large amounts of dust are ingested. Consult medical personnel.

*After first aid, get appropriate in-plant, paramedic, or community medical support.*

**Note to Physicians:** N/A

**Special Precautions/Procedures:**

## Section 7 - Spill, Leak, and Disposal Procedures

**Spill /Leak Procedures:** Clean off and reuse.

**Small Spills:**

**Large Spills**

**Containment:** For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

**Cleanup:**

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

**Disposal:** Reclaim or recycle as much metal as possible. Dispose of waste in accordance with local, state, and federal regulations.

**Disposal Regulatory Requirements:**

**Container Cleaning and Disposal:**

**Ecological Information:**

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### EPA Regulations:

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261.??): Not classified

CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ), lb (kg)

SARA 311/312 Codes:

SARA Toxic Chemical (40 CFR 372.65): This product may contain the following toxic chemicals subject to reporting under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1988 (Title III of SARA) and of 40 CFR 372:

Aluminum (dust or fume)	CAS# 7429-90-5
Zinc (dust or fume)	CAS# 7440-66-6

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

### OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

OSHA Specifically Regulated Substance (29CFR 1910)

**State Regulations:** N/A

### Other Regulatory Information:

TSCA Inventory Status: All ingredients listed on TSCA Inventory.

## Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:** Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

### Personal Protective Equipment:

**Respiratory:** In dusty atmospheres, use an approved dust respirator.

**Skin:** No precautions other than clean, long-sleeved body-covering clothing should be needed.

**Eye:** Use safety glasses. If dust or fume causes discomfort, use chemical goggles.

**Face:** Use face shield/welding hood as appropriate.

**Other Protective Equipment:** Flame retardant clothing should be used when handling in molten state.

**Safety Stations:** Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

**Contaminated Equipment:** Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

## Section 9 - Special Precautions and Comments

**Handling Precautions:** Practice reasonable care in handling magnesium and magnesium alloy product forms to avoid product damage and/or personal injury. If operations involving this product, such as machining, produce fines, such as dust, powder, chips, or turnings, proper measures should be taken to prevent dust clouds around these operations. These fines should be collected frequently and should be stored and disposed of in accordance with National Fire Protection Agency guidelines. If these fines should become ignited, they can be extinguished using procedures described in this document.

**Storage Requirements:** Store product in dry location. Wet, moist or high humidity storage conditions will lead to corrosion of the product. Store away from other combustibles. See National Fire Protection Association Bulletin NFPA 480, "Storage, Handling and Processing of Magnesium Solids and Powders", for detailed storage information.

### DOT Transportation Data (49 CFR 172.101):

<b>Shipping Name:</b>	<b>Packaging Authorizations</b>	<b>Quantity Limitations</b>
<b>Shipping Symbols:</b>	a) <b>Exceptions:</b>	a) <b>Passenger, Aircraft, or Railcar:</b>
<b>Hazard Class:</b>	b) <b>Non-bulk Packaging:</b>	b) <b>Cargo Aircraft Only:</b>
<b>ID No.:</b>	c) <b>Bulk Packaging:</b>	
<b>Packing Group:</b>		<b>Vessel Stowage Requirements</b>
<b>Label:</b>		a) <b>Vessel Stowage:</b>
<b>Special Provisions (172.102):</b>		b) <b>Other:</b>

This product is not classified as U.S. Department of Transportation Hazardous Material, for road, rail, sea or air transport (no UN number required). However, by-products from further processing may be listed in 49CFR 172.

**Prepared By:**  
**Revision Notes:**

**Disclaimer:** The information set forth herein is furnished without warranty of any kind. Information is presented in good faith and is believed to be correct as of the date hereof. Freeman makes no representation as to the completeness or accuracy thereof. It is the end users responsibility to determine suitability for their purposes.