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SAFETY DATA SHEET

Section 1- IDENTIFICATION		
COMPOSITION Mg		PRODUCT NAME Magnesium
SUPPLIER: Plasmaterials, Inc. 2268 Research Drive Livermore, CA 94550 Ph: 925-447-4030	RECOMMENDED USE: Laboratory Chemicals Scientific Research	EMERGENCY TELEPHONE NUMBERS US: 001-800-424-9300 Europe: 001-703-527-3887

Section 2- HAZARD(S) IDENTIFICATION	
Classification: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)	
Substances/mixtures which, in contact with water, emit flammable gases: Category 1 Pyrophoric Solids: Category 1	
LABEL ELEMENTS: Signal Word: Danger	Hazard Statements: In contact with water releases flammable gases which may ignite spontaneously. Catches fire spontaneously if exposed to air.



PRECAUTIONARY STATEMENTS

Prevention:

- Keep away from heat/sparks/open flames/hot surfaces – No Smoking
- Do not allow contact with air.
- Wear protective gloves, protective clothing, eye protection and face protection
- Keep away from any possible contact with water, because of violent reaction and possible fire flash.
- Handle under inert gas. Protect from moisture.

Fire:

- In case of fire: Use CO₂, dry chemical or foam for extinction.
- In case of fire: Evacuate area

Storage:

- Store under an inert atmosphere
- Store in a dry place. Store in a closed container.

Disposal:

- Dispose contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC):

- May form combustible dust concentrations in air.
- Reacts violently with water.

Section 3- COMPOSITION/INFORMATION ON INGREDIENTS

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

Section 4- FIRST AID MEASURES

INHALATION: Remove victim from exposure to fresh air; lie down and keep warm and quiet. Give oxygen if breathing is difficult. If not breathing, give artificial respiration. Get medical attention immediately if symptoms occur.

SKIN CONTACT: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

EYE CONTACT: Flush eyes with lukewarm water, lifting upper and lower lids, for at least 15 minutes. Obtain medical attention.

INGESTION: Do not induce vomiting. Get medical attention.

MOST IMPORTANT SYMPTOMS/EFFECTS: No information available

NOTES TO PHYSICIAN: Treat symptomatically

Section 5- FIREFIGHTING MEASURES

Suitable Extinguishing Media:

Dry Chemical, Approved Class D extinguishers, clay, sodium carbonate. Do not use a solid water stream as it may scatter and spread fire.

Unsuitable Extinguishing Media:

No Information Available

Flash Point: 500°C / 932°F

Method: No Information Available

Auto Ignition Temperature: No Information Available

Explosion Limits:

Upper: No Data Available

Lower: No Data Available

Sensitivity to Mechanical Impact: No Information Available

Sensitivity to Static Discharge: No Information Available

Specific Hazards Arising from the Chemical:

Dust can form an explosive mixture in air. Water reactive. Produces flammable gases on contact with water. Pyrophoric: Spontaneously flammable in air. Contact with water liberates extremely flammable gases.

Hazardous Combustion Products:

Magnesium Oxides

Protective Equipment & Precautions for Firefighters:

As in any fire, Firefighters must wear full face, self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective clothing to prevent contact with skin and eyes.

NFPA:

<u>Health</u>	<u>Flammability</u>	<u>Instability</u>	<u>Physical Hazards</u>
1	4	2	W

Section 6- ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions: Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment & Clean Up: Remove all sources of ignition. Avoid dust formation. Use spark-proof tools and explosion-proof equipment. Sweep up or vacuum up spillage and collect in suitable container for disposal.

Section 7- HANDLING AND STORAGE

Handling: Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Use explosion-proof equipment. Use only non-sparking tools. Keep away from open flames, hot surfaces and sources of ignition.

Storage: Keep in a dry, cool and well ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Never allow product to get in contact with water during storage. Store under an inert atmosphere.

Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines: This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures: 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.

Personal Protective Equipment:

Eye/Face Protection: 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.

Skin and Body Protection: Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice.

Section 9- PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Appearance: Silver

Odor: Odorless

Odor Threshold: No information available

pH: No information available

Melting Point/Range: 651°C / 1203.8°F

Boiling Point/Range: 1107°C / 2024.6°F @ 760mmHg

Flash Point: 500°C / 932°F

Evaporation Rate: Not applicable

Flammability (solid,gas): No information available

Flammability or Exposure Limits:

Upper: No data available

Lower: No data available

Vapor Pressure: No information available

Vapor Density: Not applicable

Relative Density: No information available

Solubility: No information available

Partition coefficient; n-octanol/water: No data available

Auto Ignition Temperature: No information available

Decomposition Temperature: No information available

Viscosity: Not applicable

Molecular Formula: Mg

Molecular Weight: 24.3

Section 10- STABILITY AND REACTIVITY

Reactive Hazard: Yes

Stability: Stable under normal conditions. Moisture sensitive. Air sensitive.

Conditions to Avoid: Protect from water. Exposure to air. Incompatible products. Exposure to moist air or water.

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

Hazardous Decomposition Products: Magnesium oxides

Hazardous Polymerization: Hazardous polymerization does not occur

Hazardous Reactions: None under normal processing

Section 11- TOXICOLOGICAL INFORMATION

Acute Toxicity:

Product Information/Component Information: No acute toxicity information is available for this product.

Toxicological Synergistic Products: No information available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Magnesium	>2000mg/kg (Rat)	Not Listed	Not Listed

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

Irritation: No information available

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
Mg	7439-95-4	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

Mutagenic Effects: No information available

Reproductive Effects: No information available

Development 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 & delayed: No information available

Endocrine Disruptor: No information available

Other Adverse Effects: See actual entry in RTECS for complete information.

Section 12- ECOLOGICAL INFORMATION

Ecotoxicity: Reacts with water so no ecotoxicity data for the substance is available.

Persistence and Degradability: Persistence is unlikely based in information available. Insoluble in water.

Bioaccumulation/Accumulation: No information available

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

Section 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.

Section 14- TRANSPORT INFORMATION

DOT:

UN-No: UN1418
Proper Shipping Name: Magnesium, powder
Hazard Class: 4.3
Subsidiary Hazard Class: 4.2
Packing Group: II

TDG:

UN-No: UN1418
Proper Shipping Name: Magnesium, powder
Hazard Class: 4.3
Subsidiary Hazard Class: 4.2
Packing Group: II

IATA:

UN-No: UN1418
Proper Shipping Name: Magnesium, powder
Hazard Class: 4.3
Subsidiary Hazard Class: 4.2
Packing Group: II

IMDG/IMO:

UN-No: UN1418
Proper Shipping Name: Magnesium, powder
Hazard Class: 4.3
Subsidiary Hazard Class: 4.2
Packing Group: II

Section 15- REGULATORY INFORMATION

International Inventories:

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Magnesium	X	X	-	231-104-6	-		X	-	X	X	X

Legend:

X – Listed

E – Indicates a substance that is subject of a Section 5(e) Consent order under TSCA.

F – Indicates a substance that is subject of a Section 5(f) Rule under TSCA.

N – Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P – Indicates a commenced PMN substance.

R – Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S – Indicates a substance that is identified in a proposed or final Significant New Use Rule.

T – Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU – Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 – Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 – Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

US Federal Regulations:

TSCA 12(b): Not applicable

SARA 313: Not applicable

SARA 311/312 Hazardous Categorization:

Acute Health Hazard: No

Chronic Health Hazard: No

Fire Hazard: Yes

Sudden Release of Pressure Hazard: No

Reactive Hazard: Yes

Clean Water Act: Not applicable

Clean Air Act: Not applicable

OSHA (Occupational Safety and Health Administration): Not applicable

CERCLA: Not applicable

California Proposition 65: This product does not contain any Proposition 65 chemicals

State Right-to-Know:

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

US Department of Transportation:

Reportable Quantity (RQ): N

DOT Marine Pollutant: N

DOT Severe Marine Pollutant: N

US Department of Homeland Security: This product does not contain any DHS chemicals.

Other International Regulations:

Mexico – Grade: No information available

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class: B6 Reactive flammable material

F Dangerously reactive material



Section 16- OTHER INFORMATION

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulations are subject to change, the conditions of handling and use, or misuse are beyond our control, Plasmaterials, Inc. makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.

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REVISION: 06-02-15