



1) Identification

Effective Date: 10/11/2008

Product Name: Magnesium Anodes—Cast and Extruded High and Low Potential

2) Composition

Element	Range WT %
Magnesium (Mg)	Remainder
Manganese (Mn)	0.5 — 1.3
Silicon (Si)	0.05 max
Copper (Cu)	0.02 max
Nickel (Ni)	0.001 max
Iron (Fe)	0.03 max
Aluminum (Al)	0.01 max

3) Physical Properties

Physical Form:	Solid
Boiling Point:	1,110°C or 2,030°F
Melting Point:	650°C or 1,202°F
Vapor Pressure:	N/A
Vapor Density:	N/A
Soluble in water:	N/A
Odor:	None
Specific Gravity:	1.75
Appearance:	Silver

4) Exposure Limits

Compound	OSHA-PEL (1989)	ACGIH-TLV (1991)
MgO*	10 mg/m ³	10 mg/m ³
Mn	5 mg/m ³	3 mg/m ³

*Comment: MgO is a combustion product of the metal.

5) Fire and Explosion Hazard Data

Flash Point (Method Used):	N/A (N/A)
Flammable Limits:	N/A
LFL: N/A	UEL: N/A
Extinguishing Media:	Melting flux, dry sand, metal extinguishing powders.
Special Fire Fighting Procedures:	Wear positive pressure self-contained breathing apparatus.
Fire and Explosion Hazards:	When heated to a temperature near its melting point, magnesium ignites and burns with a white flame. Water should not be used on a magnesium fire, as it acts as an accelerant. Water on molten magnesium will produce hydrogen gas and may cause an explosion.

6) Reactivity Data

Stability: Stable

Incompatibility (Materials to Avoid): Acids and water. Reacts with acid to form hydrogen gas. In finely divided form, magnesium will react with water and acids to release hydrogen.

Hazardous Decomposition or Byproducts: None under normal use or storage.

Hazardous Polymerization: Will not occur.

7) Health Hazard Data

Route(s) of Entry:

Eyes: Mechanical injury only.

Skin Contact: Mechanical injury only. Molten material will burn skin.

Inhalation: Fumes or dust may cause irritation to upper respiratory system.

Ingestion: Unlikely due to physical state. Dusts produced incidental to industrial handling are not likely to cause serious injury; however, ingestion of larger amounts could cause serious injury because the acute toxicity of magnesium is considered moderate.

Health Hazards (Acute and Chronic): Based upon available data, repeated exposure is not known to cause any significant adverse effects.

Carcinogenicity: N/A

Signs and Symptoms of Exposure: Fever, chills, headache, "flu-like" symptoms and metallic taste.

Medical Conditions Generally Aggravated by Exposure: May be allergic, may aggravate respiratory problems ie: emphysema & asthma.

Emergency and First Aid Procedures: Note to physician: No specific antidote, supportive care. Treatment based upon judgment of physician in response to reaction of the patient.

8) Precautions for Safe Handling and Use

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

Respiratory: No respiratory protection should be needed.

Skin Protection: No protections other than clean body covering should be needed.

Eye Protection: Use safety glasses. If there is a potential for exposure to particles, use chemical goggles.

Precautions to be taken in Handling and Storage: Practice reasonable care in handling all forms of magnesium products. Magnesium or magnesium alloy ingots should be preheated to a minimum of 300°F (149°C) to eliminate moisture prior to use in any melting operation. Water, either on the surface or entrapped in surface pores of magnesium ingot will rapidly change to vapor and may cause a steam explosion.

The statements and technical information in this document are believed to be accurate as the date of this document. Since the conditions and methods of use of this product and of the information referred to herein are beyond our control, American Carbon expressly disclaims any and all liability as to a result obtained or arising from an use of the product or reliance on such information.

9) Control Measures (Other Precautions)

Actions to take for leaks or spills: Clean up and use.

Disposal Method: Material can be recycled through secondary scrap reclaimers.

D.O.T.: Magnesium is not a D.O.T. Hazardous Material when shipped in solid cast, extruded rod, extruded ribbon, or ingot (solid) form.