

# Super Conductor Materials, Inc.

391 Spook Rock Industrial Park, Suffern, NY 10901 · 845.368.0240 · Fax 845.368.0250 · www.scm-inc.com

Chemtrec: (800) 424-9300  
Poison Center: (800) 562-8236  
Revision Date: January 8<sup>th</sup>, 2019

## SAFETY DATA SHEET

Identity: Magnesium Diboride

Formula: MgB<sub>2</sub>

### SECTION I - GENERAL INFORMATION

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

### SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 45.93

CAS #	OSHA PEL	ACGIH TLV	%
12007-25-9	N/A	N/A	0.0-100.0%

### SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

Vapor Pressure (vs. air or mmHg): N/A

Melting Point: 800°C

Density g/cm<sup>3</sup>: N/A

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: N/A

*Appearance and odor:* Greyish/black powder and pieces, no odor

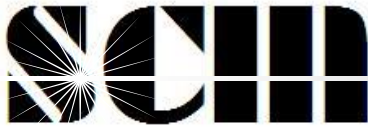
### SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

*Method Used:* NON-FLAMMABLE    *Explosive Limits:* LEL: N/A    UEL: N/A

*Extinguishing Media:* Use suitable extinguishing agent for surrounding material and type of fire.

*Special Fire Fighting Procedures:* Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

*Unusual Fire and Explosion Hazards:* When heated to decomposition, magnesium boride may emit toxic magnesium oxide fumes.



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## SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* None recorded

*Hazardous Decomposition or Byproducts:* Magnesium oxide fumes

*Hazardous Polymerization:* Will not occur

*Conditions to avoid (hazardous polymerization):* None

## SECTION VI - HEALTH HAZARD DATA

*Routes of entry:* Inhalation? Yes      Skin? No      Eyes? No      Ingestion? Yes      Other? No

To the best of our knowledge the chemical, physical and toxicological properties of magnesium boride have not been thoroughly investigated and recorded.

Magnesium compounds have variable toxicity. The inhalation of fumes of freshly sublimed magnesium poisoning. Protection necessary for personnel handling and processing magnesium is usually no different from that which is necessary for other metals. (Sax, Dangerous Properties of Industrial Materials, eighth edition).

Boron compounds are very toxic and therefore considered an industrial poison. Boron is one of a group of elements, such as Pb, Mn, As, which effects the central nervous system. Boron poisoning causes depression of the circulation, persistent vomiting and diarrhea, followed by profound shock and coma. The temperature becomes subnormal and a scarletina form rash may cover the entire body. (Sax, Dangerous Properties of Industrial Materials, eighth edition).

### Signs and Symptoms of Overpressure:

*Inhalation:* May cause cough, mucous production, shortness of breath, nausea, malaise, muscular weakness and paralysis, general depression, ataxia, lethargy, listlessness, poor tendon reflexes, hypotension, coetaneous vasodilatation, increased seniti of the carotid sinus and cardiac arrest. Boron hypotension, coetaneous vasodilatation, increased sensitivity of the carotid sinus and cardiac arrest. Boron hypotension, corneous vasodilatation, increased sensitivity of the carotid sinus and cardiac arrest. Boron poisoning may cause: depression of the circulation, persistent vomiting, diarrhea, shock ad coma.

*Ingestion:* May cause depression of the circulation, persistent vomiting, diarrhea, shock and coma.

*Skin:* May cause redness, itching and burning sensation.

*Eye:* May cause redness, itching, burning and watering.

### Health Hazards (Acute and Chronic):

#### *Inhalation:*

Acute: May cause irritation to the mucous membranes, boron poisoning and metal fume fever

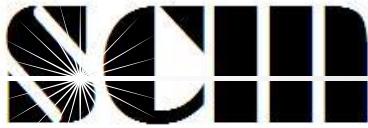
Chronic: No chronic health effects recorded

#### *Ingestion:*

Acute: May cause irritation to the gastrointestinal tract and boron poisoning.

Chronic: May affect the central nervous system.

#### *Skin:*



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Acute: May cause irritation.

Chronic: No chronic health effects recorded.

*Eye:*

Acute: May cause irritation.

Chronic: No chronic health effects recorded.

*Target Organ:* May affect the central nervous system, skin and eyes.

*Carcinogenicity:* NTP? No IARC Monographs? No OSHA Regulated? No

*Medical Conditions Aggravated by Exposure:* Pre-existing respiratory disorders.

### Emergency and First Aid Procedures:

*Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

*Ingestion:* Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

*Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist.

*Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical.

## SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

*Steps to be taken in case material is released or spilled:*

Wear appropriate respiratory and protective equipment specified in section VIII-Control Measures. Isolate spill area, provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

*Waste disposal method:*

Dispose of in accordance with state, local, and federal regulations.

*Hazard Label Information:*

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling. Use with adequate ventilation.

## SECTION VIII - CONTROL MEASURES

*Protective Equipment Summary (Hazard Label Information):*

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent skin contact.

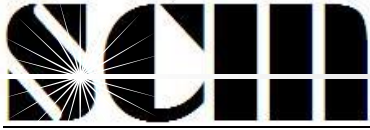
*Respiratory Equipment:*

NIOSH – approved dust, mist, vapor respirator.

*Ventilation:*

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended.



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*Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

**Please be advised that N/A can either mean Not Applicable or No Data Has Been Established**