

# Material Safety Data Sheet

## Mg-35 Industrial Abrasive



Cultivating a New Frontier  
in Materials Synthesis

Section 1: Product and Company Identification			
Product Name:	Mg-35, Mg35-10 and other filtered versions of Mg-35		
Use:	Abrasive applications; lapping; polishing		
Manufacturer:	EnviroDiamond Technologies Inc.		
Address:	406-2067 Prospect Street, Burlington, Ontario, Canada L7R 1Z3		
Telephone:	905-333-6287	Emergencies:	905-467-3341
Email:	GlobalSolutions@EnviroDiamond.com		

Section 2: Hazards Identification	
<b>Emergency Overview</b>	
Appearance:	Very fine grey powder
Odor:	Faint odor
Precautions:	<b>CAUTION: Product may cause eye, skin and respiratory irritation.</b> Product dust may be irritating to eyes, skin and respiratory system. Particle sizes range from 100 nanometers to 212 micrometers. Use personal protective equipment as required (See Section 8 - Exposure Controls and Personal Protection).
Environmental Precautions:	Product is an inorganic solid, reactive only at low pH and non-toxic.
Potential Health Effects:	a) Eyes: Irritating to eyes b) Skin: May cause skin dryness and irritation c) Inhalation: Irritating to respiratory system, resulting in coughing and sneezing d) Ingestion: Non-toxic e) Chronic Exposure: Does not accumulate in the body

### Section 3: Composition/Information on Ingredients

Composition	
Magnesium Oxide (MgO)	>95%, CAS#: 1309-48-4
Carbon (C)	1% - 3% in phases consisting of: a) amorphous, CAS#: 7782-42-5 b) graphite, CAS#: 7782-42-5 c) diamond, CAS#: 7782-40-3
Magnesium Aluminum Oxide (MgAl <sub>2</sub> O <sub>4</sub> )	<1%, CAS#: 12068-51-8
Iron Oxide (Fe <sub>3</sub> O <sub>4</sub> )	<1%, CAS#: 1317-61-9
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	<1%, CAS#: 1344-28-1
Amorphous Silica (SiO <sub>2</sub> )	<1%, CAS#: 7631-86-9

### Section 4: First Aid Measures

Eye Contact	If irritation occurs, immediately flush eyes with water for at least 10 minutes. Obtain medical attention.
Skin Contact	Not expected to cause a problem. However, if irritation occurs, flush affected area with water. If irritation persists, obtain medical attention.
Inhalation	May cause irritation of the upper respiratory passages. Inhalation of magnesium oxide may cause metal fume fever. Symptoms of metal fume fever include: cough, tightness of chest, sweating, headache, fever, muscle aches, nausea, vomiting and tiredness. If symptoms of irritation from exposure are experienced, remove victim to fresh air. Obtain medical attention.
Ingestion	Rinse mouth with and/or drink water if conscious. Obtain medical attention.

<b>Section 5: Fire Fighting Measures</b>	
Conditions of Flammability	Not Applicable – This product does not ignite
Firefighting Procedures	Use whatever appropriate methods are required for the fire surrounding the product.
Flashpoint and limits	Not Applicable – This product does not ignite
Upper Flammable Limit	Not Applicable – This product does not ignite
Lower Flammable Limit	Not Applicable – This product does not ignite
Autoignition Temperature	Not Applicable – This product does not ignite
Hazardous Combustion Products	Not Applicable – This product does not ignite
Sensitivity to Mechanical Impact	No special sensitivity
Sensitivity to Static Discharge	Not Sensitive

<b>Section 6: Accidental Release Measures</b>	
Leak and Spill Procedures	Pick-up spills without creating airborne dust. Place material into a dry container and cover. Hold in sealed container for disposal. Use personal protective equipment as required (See Section 8 - Exposure Controls and Personal Protection).

<b>Section 7: Handling and Storage</b>	
Handling Procedures and Equipment	Avoid generation of and inhalation of dust. Clean area frequently to avoid dust build-up, preferably with a vacuum or wet cloth rather than dry sweeping. Wear applicable personal protective equipment as indicated in Section 8 – Exposure Controls and Personal Protection.
Storage Requirements	Store in a dry area in sealed containers. Keep away from incompatible materials such as interhalogens and strong acids. Product is only very slightly soluble in water and reacts to form non-toxic magnesium hydroxide, which is detectable by measuring an increase in pH.

<b>Section 8: Exposure Controls/Personal Protection</b>	
Engineering Controls	Engineering controls may include process enclosure and/or local exhaust ventilation to maintain dust concentrations below allowable exposure limits. Local exhaust ventilation with or without process enclosure is important where large quantities are handled, as in bagging operations. Isolating operations that involve transferring of the product in its dry state is recommended to minimize potential exposure to airborne particles.
<b>Personal Protection Equipment</b>	
Respiratory Protection	If adequate engineering controls are not available, wear a respirator approved for dusts/mists/fumes, as applicable. In conditions of oxygen deficiency, or where airborne concentrations exceed 100 mg/m <sup>3</sup> , wear positive pressure or pressure demand supplied air respiratory protection or SCBA.
Eye Protection	Wear safety goggles or eye protection with side shields in high dust concentrations, unless full face-piece respiratory protection is worn.
Skin Protection	Wear coveralls and gloves. Do not take contaminated work clothes home; family member may become exposed. Contaminated work clothes should be laundered by an individual who has been notified of the hazards of contamination.

<b>Section 9: Physical and Chemical Properties</b>	
Appearance	Light grey dusty powder
Melting Point	Approximately 2800°C
Odour	Slight smell
Specific Gravity	Approximately 3.5 g/cm <sup>3</sup>
Physical State	Solid
Evaporation Rate	Not Applicable
pH	10.3 in a saturated solution
Partition Coefficient	Not Applicable
Vapor Density	Not Applicable
Viscosity	Not Applicable
Boiling Point	Approximately 3600°C
Solubility in Water	0.0006 g/100 mL

<b>Section 10: Stability and Reactivity</b>	
Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Avoid contact with chlorine trifluoride, phosphorus pentachloride, performic acid and bromine pentafluoride since violent reactions occur with these.
Incompatible Substances	Strong Acids such as hydrochloric, sulfuric, and nitric acids as well as oxidizing agents such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine and fluorine.
Hazardous Polymerization	Does not occur.

<b>Section 11: Toxicological Information</b>	
LD50/LC50	No Data Available
Irritancy	Exposure may cause irritancy of eyes, skin or respiratory system.
Carcinogen	Not carcinogenic
Teratogen	No Data Available
Reproductive Toxin	No Data Available
Mutagen	No Data Available
Synergistic Products	None Known

<b>Section 12: Ecological Information</b>
No Data Available. All components in this product are non-toxic.

<b>Section 13: Disposal Considerations</b>
This product does not meet the criteria of a hazardous waste. Dispose in accordance with all applicable Federal, Provincial/State, and local Environmental Regulations.

<b>Section 14: Transport Information</b>	
Special Shipping Information	No special requirements.
Canadian TDG	Not a dangerous product, therefore not regulated.
US DOT	Not regulated by DOT. No UN number assigned.
Maritime Transport	IMDG: Not regulated Marine Pollutant: Not listed

<b>Section 15: Regulatory Information</b>	
Magnesium Oxide is the main constituent of this product and is reported on the following national inventory and/or regulatory lists	
Australia	Australian Inventory of Chemical Substances (AICS): 1309-48-4
Canada	Domestic Substance List (DSL): 1309-48-4
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS): 215-171-9
Japan	Existing and New Chemical Substances (ENCS): 1-465
Korea	Existing and Evaluated Chemical Substances (KECL): KE-22728
Philippines	Inventory of Chemicals and Chemical Substances (PICCS)
USA	Toxic Substance Control Act (TSCA) Inventory List 8(b): 1309-48-4
WHMIS Classification	Does not meet criteria. This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS contains all the information required by the CPR.
CEPA	This product is not listed as a toxic substance under the Canadian Environmental Protection Act (CEPA 1999).
CERCLA	Not listed as a hazardous substance
SARA TITLE III	Section 302: Product is not listed as an Extremely Hazardous Substance (EHS).  Section 304: Emergency Release Notification not required.  Section 311/312: Hazard Category: Acute (nuisance dust).  MSDS, chemical inventory, Tier I/II reporting are applicable.  Section 313: Product is not subject to Form R reporting.

## Section 16: Other Information

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