

Material Safety Data Sheet

Section 1 - Product and Company Information

Product Name : Sintered Neodymium Iron Boron (NdFeB) Permanent Magnet
Formula : Nd-Fe-B Rare Earth Neodymium Magnet, Neodymium Magnet

Company : ALB Materials Inc
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Section 2 - Composition/Information on Ingredient

Element	Symbol	Weight %	CAS No.	EINECS No.
Neodymium	Nd	20-33	7440-00-8	231-109-3
Praseodymium	Pr	0-8	7440-10-0	231-120-3
Dysprosium	Dy	0-6	7429-91-6	231-073-9
Terbium	Tb	0-3	7440-27-9	231-137-6
Iron	Fe	62-70	7439-89-6	231-096-4
Boron	B	0.9-1.3	7440-42-8	231-151-2
Cobalt	Co	0-5	7440-48-4	231-158-0
Copper	Cu	0.01-0.5	7440-50-8	231-159-6
Aluminum	Al	0.01-0.8	7429-90-5	231-072-3
Nickel	Ni	0-0.4	7440-02-0	231-111-4
Zinc	Zn	0-0.2	7440-66-6	231-175-3

Note: total content of rare earth elements is 28-35 wt%.

Section 3 - Hazards Identification

HMIS RATING HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

NFPA RATING HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

Warning

Neodymium magnets have strong magnetic fields. Handling them with care is necessary to prevent personal injuries, property damages and magnet damage.

1. Neodymium magnets can be broken or damaged if they are removed from the wells of the Magnet Plate. Do not remove individual magnets from the Magnet Plate.
2. Normal Neodymium magnets will lose their magnetic properties if heated above 175°F (80° C).
3. The strong magnetic fields of neodymium magnets can damage items such as televisions, computer monitors, credit cards, bank cards, computers, diskettes and other data carriers, video tapes, mechanical watches, hearing aids, loudspeakers and VCRs.

Pace-makers may be damaged or switched to "Test Mode" in the presence of a strong magnetic force. If a pace-maker is in use, keep away at a minimum distance of 3 feet.

4. Children should not be allowed to handle neodymium magnets as they can be dangerous. Small magnets pose a choking hazard and should never be swallowed or inserted into any part of the body.
5. Under no circumstances should you try to cut, saw or drill the Neodymium magnets! Not only would the magnet break, but the resulting dust from the magnet is flammable. Neodymium magnets should never be burned, as burning them will create toxic fumes.

Section 4 - First Aid Measures

ORAL EXPOSURE

If magnets are swallowed call a physician immediately.

INHALATION EXPOSURE

No known inhalation risk.

DERMAL EXPOSURE

The Neodymium magnets in this product are plated with Ni-Cu-Ni. Individuals with an allergy or sensitivity to nickel should avoid contact with this product. If the skin is irritated wash the skin with soap and water. Contact a physician if the irritation persists.

EYE EXPOSURE

No known risk to eyes.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

N/A

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Any machining, grinding or pulverizing of magnets which could generate dust or powder is not recommended under any circumstances. Dry powders of neodymium magnets will oxidize, smolder, and burn in the presence of air or oxygen. Magnets may spark on impact. Handle carefully in explosive atmospheres.

METHODS FOR CLEANING UP

Store damaged or broken magnets in a secure area away from areas where children might find them.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not insert magnets into any part of the body.

STORAGE

Suitable: Magnet Plates should be protected from collisions with metals or other magnets which could cause injury.

Section 8 - Exposure Controls

ENGINEERING CONTROLS N/A

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Respiratory protection is not required.

Please note: machining, grinding or pulverizing of magnets which could generate dust is not recommended under any circumstances. Use local ventilation to reduce dust levels in the case of an accident.

Hand: Not normally required. However, the Neodymium magnets in this product are plated with Ni-Cu-Ni. Individuals with an allergy or sensitivity to nickel should avoid contact with this product.

Eye: Not required

Section 9 - Physical/Chemical Properties

Boiling Point: N/A

Vapor Pressure: (mm Hg.) N/A

Vapor Density: (air = 1) N/A

Specific Gravity: 7.4

Melting Point: Above 1000°C (1832°F)

Evaporation Rate: N/A

Odor: No odor

Solubility in Water: Not soluble

Appearance: As ground, silver-gray, as sintered, matte black

Section 10 - Stability and Reactivity**STABILITY**

Stable: Stable.

Temperatures to Avoid: Avoid elevating temperatures above 150°C.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information**ROUTE OF EXPOSURE**

Skin Contact: May cause skin irritation

Skin Absorption: N/A

Eye Contact: N/A Inhalation: N/A

Ingestion: Magnets can be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

N/A

Section 12 - Ecological Information

No data available.

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Section 13 - Disposal Considerations**APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION**

Contact a licensed professional waste disposal service to dispose of this material. Store damaged or broken magnets in a secure area away from areas where children might find them. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information**DOT**

Proper Shipping Name: Magnets

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Before transport, magnetized products should be packed with protective lining and shielding to stunt the magnetic fields. Move magnets carefully with shake-proof, impact-proof, and moisture proof precautions.

If more than one Magnet Plate is to be shipped, the containers must be checked for total field emission after packaging and before shipping.

If the field exceeds 0.002 gauss at 7 feet from the package (rotated 360° in both planes), follow packaging instructions 902 in the IATA Dangerous Goods Regulation.

If the total field emission exceeds 0.00525 gauss at 15 feet from the package in any plane, the package cannot be accepted for air shipment. If the 0.00525 gauss requirement is met (the magnetic field emission is less than 0.00525 in any plane), you can ship the package by air on an international flight PROVIDED you fill-in the Dangerous Goods Declaration Form, and label the package appropriately. The package(s) must have the "Handling Label for Class 9 - Magnetized Material" label affixed on them.

Section 15 - Regulatory Information**UNITED STATES REGULATORY INFORMATION**

SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. ALB Materials Inc shall not be held liable for any damage resulting from handling or from contact with the above product.