Neodymium (Rare Earth) Material Safety Data Sheet

1. Product and Company Identification

Product Name:	NdFeB
Supplier's Name:	Magnets Australia Pty Ltd (Magnets New Zealand Limited)
Address:	142 Bush Road Albany, Auckland, New Zealand
Contact Name:	James Manzi
Phone No:	(02) 9136 9991
E-mail:	info@magnetsaustralia.com.au
Document No:	NdFeB MSDS-06-01-A
Date issued:	9th February 2021

2. Composition / Information on Ingredients

Substance / Preparation: Preparation
Ingredients and Composition:

Item	Element	Content (wt %)
Magnet	Rare Earth	30-33
	Iron	61-70
	Boron	0.5*1.5
	Others	Sub

Chemical Formula: Nd-Fe-B
Hazardous Ingredients:
Boron (Type 1 chemical substances of PRTR law in Japan) CAS No.: 7440-42-8

3. Hazards Identification

3.1 Most Important Hazards:

N/A for as solid. Inflammable as a dust or small particle status.

3.2 Physical and Chemical Hazards:

N/A

3.3 Adverse Human Health Hazards:

N/A for as solid. Contact for a long duration may cause skin rash to depend on personal sensitivity

3.4 Environmental Effects:

N/A for as solid. Dipping into water or acid for a long duration can elute boron

4. First-Aid Measures

4.1. Inhalation:

N/A for as solid. When inhaled dusts or particles as generated by machining or grinding, rinse nasal cavity and throat with warm water. Obtain medical attention.

4.2. Skin contact:

N/A for as solid. For as dusts or particles, wash with soap and water. Obtain medical attention if symptoms persist.

4.3. Eye Contact:

Flush well with clean water and obtain medical attention.

4.4. Ingestion:

Induce vomiting immediately. Rinse mouth well with clean water. Obtain medical attention.

5. Fire-Fighting Measures

5.1. Extinguishing Media:

Dry sand or dry chemical powder. Do not use water, carbon dioxide gas, halogen gas and quenching liquid.

5.2. Fire-fighting Measures:

Incombustible in a solid state. However, combustible in a dust or small particle state. In case of fire, cover with dried sand and move every combustible from fire areas.

6. Accidental Release Measures

6.1. Method for Removal:

6.2. In a solid state.

Take safety measures for handling.
Collect into a closed container.

6.2.1. In a dust or particle state:

Maintain adequate ventilation.
Take safety measures for handling.
Collect into a sealed container.
Do not use a vacuum cleaner.

6.3. Personal Precaution:

Keep the magnetized magnets away from a person having an electric / electronic medical device, such as pacemaker.

6.4. Environment Precaution:

No special attention needed.

7. Handling and Storage

7.1. Handling:

Wear protective gloves, in case of handling directly for a long duration.

Be careful not to pinch fingers or any parts of your body, when handling and assembling the magnetized NdFeB, because the NdFeB generated very strong force attracting other magnets and other iron-containing material.

Do not allow the magnet to come close to or become fixed to a floppy disk, an electric watch or a magnetic card, since it can destroy or alter the magnetic data.

Do not allow the magnet to come close to a person having an electric / electronic medical device, such as pacemaker.

7.2. Storage:

Store in a dry place free from corrosive atmosphere.

Keep away from any possible contact with water.

With magnetized NdFeB, store in a closed container made of non-magnetic material and state clearly outside 'Strong magnet inside'.

7.3. Others:

Do not peel off or cut NdFeB. If you do, rusting will occur or the dust or small particles by cutting may catch fire.

8. Exposure Controls / Personal Protection

8.1. Engineering Measures:

As dust or particles generated by machining or grinding, use a closed or ventilated machine.
Exposure Guidelines: N/A

8.2. Personal Protective Equipment

Respiratory Protection: N/A (Dust respirator when machining or grinding)
Skin Protection: Rubber or plastics gloves.
Eye Protection: N/A (Safety glasses when machining or grinding)

9. Physical and Chemical Properties

Physical State:	Solid
Colour:	Blue-White
Melting Point:	Approx. 1485k
Explosion Properties:	N/A (May be dust explosive in case of dust)
Density:	7.4-7.6 g/cm3
Solubility in water:	Insoluble
Solubility in acid:	Soluble

Note: Dipping into water or acid for a long time can rust and/or elute boron.

10. Stability and Reactivity

10.1. Stability and Reactivity:

Stable in normal atmosphere. Rusting gradually in water or oxygen gas.
React with acids, oxidizing agents or halogens.

10.2. Condition to Avoid:

Do not use or store in the conditions as follows:
Acidic, alkaline or organic solvent, water or oil, electrically conductive liquid, hydrogen or corrosive gases, in radioactive ray's exposures.

10.3. Materials to avoid:

Acids, oxidizing agents or halogens.
Hazardous decomposition products:
Dipping into water or acid for a long duration can form hydrogen gas.
Reaction with strong acid can occur hazardous fume (ex. Neodymium oxide)
Bombarding in an organic solvent containing halogen can explode.

11. Toxicological information

Acute toxicity:	N/A

However content Nd is reported as follows.

For as Nd:	Blood TDL 17μg/kg
For as Nd oxide:	Oral LD 1000mg/kg
Local effects:	N/A

11.1. Sensitization:

Contact for a long duration may cause skin rash depending on personal sensitivity.

Chronic toxicity:	N/A
Carcinogenicity:	N/A
Mutagenicity:	N/A
Reproduction toxicity:	N/A

12. Ecological information

Mobility:	N/A
Persistence / Degradability:	N/A
Bioaccumulation:	N/A
Bco-toxity:	N/A
Other data (ex. Ecological limit):	N/A

13. Disposal consideration

13.1. Disposal methods:

Dispose in closed container made of non-magnetic material.

Keep away from any possible contact with water.

Avoid cutting or smashing magnet as sparks thereof may cause fire in the inflammable atmosphere.

Please contact us if you want to return for recycling.

13.2. Disposal regulation:

Disposal must be in accordance with applicable federal, state/provincial and local law and regulations if any.

14. Transport information

Pack up prudently so as to prevent products from breakage.
Avoid high temperature and/or humidity.

Regulations for transport: When transport magnetized NdFeB by air, follow the dangerous goods regulation of IATA (international air transport association).

Please see our manufactures declaration for more information for requirements for storage when transported by aircraft

15. Regulatory information

Follow all regulations in your country.

16. Other information

Additional health hazard data:	N/A
Abbreviations:	N/A=Not Applicable

The above information relates to this specific material itself. It may not be valid for this material, if used in combination with any other material or in any process. It is the user's responsibility to satisfy himself as to the suitability and completeness of this information for his own particular use.

James Manzi
International Logistics Manager
Magnets Australia Pty Ltd
Magnets New Zealand Ltd (A division of Magnets Group)

9th February 2021