



**MATERIAL SAFETY DATA SHEET**  
COMPLIES WITH 29 CFR 1910.1200.  
OSHA HAZARD COMMUNICATION RULE

**DATE OF LAST REVISION: 05-24-96**

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## CHEMICAL IDENTITY

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LABEL IDENTITY	<b>NEODYMIUM-IRON-BORIDE</b>		
CHEMICAL NAME/SYNONYMS	<b>NEODYMIUM-IRON-BORIDE</b>		
FORMULA	<b>NdFeB</b>		
CHEMICAL FAMILY	<b>RARE EARTH (MAGNET)</b>		
CAS REGISTRY NUMBER	<b>ND</b>		
HAZARDOUS INGREDIENTS	<b>NEODYMIUM, BORON, OTHER ELEMENTS</b>		
<u>ELEMENT</u>	<u>%</u>	<u>TLV</u>	<u>PEL</u>
<b>Nd</b>	<b>30-36%</b>	<b>not established</b>	<b>not established</b>
<b>B</b>	<b>LT 2</b>	<b>not established</b>	<b>10mg/m3</b>
<b>OTHER</b>	<b>LT 4</b>	<b>not established</b>	<b>not established</b>
<b>Fe</b>	<b>BAL</b>	<b>not established</b>	<b>10mg/m3</b>

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## PHYSICAL AND CHEMICAL PROPERTIES

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COLOR, FORM	<b>As ground, silver gray, sintered matte black</b>
ODOR	<b>No odor</b>
BOILING POINT	<b>Above 4530</b>
DENSITY (gm/cc)	<b>NA</b>
VAPOR PRESSURE @ 20°	<b>No vapors</b>
% VOLATILE BY VOLUME (%)	<b>NA</b>
REACTION WITH WATER	<b>NA</b>
EVAPORATION RATE (H2O=1)	<b>NA</b>
SOLUBILITY IN WATER	<b>Insoluble</b>
MELTING POINT	<b>ND</b>
SPECIFIC GRAVITY	<b>7.4</b>

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## FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT	<b>NA</b>
AUTOIGNITION TEMPERATURE (°C)	<b>ND</b>
FLAMMABLE LIMITS IN AIR, % BY VOLUME	<b>Na</b>
EXTINGUISHING MEDIA	<b>Use dry chemical or dry sand</b>
SPECIAL FIRE FIGHTING PROCEDURES	<b>Dry powders of neodymium magnets will oxidize, smolder and burn in the presence of air and oxygen. Maintain powders in water slurry or inert atmospheres of O2 or N2, to prevent spontaneous combustion. Do not use water on smoldering, burning powder. May spark on impact. Handle carefully in explosive atmospheres.</b>



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### HEALTH HAZARD INFORMATION

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#### TOXICITY DATA

**No data**

#### HMIS RATING:

HEALTH: **nd** FLAMMABILITY: **nd** REACTIVITY: **nd** PERSONAL PROTECTION: **nd**

ROUTES OF ENTRY: INHALATION: **Yes** SKIN: **Yes** EYES: **Yes**

THRESHOLD LIMIT VALUE: **Nd: not established** **B: 10mg/m<sup>3</sup> (as BO<sub>2</sub>)**  
**Fe: 10mg/m<sup>3</sup> (total dust)** **Fe: 5mg/m<sup>3</sup> (respirable dust)**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **Respiratory Disorders**

#### EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: **unknown**

EYE: **unknown**

SKIN: **may cause skin irritation or allergenic dermatitis**

INGESTION: **unknown**

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CARCINOGENICITY: **no** NTP: **no** IARC MONOGRAPHS: **no** OSHA REGULATE: **no**

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#### EMERGENCY FIRST AID PROCEDURES:

INGESTION: **NA**

INHALATION: **Remove to fresh air**

SKIN CONTACT: **Brush off material and wash well with soap and water**

EYE CONTACT: **Immediately flush eyes with running water for 15 minutes**

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### REACTIVITY DATA

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#### STABILITY

**Unstable**

#### CONDITIONS TO AVOID

**Exposure of powdered magnet material to air or oxygen and to elevated temperatures above 150°C**

#### INCOMPATIBILITY (MATERIALS TO AVOID)

**Air, oxygen, halogenated hydrocarbons and strong oxidizers**

#### HAZARDOUS DECOMPOSITION PRODUCTS

**Unknown**

#### HAZARDOUS POLYMERIZATION

**Unknown**



## NEODYMIUM IRON BORIDE MATERIAL SAFETY DATA SHEET

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### SAFE HANDLING AND USE

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: **Sweep up dusts and store in water slurry or sealed containers using inert atmosphere such as argon or nitrogen to prevent spontaneous combustion.**

WASTE DISPOSAL METHOD:

**Consult federal, state and local EPA regulations for proper disposal.**

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### SPECIAL PROTECTIVE INFORMATION

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RESPIRATORY PROTECTION	<b>NIOSH/MSHA approved respirator when TLV is exceeded</b>
LOCAL EXHAUST	<b>Adequate ventilation</b>
MECHANICAL (general)	<b>Recommended</b>
SPECIAL	<b>ND</b>
PROTECTIVE GLOVES	<b>Recommended: cloth</b>
EYE PROTECTION	<b>Safety goggles or glasses</b>
OTHER PROTECTIVE CLOTHING	<b>Eyewash station should be readily available</b>

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### SPECIAL PRECAUTIONS

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PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE: **Store in water slurry or sealed containers using inert atmosphere such as argon or nitrogen to prevent spontaneous combustion.**

TRANSPORTATION REQUIREMENTS	DOT CLASS:	<b>ND</b>
	UN NUMBER:	<b>ND</b>
	IMCO CLASS:	<b>ND</b>
	OTHER:	<b>ND</b>

PRECAUTIONARY LABELING **NONE**

OTHER PRECAUTIONS: **Control dusting. Use wet machining grinding process and adequate local ventilation to reduce dust levels. Parts may spark on impact.**

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THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, **ANGSTROM SCIENCES** MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

**NA= NOT APPLICABLE**

**ND= NO DATA FOUND**

**NR=NOT RECORDED**