

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
NEODYMIUM IRON BORON (NIB)

GENERAL

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DATE MSDS PREPARED: 09/09/11

1. PRODUCT IDENTIFICATION

PRODUCT NAME: NEODYMIUM IRON BORON
FORMULA: Nd₂Fe₁₄B
CAS #: NIL

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A
MELTING POINT: N/A
SPECIFIC GRAVITY (H₂O=1): N/A
VAPOR DENSITY: N/A
VAPOR PRESSURE: N/A
EVAPORATION RATE: N/A
% VOLATILES: N/A
SOLUBILITY IN H₂O: INSOLUBLE
APPEARANCE AND ODOR: METALLIC, GREY, SILVER, POWDER, PIECES, SPUTTERING TAREGT, ODORLESS

3. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: Xn HARMFUL
F HIGHLY FLAMMABLE.
Xi IRRITANT
INFORMATION PERTAINING TO PARTICULAR DANGERS FOR MAN AND ENVIRONMENT: R 11 HIGHLY FLAMMABLE
R 20/22 HARMFUL BY INHALATION AND IF SWALLOWED.
R 37 IRRITATING TO RESPIRATORY SYSTEM.
R 15 CONTACT WITH WATER LIBERATES EXTREMELY FLAMMABLE GASES
R 17 SPONTANEOUSLY FLAMMABLE IN AIR

HAZARDOUS COMPONENTS %

HMIS RATINGS:
HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 3

4. FIRE FIGHTING MEASURES

FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: N/A
FLAMMABLE LIMITS:
UPPER: N/A
LOWER: N/A

EXTINGUISHING MEDIA: CARBON DIOXIDE, EXTINGUISHING POWDER, OR WATER SPRAY. FIGHT LARGER FIRES WITH WATER SPRAY OR ALCOHOL RESISTANT FOAM.
USE POWDER GRAPHITE, SALT, AND LIMESTONE. DO NOT USE WATER, CARBON DIOXIDE, DRY CHEMICAL

SPECIAL HAZARDS: IN CASE OF FIRE, METAL OXIDE FUMES CAN BE RELEASED.

5. HEALTH HAZARD INFORMATION

ACUTE EFFECTS:
SKIN: POWDER: IRRITANT TO SKIN AND MUCOUS MEMBRANES
EYE: POWDER: IRRITATING EFFECT
CHRONIC EFFECTS: IRON COMPOUNDS MAY CAUSE VOMITING, DIARRHEA, PINK URINE, BLACK STOOL, AND LIVER DAMAGE. MAY CAUSE DAMAGE TO THE KIDNEYS. IRRITATING TO THE RESPIRATORY TRACT, THEY MAY CAUSE PULMONARY FIBROSIS IF DUSTS ARE INHALED.
BORON AFFECTS THE CENTRAL NERVOUS SYSTEM. BORON POISONING CAUSES DEPRESSION OF THE CIRCULATION, PERSISTANT VOMITING AND DIARRHEA, FOLLOWED BY PROFOUND SHOCK AND COMA. THE TEMPERATURE MAY BECOME SUBNORMAL AND A SCARLETINA FORM RASH MAY COVER THE ENTIRE BODY. BORON COMPOUNDS ARE VERY TOXIC AND THEREFORE CONSIDERED AN INDUSTRIAL POISON. BORON EFFECTS CNS, BORON POISONING DEPRESSION OF CIRCULATION, PERSISTENT VOMITING AND DIARRHEA FOLLOWED BY SHOCK AND COMA SUBNORMAL TEMPERATURE AND RASH.
LANTHANONS CAN CAUSE DELAYED BLOOD CLOTTING LEADING TO HEMORRHAGES. EXPOSURE MAY ALSO LEAD TO SENSITIVITY TO HEAT ITCHING, INCREASED AWARENESS OF ODOR AND TASTE, AND LIVER DAMAGE

6. STABILITY

STABILITY: STABLE
CONDITION TO AVOID: AVOID CREATING DUSTS. AIR AND MOISTURE SENSITIVE
INCOMPATIBILITY
(MATERIAL TO AVOID): STRONG ACIDS, STRONG OXIDIZING AGENTS AND HALOGENS, AIR, WATER MOISTURE, SULFUR, AMMONIA, AMMONIUM NITRATE, HEAT, AMMONIUM PEROXODISULFATE, CHLORIC ACID, CHLORINE TRIFLUORIDE, CHLOROFORMADINIUM NITRATE, SODIUM ACETYLIDE, CHLORINE, DINITROGEN TETRAOXIDE, LIQUID FLUORINE, NITRYL FLUORIDE + HEAT, PEROXYL FORMIC AND POTASSIUM DICHROMATE, SODIUM PEROXIDE (AT 240 OC)

HAZARDOUS
DECOMPOSITION PRODUCTS: HYDROGEN, METAL OXIDE FUME
HAZARDOUS
POLYMERIZATION: WILL NOT OCCUR.

7. EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: REMOVE TO FRESH AIR AND PROVIDE ARTIFICIAL RESPIRATION IF NECESSARY. SEEK IMMEDIATE MEDICAL ADVICE.
INGESTION: SEEK IMMEDIATE MEDICAL ATTENTION.

SKIN: WASH SKIN THOROUGHLY WITH MILD SOAP AND WATER. RINSE THOROUGHLY. SEEK IMMEDIATE MEDICAL ADVICE.

EYE: FLUSH EYES WITH PLENTY OF WATER. SEEK IMMEDIATE MEDICAL ADVICE.

8. HANDLING AND STORAGE

CONTAINERS. AIR AND MOISTURE SENSITIVE. STORE AWAY FROM OXIDIZERS AND OTHER MATERIALS LISTED UNDER INCOMPATIBILITY. STORE UNDER ARGON OR OTHER INERT ENVIRONMENT. AVOID BREATHING DUSTS. AVOID DIRECT OR PROLONGED CONTACT WITH SKIN AND EYES. WASH HANDS THOROUGHLY AFTER HANDLING. DO NOT RUB EYES WITH SOILED HANDS.

OTHER PRECAUTIONS: AVOID CREATING DUSTS AS THIS PRODUCT, LIKE MOST MATERIALS IN POWDER FORM, IS CAPABLE OF CREATING A DUST EXPLOSION.

9. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

RESPIRATION:	WEAR NIOSH APPROVED DUST-MIST VAPOR RESPIRATOR.
VENTILATION:	LOCAL EXHAUST TO MAINTAIN CONCENTRATION AT OR BELOW THE PEL, TLV.
PROTECTIVE GLOVES:	RUBBER GLOVES.
EYE PROTECTION:	SAFETY GLASSES
PROTECTIVE CLOTHING:	PROTECTIVE GEAR SUITABLE TO PREVENT CONTAMINATION.

WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

10. TOXICITY DATA

IRON
ORAL RAT LD50: 30 GM/KG; INVESTIGATED AS A TUMORIGEN.

BORON
ORAL: LD50: 300 mg/kg (mam)
LD50: 2000 mg/kg (mus)

NEODYMIUM
NONE

CARCINOGENICITY: NO CLASSIFICATION DATA ON CARCINOGENIC PROPERTIES OF THIS MATERIAL IS AVAILABLE FROM THE EPA, IARC, NTP, OSHA, OR ACGIH.

ADDITIONAL INFORMATION: TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT FULLY KNOWN.

11. TRANSPORTATION DATA

REGULATED FOR POWDER ONLY

UN NUMBER	1383
HAZARD CLASS:	4.2
ADR//RID CLASS:	4.2 (SUBSTANCES LIABLE TO SPONTANEOUS CONBUSTION)
IMDG CLASS:	4.2
AIR TRAN. ICAO/IATA CLASS:	4.2
PROPER SHIPPING NAME:	PYROPHORIC METAL, N.O.S. (NEODYMIUM)
PACKING GROUP:	I

12. OTHER INFORMATION

THIS SAFETY DATA SHEET SHOULD BE USED IN CONJUNCTION WITH TECHNICAL SHEETS. IT DOES NOT REPLACE THEM. THE INFORMATION GIVEN IS BASED ON OUR KNOWLEDGE OF THIS PRODUCT, AT THE TIME OF PUBLICATION. IT IS GIVEN IN GOOD FAITH. THE ATTENTION OF THE USER IS DRAWN TO THE POSSIBLE RISKS INCURRED BY USING THE PRODUCT FOR ANY OTHER PURPOSE OTHER THAN THAT FOR WHICH IT WAS INTENDED. THIS DOES NOT IN ANY WAY EXCUSE THE USER FROM KNOWING AND APPLYING ALL THE REGULATIONS GOVERNING HIS ACTIVITY. IT IS THE SOLE RESPONSIBILITY OF THE USER TO TAKE ALL PRECAUTIONS REQUIRED IN HANDLING THE PRODUCT. THE AIM OF THE MANDATORY REGULATIONS MENTIONED IS TO HELP THE USER TO FULFILL HIS OBLIGATIONS REGARDING THE USE OF HAZARDOUS PRODUCTS.

