

LTS (CHEMICAL) INC.  
MATERIAL SAFETY DATA SHEET  
NICEKL BORIDE

GENERAL

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.  
COMPANY'S STREET: 37 RAMLAND ROAD  
COMPANY'S CITY: ORANGEBURG  
COMPANY'S STATE: NEW YORK  
COMPANY'S ZIP CODE: 10962  
EMERGENCY CHEMTREC #: 800-262-8200  
COMPANY'S EMERGENCY TEL. #: 800-424-9300 (LOCAL)  
703-527-3887 (INTERNATIONAL)  
COMPANY'S TEL #: 845-494-2940  
DATE MSDS PREPARED: 06/21/11

1. PRODUCT IDENTIFICATION

PRODUCT NAME: NICKEL BORIDE  
FORMULA: NiB, Ni2B, Ni3B  
CAS #: 12007-00-0, 12007-01-1, 12007-02-2:

2. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A  
MELTING POINT: N/A  
SPECIFIC GRAVITY (H<sub>2</sub>O=1): N/A  
VAPOR DENSITY: N/A  
VAPOR PRESSURE: N/A  
EVAPORATION RATE: N/A  
% VOLATILES: N/A  
SOLUBILITY IN H<sub>2</sub>O: INSOLUBLE  
APPEARANCE AND ODOR: GREY POWDER, GRANULES, ODORLESS

3. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: T - TOXIC  
N - DANGEROUS FOR THE ENVIRONMENT  
RISK PHRASES: R49 - MAY CAUSE CANCER BY INHALATION  
R43 - MAY CAUSE SENSITIZATION BY SKIN CONTACT  
R48/23 - TOXIC: DANGER OF SERIOUS DAMAGE TO HEALTH BY  
PROLONGED EXPOSURE THROUGH INHALATION  
R50/53 - VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE  
LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT  
HMIS RATINGS:  
HEALTH: 3  
FLAMMABILITY: 0  
REACTIVITY: 0

4. FIRE FIGHTING MEASURES

FLASH POINT: N/A  
AUTOIGNITION TEMPERATURE: N/A  
FLAMMABLE LIMITS:  
UPPER: N/A  
LOWER: N/A  
EXTINGUISHING MEDIA: PRODUCT IS NOT FLAMMABLE. USE FIREFIGHTING  
MEASURES THAT SUIT THE CURROUNDING FIRE.  
SPECIAL HAZARDS: NONE

5. HEALTH HAZARD INFORMATION

ACUTE EFFECTS:

SKIN:

EYE:

CHRONIC EFFECTS:

POWDER: IRRITANT TO SKIN AND MUCOUS MEMBRANES

POWDER: IRRITATING EFFECT

NICKEL IS A CONFIRMED CARCINOGEN WITH EXPERIMENTAL CARCINOGENIC, NEOPLASTIGENIC, TUMORIGENIC AND TERATOGENIC DATA. POISON BY INGESTION, INTRATRACHEAL, INTRAPERITONEAL, SUBCUTANEOUS AND INTRAVENOUS ROUTES. AN EXPERIMENTAL TERATOGEN. INGESTION OF SOLUBLE SALTS CAUSES NAUSEA, VOMITING AND DIARRHEA. HYPERSENSITIVITY TO NICKEL IS COMMON AND CAN CAUSE ALLERGIC CONTACT DERMATITIS, PULMONARY ASTHMA, CONJUNCTIVITIS AND INFLAMMATORY REACTIONS AROUND NICKEL CONTAINING MEDICAL IMPLANTS AND PROSTHESIS

BORON COMPOUNDS ARE VERY TOXIC AND THEREFORE CONSIDERED AN INDUSTRIAL POISON. BORON IS ONE OF A GROUP OF ELEMENTS, SUCH AS PB, MN, AS, WHICH AFFECTS THE CENTRAL NERVOUS SYSTEM. BORON POISONING CAUSES DEPRESSION OF THE CIRCULATION, PERSISTENT VOMITING AND DIARRHEA, FOLLOWED BY PROFOUND SHOCK AND COMA. THE TEMPERATURE BECAUSE SUBNORMAL AND SCARLENTINA FORM RASH MAY COVER THE ENTIRE BODY

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6. STABILITY

STABILITY:

STABLE

CONDITIONS TO AVOID:

WATER/MOITURE

MATERIAL TO AVOID:

STRONG OXIDING AGENTS, STRONG BASES

DANGEROUS REACTIONS:

NONE KNOWN

HAZARDOUS

DECOMPOSITION PRODUCTS:

BORON OXIDES

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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.

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8. HANDLING AND STORAGE

HANDLING & STORAGE:

STORE IN A COOL, DRY PLACE IN TIGHTLY SEALED CONTAINERS. ENSURE GOOD VENTILATION. NO SPECIAL REQUIREMENTS ARE NECESSARY IF USED CORRECTLY.

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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.

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#### 10. TOXICITY DATA

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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.

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#### 11. TRANSPORTATION DATA

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REGULATED FOR POWDER AND GRANULES  
PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S.  
UN NUMBER: 3077  
HAZARD CLASS: 9  
PACKING GROUP: III  
ADR//RID CLASS: 9 (M7) MISCELLANEOUS DANGEROUS SUBSTANCES AND  
ARTICLES  
IMDG CLASS: 9  
ICAO/IATA CLASS: 9

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#### 12. OTHER INFORMATION

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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.