

LTS RESEARCH LABORATORIES, INC.
MATERIAL SAFETY DATA SHEET
NICKEL ALUMINIDE

GENERAL

MANUFACTURER/SUPPLIER: LTS RESEARCH LABORATORIES, INC.

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DATE MSDS PREPARED: 03/23/10
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1. PRODUCT IDENTIFICATION

PRODUCT NAME: NICKEL ALUMINIDE
SYNONYMS: NICKEL MONOALUMINIDE
FORMULA: NiAl₃
CAS #: 12004-71-6

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: POWDER, GREY, NO ODOR



3. HAZARD IDENTIFICATION

HAZARD DESCRIPTION: XN HARMFUL
RISK PHRASES: 11 HIGHLY FLAMMABLE.
40 LIMITED EVIDENCE OF A CARCINOGENIC EFFECT.
43 MAY CAUSE SENSITIZATION BY SKIN CONTACT.

SAFETY PHRASES: 22 DO NOT BREATHE DUST.
36/37 WEAR SUITABLE PROTECTIVE CLOTHING AND GLOVES.

HMIS RATINGS:
HEALTH: 2
FLAMMABILITY: 3
REACTIVITY: 2

4. FIRE FIGHTING MEASURES

FLASH POINT: N/A
AUTOIGNITION TEMPERATURE: N/A
FLAMMABLE LIMITS:
UPPER: N/A
LOWER: N/A
EXTINGUISHING MEDIA: SPECIAL POWDER FOR METAL FIRES. DO NOT USE WATER.
PRODUCT IS FLAMMABLE.
SPECIAL HAZARDS: IN CONTACT WITH WATER RELEASES FLAMMABLE GAS.

5. HEALTH HAZARD INFORMATION

ACUTE EFFECTS:

SKIN:	POWDER: IRRITANT TO SKIN AND MUCOUS MEMBRANES
EYE:	POWDER: IRRITATING EFFECT
INHALATION:	MAY CAUSE IRRITATION TO THE UPPER RESPIRATORY TRACT, NASAL CAVITIES, PULMONARY ASTHMA AND PULMONARY FIBROSIS.
INGESTION:	LARGE DOSES MAY CAUSE INTESTINAL DISORDERS, CONVULSIONS AND ASPHYXIA.

CHRONIC EFFECTS:

SKIN:	MAY SENSITIZE THE SKIN (NICKEL ITCH). MAY CAUSE ALLERGIC DERMATITIS, ECZEMATOUS DERMATITIS AND MAY BE ACCOMPANIED A WEEK LATER WITH SUPERFICIAL SKIN ULCERS, WHICH MAY DISCHARGE AND BECOME CRUSTED.
EYE:	MAY CAUSE CONJUNCTIVITIS
INHALATION:	MAY CAUSE PNEOMITIS.
INGESTION:	MAY CAUSE NICKEL TOXICITY.

6. STABILITY

STABILITY:	DECOMPOSITION WILL NOT OCCUR IF USED AND STORED ACCORDING TO SPECIFICATIONS.
CONDITIONS TO AVOID:	NONE
MATERIAL TO AVOID:	STRONG ACIDS, BASES AND OXIDIZING AGENTS.
DANGEROUS REACTIONS:	REACTS WITH STRONG ALKALI, ACIDS, AND OXIDIZING AGENTS.
HAZARDOUS DECOMPOSITION PRODUCTS:	HYDROGEN, AND METAL OXIDE FUME

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

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.

10. TOXICITY DATA

CARCINOGENICITY: NICKEL IS A CONFIRMED CARCINOGEN. POISON BY
INGESTION, INTRATRACHEAL, INTRAPERITONEAL,
SUBCUTANEOUS AND INTRAVENOUS ROUTES. INHALATION
OF FINE ALUMINUM OXIDE PARTICLES IS ASSOCIATED
WITH SHAVER'S DISEASE. CARCINOGENIC DATA
AVAILABLE FROM NTP, IARC, AND OSHA.
ADDITIONAL INFORMATION: TO THE BEST OF OUR KNOWLEDGE THE ACUTE AND
CHRONIC TOXICITY OF THIS SUBSTANCE IS NOT FULLY
KNOWN.

11. TRANSPORTATION DATA

UN NUMBER: 3208
HAZARD CLASS: 4.3
ADR//RID CLASS: 4.3
IMDG CLASS: 4.3
ICAO/IATA CLASS: 4.3

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.