

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Niobium Nitride Nanoparticles

**Product Code:** NB-N-04-NP

**CAS Number:** 24621-21-4

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

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## SECTION 2. HAZARDS IDENTIFICATION

For additional information on toxicity, please refer to Section 11.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

NIOBIUM NITRIDE  
CAS # 24621-21-4  
Formula: NbN  
Sara 313: No

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## SECTION 4. FIRST AID MEASURES

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

#### EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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## SECTION 5. FIREFIGHTING MEASURES

#### FLASH POINT

N/A

#### AUTOIGNITION TEMP

N/A

#### FLAMMABILITY

N/A

#### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

#### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Emits toxic fumes under fire conditions.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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## SECTION 7. HANDLING AND STORAGE

#### HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type ABEK (EN14387) respirator cartridges.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Molecular Weight 106,9100 AMU

pH N/A

BP/BP Range N/A

MP/MP Range N/A

Freezing Point N/A

Vapor Pressure N/A

Vapor Density N/A

Saturated Vapor Conc. N/A

SG/Density 8,4000

g/cm<sup>3</sup>

Bulk Density N/A

Odor Threshold N/A

Volatile% N/A

VOC Content N/A

Water Content N/A

Solvent Content N/A

Evaporation Rate N/A

Viscosity N/A

Surface Tension N/A

Partition Coefficient N/A

Decomposition Temp. N/A

Flash Point N/A

Explosion Limits N/A

Flammability N/A

Autoignition Temp N/A

Refractive Index N/A

Optical Rotation N/A

Miscellaneous Data N/A

Solubility N/A

N/A = not available

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## SECTION 10. STABILITY AND REACTIVITY

### STABILITY

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

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## SECTION 11. TOXICOLOGICAL INFORMATION

### ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Multiple Routes: May be harmful by inhalation, ingestion, or skin absorption.

### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## SECTION 12. ECOLOGICAL INFORMATION

No data available.

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## SECTION 13. DISPOSAL CONSIDERATIONS

### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## SECTION 14. TRANSPORT INFORMATION

DOT

Proper Shipping Name: None

Non-Hazardous for Transport:

This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport:

Non-hazardous for air transport.

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## SECTION 15. REGULATORY INFORMATION

### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: Yes

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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