

Aluminum Nitride (AlN) Powder

US Research Nanomaterials, Inc. www.us-nano.com

SAFTY DATA SHEET

Revised Date 2/28/2023

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: Aluminum Nitride (AlN) Powder

Aluminum Nitride (AlN) CAS#: 24304-00-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Research

1.3 Details of the supplier of the safety data sheet

Company: [US Research Nanomaterials, Inc.](http://www.us-nano.com) 3302 Twig Leaf Lane Houston, TX 77084
USA

Telephone: +1 832-460-3661 Fax: +1 281-492-8628 1.4 Emergency telephone number
Emergency Phone # : +1 (832) 359-7887

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Eye irritation (Category 2A), H319

Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H319 Causes serious eye irritation. H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position

comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Aluminum Nitride (AlN) CAS#: 24304-00-5

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

The product is not flammable.

5.3 Advice for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

5.4 Further information no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

For any handling steps where the substance is in particulate form or in a suspension with pure water where the substance is not solubilized, the gloves must be comprised of material that successfully passes ASTM F-1671. For any handling steps where the substance is part of a carrier liquid, other than the aqueous suspension noted in the previous paragraph, gloves must be comprised of material that successfully passes ASTM F-739 (continuous liquid contact method). Gloves must be changed before

they show degradation and before the designated breakthrough time for the carrier liquid (as determined by the ASTM F-739 testing or by the manufacturer). Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Impervious clothing: The type of protective equipment must be selected according to the

concentration and amount of the dangerous substance at the specific workplace. Respiratory protection The EPA mandates the use of full face respirators with minimum N100 grade cartridges if there is any risk of exposure to the dust. For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Control of environmental exposure Do not let product enter drains.	
9. PHYSICAL AND CHEMICAL PROPERTIES 9.1 Information on basic physical and chemical properties a) Appearance: solid b) Odor: Odorless c) Odor Threshold: N/A d) pH: no data available e) Melting point/freezing point: 2200°C f) Initial boiling point and boiling range: no data available g) Flash point: no data available h) Evaporation rate: no data available i) Flammability (solid, gas): no data available j) Upper/lower flammability or explosive limits: no data available k) Vapor pressure: no data available l) Vapor density: no data available m) Relative density: 3.25 n) Water solubility: insoluble o) Partition coefficient - noctanol/water: no data available p) Auto-ignition temperature: no data available q) Decomposition temperature: no data available r) Viscosity: no data available s) Explosive properties: no data available t) Oxidizing properties: no data available 9.2 Other safety information no data available	
10. STABILITY AND REACTIVITY	10.1 Reactivity
no data available 10.2 Chemical stability Stable under recommended storage conditions.	10.3 Possibility of hazardous reactions no data available
10.4 Conditions to avoid no data available 10.5 Incompatible materials Strong oxidizing agents 10.6 Hazardous decomposition products Other decomposition products - no data available In the event of fire: see section 5	
11. TOXICOLOGICAL INFORMATION 11.1 Information on toxicological effects Acute toxicity no data available Inhalation: no data available Dermal: no data available Skin corrosion/irritation no data available Serious eye damage/eye irritation no data available	

Respiratory or skin sensitization no data available Germ cell mutagen city no data available Carcinogenicity no data available Reproductive toxicity no data available
Specific target organ toxicity - single exposure Inhalation - May cause respiratory irritation. Specific target organ toxicity - repeated exposure no data available Aspiration hazard no data available Additional Information RTECS: Not available To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
12.ECOLOGICAL INFORMATION 12.1 Toxicity no data available 12.2 Persistence and degradability no data available 12.3 Bioaccumulative potential no data available 12.4 Mobility in soil no data available
12.5 Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted 12.6 Other adverse effects no data available
13.DISPOSAL CONSIDERATIONS 13.1 Waste treatment methods Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Contaminated packaging Dispose of as unused product.
14.TRANSPORT INFORMATION DOT (US)
Not dangerous goods IMDG Not dangerous goods IATA Not dangerous goods
15.REGULATORY INFORMATION SARA 302 Components SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA 313 Components SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. SARA 311/312 Hazards Acute Health Hazard Massachusetts Right To Know Components No components are subject to the Massachusetts Right to Know Act. California Prop. 65 Components This product does not contain any chemicals known to State of California to cause cancer,

birth defects, or any other reproductive harm.

16.OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Eye Irrit. Eye irritation

H319 Causes serious eye irritation. H335 May cause respiratory irritation. HMIS Rating

Health hazard: 1

Flammability: 0

Physical Hazard 0

NFPA Rating

Health hazard: 1

Fire Hazard: 0

Reactivity Hazard: 0

Further information

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.

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.