



**SURMET CERAMICS CORPORATION
SAFETY DATA SHEET**

REV.DATE 04/08/2025

SECTION 1: IDENTIFICATION

- **Product Name:** Aluminum Nitride (AlN)
- **Product Type:** Powder
- **Product grades:** A100, A500.
- **Synonyms:** Aluminum mononitride
- **CAS Number:** 24304-00-5
- **EC Number:** 246-140-8
- **Intended Use:** Industrial and laboratory applications, ceramics, thermal management materials.
- **Manufacturer/Supplier:**
Surmet Ceramics Corporation
699 Hertel Avenue /Buffalo, NY 14207
Phone: 781-272-3969.
General product information: www.surmet.com
- **Emergency Contact Number:** 781-272-3969

SECTION 2: HAZARD IDENTIFICATION

- **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):**
 - **Health Hazards:** Category 2A (Eye Irritation) H319, Category 3 (Respiratory Irritation) H335, Category 2 (Skin irritation) H315
 - **Environmental Hazards:** Not classified
 - **Physical Hazards:** Not classified
- **California Proposition 65:** This product is not listed under California Proposition 65 as a chemical known to cause cancer, birth defects, or other reproductive harm.
- **GHS Label Elements:**
 - **Pictograms:**





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- **Signal Word:** Warning
 - **Hazard Statements:**
 - H315: Causes skin irritation
 - H319: Causes serious eye irritation
 - H335: May cause respiratory irritation
 - **Precautionary Statements:**
 - P260: Do not breathe dust or mist
 - P261: Avoid breathing dust/fumes
 - P264: Wash skin thoroughly after handling
 - P280: Wear eye protection, gloves
 - P285: In case of inadequate ventilation wear respiratory protection
 - P314: Get medical advice/attention if you feel unwell.
 - **Response:**
 - P302 + P352: IF ON SKIN: Gently wash with plenty of soap and water
 - P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a comfortable position for breathing.
 - **Hazards not otherwise classified (HNOC) or not covered by GHS - None**
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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Substance:** Aluminum Nitride (>95%)
 - **Chemical Formula:** AlN
 - **CAS Number:** 24304-00-5
 - **EC Number:** 246-140-8
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SECTION 4: FIRST-AID MEASURES

- **Inhalation:** Move person to fresh air. Seek medical attention if symptoms persist.
- **Skin Contact:** Wash skin with soap and water. Seek medical attention if irritation occurs.



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- **Eye Contact:** Rinse immediately with water for at least 15 minutes. Seek medical attention if irritation persists.
 - **Ingestion:** Rinse mouth with water. Do not induce vomiting unless directed by a physician.
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SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable Extinguishing Media:** Water spray, dry chemical, foam, CO₂
 - **Hazardous Combustion Products:** Aluminum oxides, nitrogen oxides
 - **Protective Equipment for Firefighters:** Self-contained breathing apparatus (SCBA) and full protective clothing
 - **Specific Hazards** may decompose forming hazardous ammonia if water is used
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SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions:** use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
 - **Environmental Precautions:** Prevent dust from entering drains and water sources.
 - **Cleanup Methods:** Sweep up or vacuum without generating dust. Dispose of according to local regulations.
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SECTION 7: HANDLING AND STORAGE

- **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.
 - **Condition for safe storage, including any incompatibilities:**
 - Store in a cool dry place. Keep container tightly closed in a dry, well-ventilated place.
 - Moisture sensitive. Handle and store in a tight container and/or under inert gas. Incompatible with high pH water and strong oxidizing agents.
 - **Specific end-uses:** Raw material for Aluminum nitride ceramics, additives, fillers
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Control Parameters**
 - **Exposure Limits:** None. Contains no substances with occupational exposure limit values.



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- **Engineering Controls:** Handle with adequate ventilation, provide local exhaust ventilation. Make available emergency shower and eye wash in the work area. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.
 - **Personal Protective Equipment (PPE):**
 - **Eye/face protection** Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)
 - **Skin protection** Handle with gloves. Gloves must be inspected prior to use. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
 - **Respiratory protection** where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls.
 - **Control of environmental exposure:** Do not let product enter drains
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** Gray to off-white powder
 - **Odor:** Odorless
 - **Boiling Point:** Sublimes at high temperature
 - **Melting Point:** 2200°C (decomposes)
 - **Solubility:** Insoluble in water, hydrolyzes slowly, reacts with strong acids
 - **Density:** 3.26 g/cm³
 - **pH:** Not applicable
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SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable under normal conditions
 - **Incompatible Materials:** Strong acids, oxidizing agents, moisture
 - **Hazardous Decomposition Products:** Aluminum oxides, ammonia
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SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute toxicity** - Not classified as acutely toxic
- **Skin corrosion/irritation**- no data available



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- **Serious eye damage/eye irritation-** no data available
- **Respiratory or skin sensitization-** no data available
- **Germ cell mutagenicity-** no data available
- **Carcinogenicity:**
 - IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC
 - ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH
 - NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP
 - OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA
- **Reproductive toxicity-** no data available
- **Specific target organ toxicity-single exposure-** no data available
- **Specific target organ toxicity – repeated exposure-** Long-term inhalation may cause lung irritation
- **Aspiration hazard-** no data available
- **Potential health effects:**
 - Inhalation – May be harmful if inhaled. Material can be destructive to the tissue of the mucous membrane and upper respiratory tract. Causes respiratory tract irritation.
 - Ingestion – May be harmful if swallowed. Causes burns.
 - Skin – May be harmful if absorbed through skin. Causes skin burns.
 - Eyes – Causes eye irritation and burning sensation
- **Signs and symptoms of exposure-** To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated

SECTION 12: ECOLOGICAL INFORMATION

- **Toxicity:** No data available
- **Persistence and degradability:** Not applicable
- **Bioaccumulative potential:** No data available



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- **Mobility in soil:** No data available
- **Results of PBT and vPvB assessment:** Not available (chemical safety assessment not required/not conducted)
- **Endocrine disrupting properties:** No data available
- **Other adverse effects:** No known significant effects or critical hazards

SECTION 13: DISPOSAL CONSIDERATIONS

- Dispose of in accordance with local, state, and federal regulations. Do not allow material to enter water systems.

SECTION 14: TRANSPORT INFORMATION

DOT (US)

UN Number: 3131 Class:4.3(8) Packing Group: III

Proper shipping name: Water-reactive solid, corrosive, n.o.s. (Aluminum Nitride)

Reportable Quantity (RQ): Poison Inhalation Hazard: No

UN number: ADR/RID: 3131 IMDG: 3131 IATA: 3131

UN proper shipping name:

ADR/RID: WATER REACTIVE SOLID, CORROSIVE, N.O.S. (Aluminum nitride)

IMDG: WATER REACTIVE SOLID, CORROSIVE, N.O.S. (Aluminum nitride)

IATA: WATER REACTIVE SOLID, CORROSIVE, N.O.S. (Aluminum nitride)

EMS-No: F-G, S-L

Transport hazard class (es): ADR/RID: 4.3 (8) IMDG: 4.3 (8) IATA: 4.3(8)

Packaging group: ADR/RID: III IMDG: III IATA: III

Environmental hazards:

ADR/RID: no IMDG: Marine pollutant: no IATA: no

Special precautions for user: Store in a cool dry environment



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SECTION 15: REGULATORY INFORMATION

TSCA	CAS# 24304-00-5 is listed on the TSCA inventory
Health and Safety Reporting List	None of the chemicals are on the Health & Safety Reporting List
Chemical Test Rules	None of the chemicals in this product are under a Chemical test Rule
Section 12b	None of the chemicals are listed under TSCA Section 12b
TSCA Significant New Rule	None of the chemicals in this material have a SNUR under TSCA
CERCLA Hazardous Substances and corresponding RQs	None of the chemicals in this material have an RQ
SARA Section 302 Extremely Hazardous Substance	None of the chemicals in this material have a TPQ
Section 313	No Chemicals are reportable under Section 313
Clean Air Act:	This material does not contain hazardous air pollutants This material does not contain any Class 1 Ozone depletors This material does not contain any Class 2 Ozone depletors
Clean Water Act:	None of the chemicals in this product are listed as Hazardous Materials under CWA None of the chemicals in this product are listed as Priority Pollutants under the CWA None of the chemicals in this product are listed as Toxic Pollutants under the CWA
OSHA	None of the chemicals in this product are considered highly hazardous by OSHA
STATE	CAS # 24304-00-5 can be found on the following state right to know lists: California, Pennsylvania, Minnesota
California Prop 65	California No Significant Risk Level: None of the chemicals in this product are listed.
DSL Inventory – Canada	CAS#24304-00-5 is listed on Canada’s DSL Inventory
European/International Regulations	CAS#24304-00-5 is not listed on Canada’s Ingredient Disclosure List European Labeling in Accordance with EC Directives

SECTION 16: OTHER INFORMATION

- **SDS Revision Date:** 04/08/2025
 - **Disclaimer:** The information provided above is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The document is based on the recent state of our knowledge and is applicable to the product with regard to appropriate safety precautions. Surmet Corporation does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of the suitability of any material should be made on the sole responsibility of the user. All materials may present hazards and should be used with caution. Although certain hazards are described herein, we make no warranty that these are all the hazards that exist.
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