

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Sodium Nitride
- English Name: Sodium Nitride
- CAS Number: 12136-83-3
- Formula: Na_3N
- Molecular Weight: 82.98 g/mol
- Product Characteristics: Yellowish-brown powder, strong nitride source. Reacts violently with water to release ammonia gas. Stable under inert gas and dry conditions, highly reactive with protic substances.

2. Technical Specifications

Item	Specification
Appearance	Gray to yellowish-brown powder
Purity (Na_3N)	$\geq 95.0\%$
Sodium Oxide (Na_2O)	$\leq 3.0\%$
Moisture Content	$\leq 0.5\%$
Heavy Metals (Pb)	$\leq 0.001\%$
Iron (Fe)	$\leq 0.01\%$
Insoluble Matter in Liquid Ammonia	$\leq 0.5\%$
Stability	Stable under inert gas (N_2/Ar) and dry conditions

3. Product Advantages

- High purity as a reliable nitride source for chemical synthesis.
- Strong reactivity for efficient nitrogen incorporation in target compounds.
- Stable under proper storage and handling conditions.

4. Application Fields

- Chemical Synthesis: Production of nitrides, azides, and nitrogen-containing organic compounds.
- Semiconductor Manufacturing: Dopant source for semiconductor materials.
- Laboratory Research: Reagent for inorganic and organic synthesis reactions.
- Hydrogen Storage: Component of hydrogen storage materials (via ammonia release).

5. Usage Methods

- Chemical Synthesis: Use under inert gas (nitrogen/argon) atmosphere. Add slowly to dry solvent or reaction system at 0-25°C.
- Semiconductor Dopant: Deposit via chemical vapor deposition (CVD) at high temperature.
- Optimal Conditions: Use at 0-30°C under inert gas; avoid moisture and air contact.

6. Packaging & Storage

- Packaging Specifications: 100 g/bottle, 500 g/bottle (sealed under inert gas).



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- Storage Conditions: Store in cool, dry, well-ventilated warehouse. Keep sealed under inert gas. Temperature $\leq 25^{\circ}\text{C}$. Avoid moisture, heat, and oxidizing agents.
- Shelf Life: 12 months (unopened, under specified storage conditions).
- Transportation: Handle as UN1428. Transport in moisture-proof, inert gas-sealed containers. Avoid collision and moisture.

7. Safety & Protection

- Handle only under inert gas (nitrogen/argon) in moisture-free environment.
- Wear full chemical protective suit, nitrile gloves, chemical splash goggles, face shield, and respiratory protection.
- Avoid contact with water, air, acids, and alcohols. In case of contact, follow first aid measures immediately.
- Firefighting: Use dry sand, dry powder, or CO_2 ; do not use water.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Each batch accompanied by COA.
- Provide technical support for safe handling and application.



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