

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Potassium Nitrate
- English Name: Potassium Nitrate
- CAS Number: 7757-79-1
- Formula: KNO_3
- Molecular Weight: 101.10 g/mol
- Product Characteristics: High-purity white crystalline powder/granules, odorless, highly soluble in water. Acts as oxidizer and source of nitrogen and potassium. Stable, non-hygroscopic under normal conditions.

2. Technical Specifications

Item	Specification
Appearance	White crystalline powder/granules
Purity (KNO_3)	$\geq 99.0\%$
pH Value (10% aqueous solution, 25°C)	5.5-8.0
Moisture Content	$\leq 0.5\%$
Chloride (Cl^-)	$\leq 0.005\%$
Sulfate (SO_4^{2-})	$\leq 0.01\%$
Heavy Metals (Pb)	$\leq 0.001\%$
Sodium (Na)	$\leq 0.5\%$
Insoluble Matter in Water	$\leq 0.01\%$
Solubility (20°C)	≥ 300 g/L

3. Product Advantages

- High purity with low impurities for reliable performance.
- Excellent solubility and dissolution rate.
- Dual nutrient source (N, K) for agricultural use.
- Stable oxidizing properties for industrial applications.
- Food-grade option available (meets FDA standards).

4. Application Fields

- Agriculture: Water-soluble fertilizer for crops (fruits, vegetables, flowers); provides nitrogen and potassium.
- Food Industry: Preservative and curing agent for meat products; salt substitute.
- Industrial: Pyrotechnics (fireworks, explosives); glass manufacturing; metal treatment.
- Laboratory: Analytical reagent; buffer solution preparation.
- Other: Dental products; heat transfer fluids.

5. Usage Methods

- Agriculture: Dilute to 0.5-2% solution for foliar spray; or apply as soil fertilizer (100-200 kg/ha).



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- Food Industry: Add 0.05-0.1% to meat products (complies with food safety limits).
- Industrial: Mix with combustibles/reagents in specified ratios (follow safety protocols).
- Optimal Conditions: Use at 15-35°C; avoid contact with reducing agents.

6. Packaging & Storage

- Packaging Specifications: 10 kg/bag (plastic-lined kraft bag), 25 kg/drum (HDPE), 1000 kg/IBC tote.
- Storage Conditions: Store in cool, dry, well-ventilated warehouse. Avoid heat, sparks, open flames. Temperature $\leq 30^{\circ}\text{C}$.
- Shelf Life: 36 months (unopened).
- Transportation: Handle as UN1486, separate from combustibles.

7. Safety & Protection

- Wear protective gloves and goggles during handling.
- Keep away from combustible materials and reducing agents.
- Avoid eye and skin contact; rinse immediately if contact occurs.
- Follow food safety regulations for food-grade use.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Food-grade products meet FDA and national food safety standards.
- Each batch accompanied by COA.

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