

## Technical Data Sheet (TDS)

**Revision Date:** 05 FEB 2026

### 1. Product Overview

- Product Name: Nicotinic Acid
- English Name: Nicotinic Acid
- CAS Number: 59-67-6
- MDL Number: MFCD00002585
- Formula: C<sub>6</sub> H<sub>5</sub> NO<sub>2</sub>
- Molecular Weight: 123.11 g/mol
- **Product Characteristics:** High-purity Vitamin B3 (Niacin), a water-soluble B-complex vitamin with biological activity. It is involved in cellular respiration and lipid metabolism in organisms. Mild skin/eye irritation in pure form, non-toxic via oral route for normal use. Stable under normal conditions, compatible with most food/pharmaceutical/feed ingredients. Widely used in food fortification, pharmaceuticals, cosmetics and feed additives.

### 2. Technical Specifications (Complies with USP/FCC/Industrial Standards)

Item	Specification
Appearance	White to pale yellow crystalline powder
Assay (Purity)	≥ 99.0% (Titration)
Melting Point	234-238°C
Loss on Drying	≤ 0.5%
Residue on Ignition	≤ 0.1%
Heavy Metals (Pb)	≤ 5 ppm
Heavy Metals (As)	≤ 1 ppm
Total Bacterial Count	≤ 10 CFU/g
E. coli	Negative
Solubility	Slightly soluble in water/ethanol; soluble in hot water/dilute alkalis/acids
pH (1% aqueous suspension, 25°C)	2.0-3.0
Bulk Density	0.9-1.1 g/cm <sup>3</sup>
Temperature Stability	Stable at 0-40°C (purity retention ≥ 99%)

### 3. Product Advantages

1. **High Purity:** ≥99% assay, meets USP/FCC international standards, low impurity and heavy metal content.
2. **Biological Activity:** Natural active form of Vitamin B3, high bioavailability for humans/animals.
3. **Versatility:** Reacts with alkalis to form soluble niacin salts (e.g., sodium niacinate); compatible with most formulations.
4. **Stability:** Good thermal/light stability under recommended storage conditions, long shelf life.
5. **Eco-friendly:** Fully biodegradable, no environmental pollution, meets global environmental protection standards.
6. **Cost-effective:** High purity with competitive price, suitable for large-scale industrial application.

### 4. Application Fields

- **Food Industry:** Fortification of dairy products, cereals, beverages, meat products, nutritional supplements (vitamin B complex).
- **Pharmaceutical Industry:** Raw material for multivitamin preparations, lipid-lowering medications, treatments for niacin deficiency (pellagra).



# NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.  
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

- **Cosmetic Industry:** Skin care products (moisturizing, anti-aging, improving skin barrier function), hair care products (strengthening hair roots).
- **Feed Industry:** Feed additive for poultry, livestock, aquaculture (promotes growth, improves feed conversion rate).
- **Industrial Field:** Intermediate for the synthesis of niacin esters, dyes and pesticides.

## 5. Usage Methods

- **Food Fortification:** 1-5 mg/100g (dairy/cereals); 10-50 mg/unit (nutritional supplements).
- **Pharmaceuticals:** 50-200 mg per tablet/capsule (multivitamin); 500-1000 mg per tablet (lipid-lowering preparations).
- **Cosmetics:** 0.01-0.1% (w/w) in skin/hair care products (dissolve in water/dilute alkali first).
- **Feed Additive:** 5-20 mg/kg (poultry/livestock feed); 10-30 mg/kg (aquaculture feed).
- **Industrial Synthesis:** Used as raw material (100% purity) for the production of niacin derivatives, reaction temperature 80-120°C.
- **Formulation Tip:** Dissolve in hot water ( $\geq 60^{\circ}\text{C}$ ) or dilute NaOH solution for aqueous formulations to improve solubility; avoid direct contact with skin/eyes in pure form.

## 6. Packaging & Storage

### Packaging Specifications

- 100 g/bottle, 500 g/bottle, 1 kg/bottle (laboratory/small batch use)
- 5 kg/drum, 25 kg/drum (industrial use)
- 100 kg/IBC tote (bulk use)
- Custom packaging available upon request (sealed HDPE/glass containers).

### Storage Conditions

- Store in a cool, dry, dark warehouse at  $\leq 25^{\circ}\text{C}$ ; keep container tightly closed; protect from moisture and direct sunlight.
- **Incompatibilities:** Store separately from strong alkalis (e.g., NaOH/KOH) and strong oxidizing agents (e.g.,  $\text{H}_2\text{O}_2$ ).
- **Shelf Life:** 24 months (unopened, specified conditions); 6 months after opening (sealed and refrigerated).

### Transportation

- Non-hazardous goods; transport by ordinary vehicles.
- Avoid moisture, direct sunlight, high temperature ( $> 30^{\circ}\text{C}$ ) and collision during transport.
- Separate from strong alkalis/oxidizers during loading/unloading; wear PPE for handling.

## 7. Safety & Protection

- The product is mildly irritating to skin and eyes in pure form; wear **dust mask, safety glasses and nitrile gloves** for all operations.
- Avoid dust inhalation and direct skin/eye contact; operate in a well-ventilated area.
- In case of skin contact: Rinse with plenty of running water for 15 minutes; apply emollient if irritation occurs.
- In case of eye contact: Rinse with plenty of running water for 10-15 minutes; consult an ophthalmologist if irritation persists.
- Do not ingest large quantities; rinse mouth with water if accidentally swallowed.

## 8. Quality Assurance

- Manufactured in accordance with ISO 9001 quality management system and GMP standards.
- Each batch of product is tested and accompanied by a Certificate of Analysis (COA) to ensure compliance with USP/FCC/industrial standards.
- Provide professional technical support for product application, including formulation optimization, solubility improvement and dosage adjustment.
- Product can be customized for purity (99%/99.5%/99.9%) and particle size according to customer requirements.