KEEP INGREDIENTS CO. LTD

No. 2019, Unit 1, Building 10, Yuexiucheng Phase 1, Guodu Xuefu Street, Chang'an District, Xi'an, Shaanxi, 710119, China

TECHNICAL DATA SHEET

N-Acetyl-D-Glucosamine

1. PRODUCT DESCRIPTION

N-Acetyl-D-Glucosamine is an amino monosaccharide with the molecular formula C8H15NO6 and CAS No. 7512-17-6. The product is supplied as a white or off-white powder. It conforms to USP 2023.

2. PRODUCT INFORMATION

Item	Information
Product name	N-Acetyl-D-Glucosamine (N-acetylglucosamine)
Molecular formula	C8H15NO6
CAS number	7512-17-6
Molecular weight	221.21
Description	White or off-white powder
Country of origin	China
Shelf life	3 years (unopened packaging)
Packing	According to customer requirements
Storage	Store in a cool and dry place

3. PRODUCT SPECIFICATION

Item	Specification
Description	White or off-white powder
Clarity	Clear and transparent
Identification	(1) Infrared absorption; (2) Specific rotation; (3) HPLC
Content	98.0% – 102.0%
Residue on ignition	≤0.1%
Chloride	≤0.1%
Heavy metal	≤10 ppm
Iron	< 10 ppm
Arsenic	≤0.5 ppm
Specific rotation	+39.0° – +43.0°
pH	6.0 – 8.0
Loss on drying	≤0.5%
Melting range	196 °C – 205 °C
Total plate count	≤1,000 cfu/g
Yeast & mould	≤100 cfu/g
E. coli	Negative
Salmonella	Negative

4. CERTIFICATE OF ANALYSIS

Product name	N-acetylglucosamine
Batch No.	KYNAE2026061203

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Production date	2026.06.12
Total quantity	1850 kg
Expiry date	2029.06.11

Item	Standard	Result
Description	White or off-white powder	White powder
Clarity	Clear and transparent	Conforms
Identification	(1) Infrared absorption; (2) Specific rotation; (3) HPLC	Conformed
Content	98.0% – 102.0%	99.72%
Residue on ignition	≤0.1%	0.06%
Chloride	≤0.1%	Conforms
Heavy metal	≤10 ppm	Conforms
Iron	< 10 ppm	Conforms
Arsenic	≤0.5 ppm	Conforms
Specific rotation	+39.0° – +43.0°	+40.25°
pH	6.0 – 8.0	6.65
Loss on drying	≤0.5%	0.13%
Melting range	196 °C – 205 °C	199.80 °C
Total plate count	≤1,000 cfu/g	Conforms
Yeast & mould	≤100 cfu/g	Conforms
E. coli	Negative	Not detected
Salmonella	Negative	Not detected

Conclusion: Conforms to USP 2023.

5. PROCESS FLOW

The product is manufactured through the following production steps (transcribed from the supplied process flow chart).

1. Medium preparation (glucose)
2. Sterilization
3. Fermentation (strain)
4. Sterilization by filtration
5. Deproteinization by filtration
6. Decolorization filtration
7. Concentration
8. Crystallization
9. Centrifugation and washing with alcohol (Class D clean area)
10. Desiccation (drying)
11. Packaging
12. Warehousing

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6. PHYSICAL AND CHEMICAL PROPERTIES

The following properties are transcribed from the supplied Material Safety Data Sheet.

Table 2 — Physical and chemical properties (MSDS)

Property	Value
Appearance	White or off-white powder
Molecular weight	221.21
Melting point	196 °C – 205 °C
Optical rotation	+39.0° – +43.0° (20 g/L, H_2O)
Solubility (water)	Soluble in water (about 0.1 g/mL), clear and colourless solution
Stability	Stable; avoid strong oxidizing agents

7. STATEMENTS AND COMPLIANCE

Pharmacopoeial compliance. According to the supplied Certificate of Analysis, the batch conforms to USP 2023.

Heavy metals. The product complies with the limits for heavy metals (≤10 ppm), iron (< 10 ppm) and arsenic (≤0.5 ppm).

Microbiological. The product meets the microbiological limits (total plate count ≤1,000 cfu/g, yeast & mould ≤100 cfu/g, E. coli negative, Salmonella negative).

Hazard classification. According to the supplied Material Safety Data Sheet, the product is rated 0 (minimal hazard) on the HMIS and NFPA scales for health, flammability and reactivity.

Transport. According to the supplied Material Safety Data Sheet, the product is considered non-hazardous for transport (DOT) and non-hazardous for air transport (IATA); not listed under SARA 313.

8. STORAGE AND TRANSPORTATION

- Stored in a cool and dry place.
- Shelf life: 3 years (unopened packaging).
- Packing: according to customer requirements.
- Transport: non-hazardous for transport (DOT) and non-hazardous for air transport (IATA).

