

Technical Data Sheet (TDS)

- Glacial Acetic Acid (Food Grade)

Issue Date: 28 FEB 2026 | Version: V1.0

1. Product Overview

- **Product Name:** Glacial Acetic Acid (Food Grade)
- **CAS Number:** 64-19-7
- **EINECS/EC Number:** 200-580-7
- **Chemical Formula:** C₂H₄O₂
- **Molecular Weight:** 60.05 Da
- **Chemical Name:** Ethanoic acid (glacial)
- **Product Characteristics:** High-purity food-grade glacial acetic acid (≥99.5%) produced by microbial fermentation and rectification purification (non-GMO, food-grade raw materials). Clear colorless liquid with characteristic pungent acetic acid odor; melts into ice-like crystals at ≤16.6°C (hence "glacial"); miscible with water/ethanol in all proportions, flammable, and corrosive in undiluted form. As a key food additive, it acts as **acidulant, preservative, pH adjuster and flavor enhancer**; inhibits the growth of spoilage microorganisms, adjusts food acidity, enhances sour flavor, and synergizes with other preservatives (sodium benzoate) to boost preservation effect. **Must be diluted before food application** (no undiluted use); compliant with GB 2760/FDA/EC/CAC/FCC/USP standards, suitable for various food production and processing.
- **Core Application:** Food additive (acidulant/preservative/pH adjuster) for condiments (vinegar, soy sauce), beverage, canned food, pickles, bakery, dairy, processed meat and snack food industries; raw material for food flavor and acetate synthesis.

2. Technical Specifications (Compliant with GB 2760 & FCC/USP)

Item	Standard Requirement
Appearance	Clear colorless liquid, no turbidity, no visible impurities
Odor	Characteristic pungent acetic acid odor
Assay (Acetic Acid)	≥ 99.5%
Water Content	≤ 0.5%
Residue on Evaporation	≤ 0.005%
Free Mineral Acid	Passes test
Iodide (I ⁻)	≤ 0.0001%
Chloride (Cl ⁻)	≤ 0.0001%
Sulfate (SO ₄ ²⁻)	≤ 0.0001%
Heavy Metals (as Pb)	≤ 0.5 ppm
Arsenic (As)	≤ 0.1 ppm
Cadmium (Cd)	≤ 0.05 ppm
Mercury (Hg)	≤ 0.01 ppm
Iron (Fe)	≤ 0.0001%
Total Bacterial Count	≤ 10 CFU/mL
E. coli	Negative in 10mL
Salmonella	Negative in 25mL
Solubility	Miscible with water/ethanol (all proportions)
Melting Point	16.6°C ±0.5°C
Boiling Point	117.5-118.5°C
pH Value (1% aqueous)	2.3-2.5
Storage Stability	36 months unopened (≤25°C, sealed)

3. Product Advantages



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>

- High Purity & Food Safety:** Fermentation-derived (non-GMO), rectified to $\geq 99.5\%$ purity; heavy metal/impurity content far lower than national/FCC/USP standards; FDA GRAS/EC E260 certified, no harmful byproducts, safe for food application (when diluted).
- Multi-Functional Food Additive:** Integrates **acidulation, preservation, pH adjustment and flavor enhancement** in one; replaces single-function additives, reduces production cost; suitable for all food flavor systems (sour/savory/sweet).
- Excellent Preservative Effect:** Inhibits the growth of spoilage bacteria (E. coli, Salmonella) and molds at pH 3.0-4.5; synergizes with sodium benzoate/potassium sorbate to double preservation effect (reduces preservative dosage by 50%).
- Stable Sour Flavor:** Pure, mild sour taste (no bitter/astringent aftertaste); enhances food sour flavor without altering original taste; easy to adjust acidity by precise dilution.

4. Application Fields & Recommended Diluted Dosage

Critical Note: Undiluted glacial acetic acid is **not for direct food use**; dilute to the recommended concentration with food-grade deionized water first (add acid to water, stir continuously). All dosages are **w/w of diluted acetic acid solution** based on food raw materials.

Application Field	Typical Products	Recommended	Recommended	Core Effect
Condiments	Vinegar, soy sauce,	5-10%	1.0-5.0%	Acidulation, flavor
Beverage	Carbonated drink,	1-5%	0.1-1.0%	Sour flavor
Canned Food	Fruit/vegetable cans,	2-5%	0.2-0.8%	Preservation, pH
Pickles	Pickled vegetables,	3-8%	0.5-3.0%	Acidulation,
Bakery	Bread, cake, biscuit,	1-3%	0.05-0.3%	Dough acidification,
Dairy Products	Yogurt, sour milk,	1-2%	0.03-0.2%	Sour flavor
Processed Meat	Sausage, ham,	2-4%	0.1-0.5%	Preservation, pH
Snack Food	Potato chips,	1-3%	0.05-0.3%	Sour flavor
Food Flavor	Fruit flavor, vinegar	50-80%	-	Raw material for

5. Usage Methods & Formulation Guidelines

Mandatory Safety Rule: Always add **glacial acetic acid slowly to food-grade deionized water** (never water to acid) with continuous stirring (exothermic reaction, prevents splashing/corrosion).

- Dilution Method:** Prepare stock solution with the required concentration (1-10% for food application) in food-grade HDPE/glass/stainless steel containers; stir for 5-10 minutes to ensure uniform mixing (no local high concentration).
- Processing Timing:** Add diluted acetic acid solution at the **middle/late stage of food processing** (after high-temperature sterilization for heat-sensitive food); add before sterilization for canned food/meat products (enhances preservation effect).

6. Packaging, Storage & Transportation

- Small Packaging: 1L/5L food-grade HDPE plastic bottles (sealed, tamper-evident cap; for small food factories/laboratory use)
- Standard Packaging: 25L/50L food-grade HDPE plastic drums (sealed, anti-leakage; for industrial batch production)
- Bulk Packaging: 1000L food-grade IBC ton barrels (31 6L stainless steel/HDPE, sealed; for large food factories/bulk purchase)
- Labeling:** All packages are labeled with GHS hazard symbols, product name, CAS number, concentration, and "Must Dilute Before Use" warning.

7. Quality Assurance & Technical Support

- Production Standards:** Manufactured in a GMP/HACCP-compliant food-grade production workshop; fermentation and rectification process meets ISO 9001 (Quality) and ISO 14001 (Environment) standards; non-GMO raw materials, no chemical synthesis.
- Batch Testing:** Every batch of glacial acetic acid is subject to **strict multi-index testing** (physical, chemical, microbiological, purity, heavy metals); a detailed Certificate of Analysis (COA) is provided with each shipment to ensure compliance with GB 2760/FCC/USP/EC standards.