

Technical Data Sheet (TDS)

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1. Product Overview

- **Product Name:** Butyl Acetate
- **Chemical Name:** n-Butyl acetate; Acetic acid n-butyl ester; Butyl ethanoate
- **CAS Number:** 123-86-4
- **Molecular Formula:** C₈ H₁₂O₂
- **Molecular Weight:** 116.16 g/mol
- **Product Trait:** Colorless clear volatile liquid with characteristic sweet fruity (pear/apple) ester odor; Class 3 flammable liquid; mild skin/eye/respiratory irritation at direct contact/high concentration; high purity, excellent solvent performance, rapid evaporation; slightly soluble in water, miscible with most organic solvents. **FOR INDUSTRIAL SOLVENT, FOOD FLAVOR ADJUVANT, COSMETIC SOLVENT AND CHEMICAL SYNTHESIS USE ONLY.**
- **Core Properties:** High purity (≥99.0%, food/cosmetic grade ≥99.5%); low viscosity, high volatility and excellent solvency for resins/pigments; mild fruity odor for food/cosmetic flavor use; stable under normal storage/use conditions; compliant with global food/cosmetic/industrial standards (GB 2760, FDA GRAS); excellent compatibility with most industrial, food and cosmetic raw materials; low freezing point suitable for low-temperature use.
- **Main Application:** Industrial solvent (paints, inks, adhesives, coatings); food flavor adjuvant (fruity flavor for beverage, candy, baked food); cosmetic solvent (perfume, nail polish, skin care products); chemical synthesis intermediate (ester derivatives, plasticizers); coating diluent and cleaning agent for electronic components.

2. Technical Specifications (Industrial/Food/Cosmetic Grade)

Item	Specification (Industrial Grade)	Specification (Food/Cosmetic Grade)
Appearance	Colorless clear volatile liquid	Colorless clear volatile liquid
Assay (Butyl Acetate)	≥99.0% (GC)	≥99.5% (GC)
Boiling Point	124-127°C	125-126°C
Refractive Index (n ₂₀ ^D)	1.3970-1.4000	1.3980-1.3990
Relative Density (20/20°C)	0.878-0.883	0.879-0.881
Flash Point (Closed Cup)	22±2°C	22±1°C
Water Content	≤0.1%	≤0.05% (Karl Fischer)
Acidity (as CH ₃ COOH)	≤0.005%	≤0.002%
Evaporation Residue	≤0.001%	≤0.0005%
Heavy Metals (Pb)	≤5 ppm	≤1 ppm (AAS)
Heavy Metals (As)	≤1 ppm	≤0.5 ppm (AFS)
Color (Hazen)	≤10	≤5
Odor/Flavor	Sweet fruity ester odor	Pure sweet pear/apple fruity odor, no off-flavor
Viscosity (25°C)	0.70-0.75 mPa·s	0.72-0.74 mPa·s
Vapor Pressure (25°C)	1.2-1.4 kPa	1.3±0.05 kPa

3. Product Advantages

1. **High Purity & Multi-Grade Compliance:** Assay ≥99.0% (food/cosmetic grade ≥99.5%) with ultra-low impurities, heavy metals and acidity; meets food additive (GB 2760/FDA GRAS), cosmetic and industrial solvent standards; suitable for high-end food flavor, cosmetic formulation and precision industrial processing.



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>

- Excellent Solvent Performance:** Low viscosity, high volatility and strong solvency for acrylic, alkyd, polyester and cellulose resins, as well as most pigments and dyes; rapid evaporation with no residual odor; ideal solvent and diluent for paints, inks and adhesives.
- Outstanding Stability & Versatility:** Stable under normal storage/use conditions ($\leq 25^{\circ}\text{C}$); no degradation in neutral/weakly acidic/basic systems (pH 5.0-9.0); low freezing point (-77.9°C) suitable for low-temperature industrial applications; dual function as solvent and flavor adjuvant for food/cosmetic use.
- Good Compatibility & Processability:** Miscible with ethanol, ether, acetone, benzene and most organic solvents; compatible with all common industrial (resins, pigments), food (sugars, fats) and cosmetic (oils, fragrances) raw materials; suitable for spray, coating, printing and mixing processing; low addition amount achieves obvious effect.

4. Application Fields & Dosage Guide

4.1 Main Application Fields

- Paint & Coating Industry:** Solvent/diluent for water-based/oil-based paints, wood coatings, industrial coatings; improves coating leveling and drying speed; no residual color or odor.
- Ink & Adhesive Industry:** Core solvent for gravure printing inks, flexographic inks and pressure-sensitive adhesives; enhances ink adhesion and printing clarity; improves adhesive bonding strength.
- Food Industry:** Fruity flavor adjuvant for beverage (juice, soda), candy, chocolate, baked food and ice cream; enhances sweet and fruity taste, improves flavor layering.

4.2 Recommended Dosage (w/w in formulation, adjust by application demand)

Application Field	Dosage (Industrial Grade)	Dosage (Food/Cosmetic Grade)	Remarks
Paint/Coating - Solvent/Diluent	10-50%	—	Blend with resins/pigments; adjust for viscosity
Ink/Adhesive - Core Solvent	20-60%	—	Improve printability/bonding strength
Food - Beverage/Candy/Baked Food	0.01-0.1%	0.005-0.05%	Food grade only; cold processing recommended
Cosmetic - Perfume/Nail Polish	5-30%	3-20%	Cosmetic grade only; add in oil/fragrance phase
Chemical/Electronic - Synthesis/Cleaning	5-99%	—	Depending on reaction/cleaning requirement

5. Usage & Formulation Guidelines

- Industrial Paint Formulation:** Mix industrial grade Butyl Acetate (10-50%) with alkyd resin, titanium dioxide and additives at room temperature; stir evenly to adjust viscosity (20-30 s, Ford cup #4); spray/brush coating; rapid drying (10-15 min at room temperature) with smooth film.
- Food Flavor Formulation (Fruit Juice):** Dissolve food grade Butyl Acetate (0.005-0.05%) in ethanol (1:10); add to fruit juice base (orange/apple) and stir evenly; enhance fruity flavor without affecting juice color and taste.

6. Packaging & Storage

- 500mL/1L Amber glass bottle:** Food/Cosmetic/ lab/R&D/small-batch use, sealed with anti-static screw cap + plastic plug
- 5L/10L Explosion-proof HDPE plastic drum:** Cosmetic/Industrial medium-batch use, inner anti-static lining + double anti-leakage cap
- 25L Explosion-proof HDPE plastic drum/glass drum:** Food/Industrial bulk use, anti-static + nitrogen-filled packaging (for long-term storage)

7. Safety & Protection

- The product is a **Class 3 flammable liquid** with mild skin/eye/respiratory irritation at direct contact/high concentration; vapor-air mixture is explosive; all operations must be conducted by trained professional personnel with specified PPE (chemical-resistant goggles, nitrile rubber gloves, organic vapor respirator, chemical-resistant apron, anti-static work clothes).