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

Technical Data Sheet (TDS) - a-Ionone

Product Number: AI-20260215 | **CAS No.**: 127-41-3 | **Revision Date**: 15 FEB 2026**Brand**: SIGALD | **Molecular Formula**: $C_{13}H_{20}O$ | **Molecular Weight**: 192.30 g/mol

1. Product Overview

a-Ionone is a naturally occurring and synthetic monoterpene ketone, a key fine chemical raw material with a characteristic floral, woody and violet-like fragrance. It is widely used in the fragrance & flavor, cosmetic, pharmaceutical and pesticide industries due to its unique sensory properties and chemical reactivity. The product is manufactured with high-purity refining technology, meeting industrial grade and food/cosmetic grade standards, with stable quality and consistent performance.

Core Characteristics: High purity (≥98.0%); stable physical and chemical properties under normal storage; unique floral fragrance; good compatibility with most organic solvents and cosmetic/fragrance raw materials; moderate chemical reactivity for organic synthesis.

2. Technical Specifications (Complies with Industrial/Food/Cosmetic Grade Standards)

Item	Specification (Grade: Industrial/Food/Cosmetic)	Result (This Batch)
Appearance	Colorless to pale yellow clear liquid	Colorless clear liquid
Assay (a-Ionone)	≥98.0%	98.7%
Melting Point	-45 ~ -42℃	-43.8℃
Boiling Point	237 ~ 240℃	238.5℃
Refractive Index (20℃)	1.4980 ~ 1.5020	1.5005
Relative Density (20/20℃)	0.930 ~ 0.936	0.933
Flash Point (Closed Cup)	≥95℃	96℃
Water Content	≤0.1%	0.06%
Heavy Metals (Pb)	≤10 ppm	2.1 ppm
Arsenic (As)	≤2 ppm	0.4 ppm
Residue on Ignition	≤0.05%	0.02%
Odor	Characteristic floral/woody fragrance, no off-odor	Conforms to standard
Solubility	Miscible with ethanol, ether, vegetable oil	Conforms to standard

3. Product Advantages

1. **High Purity & Stable Quality**: Assay ≥98.0%, low impurity content, consistent physical and chemical indicators for each batch, no batch-to-batch variation.
2. **Unique Sensory Property**: Pure floral/woody/violet fragrance, no pungent off-odor, suitable for high-end fragrance and flavor formulation.
3. **Good Compatibility**: Miscible with most organic solvents, cosmetic oils and fragrance raw materials; no phase separation or precipitation in formulation.
4. **Versatile Application**: Can be used as a fragrance raw material, organic synthesis intermediate and cosmetic ingredient; meets food/cosmetic/industrial grade standards.
5. **Controllable Reactivity**: Moderate chemical reactivity, easy to carry out modification reactions (e.g., hydrogenation, oxidation) for pharmaceutical/pesticide synthesis.

4. Application Fields

4.1 Fragrance & Flavor Industry

- **Perfume/Cosmetic Fragrance**: Formulation of violet, rose, jasmine, woody and floral fragrances; used in perfume, lotion, shampoo, soap and candle.
- **Food Flavor**: Flavoring agent for candy, beverage, pastry, ice cream and dairy products (complies with food additive use standards, low dosage).

4.2 Cosmetic Industry

- Cosmetic raw material for skin care, hair care and personal care products; acts as a fragrance and mild conditioning agent (approved by cosmetic safety regulations).

4.3 Fine Chemical Industry

- **Pharmaceutical Intermediate**: Synthesis of anti-inflammatory, antibacterial and cardiovascular drugs; key raw material for terpenoid drug synthesis.
- **Pesticide Intermediate**: Production of green pesticides (e.g., insect repellents, acaricides) with low toxicity and high efficiency.

4.4 Other Fields

- Synthetic raw material for essential oil imitations; additive for plastic and rubber products (to improve odor); raw material for fine chemical research and development.

5. Usage Methods & Dosage

5.1 General Usage Principles

- Avoid direct contact with skin/eyes; use in a well-ventilated area; wear appropriate PPE during handling.
- For fragrance/flavor formulation: Dilute first with ethanol/propylene glycol (1:10 ~ 1:100) then add to the system; stir evenly.
- For organic synthesis: Use as a raw material directly; adjust the dosage according to the reaction formula and process requirements.
- For cosmetic formulation: Add at the final stage of production (temperature ≤40℃) to avoid thermal decomposition; stir evenly.

5.2 Recommended Dosage (Adjust according to specific product requirements)

Application Field	Recommended Dosage (w/w)
Perfume formulation	1-10%
Cosmetic fragrance (shampoo/lotion/soap)	0.1-1%
Food flavor (candy/beverage/pastry)	0.001-0.01% (GB 2760 standard)
Pharmaceutical/pesticide synthesis	According to reaction process
Plastic/rubber odor improvement	0.05-0.5%

6. Packaging & Storage

6.1 Packaging Specifications

- **Lab/Small Scale**: 100 mL, 500 mL glass bottles
- **Industrial Medium Scale**: 5 kg, 25 kg HDPE plastic drums (sealed)
- **Bulk Large Scale**: 200 kg HDPE plastic drums, 1000 kg IBC totes (inner lining with anti-corrosion film)
- **Custom Packaging**: Available upon customer request (e.g., 1 L, 10 kg glass/HDPE containers)

6.2 Storage Conditions

1. Store in a cool, dry, well-ventilated warehouse with temperature **≤25℃**; keep away from heat, sparks, open flame and direct sunlight.
2. Keep the container tightly sealed when not in use to prevent vapor volatilization and contamination.
3. Store separately from strong oxidizing agents, strong acids, strong bases, halogens and food/food additives; avoid mixing and contact.
4. Do not stack the containers too high; prevent collision, leakage and breakage.

7. Safety & Protection

1. The product is a mild irritant to skin and eyes; avoid direct contact, inhalation of high-concentration vapor and ingestion.
2. **Large-scale handling/PPE Requirements**: Wear nitrile rubber gloves, chemical splash goggles, face shield and chemical-resistant lab coat; use local exhaust ventilation.
3. **Accident Handling**: Refer to the MSDS (SECTION 4: First Aid Measures) for skin/eye contact, inhalation and ingestion.
4. **Waste Disposal**: Dispose of waste and packaging as hazardous waste in accordance with local regulations; do not dispose of into the environment.