

Technical Data Sheet (TDS)

- Ginger Oleoresin

Product Name: Ginger Oleoresin **English Name:** Ginger Oleoresin **CAS Number:** 8024-33-9 **MDL Number:** MFCD00148165 **Main Components:** 6-Gingerol ($\geq 20\%$), Total Gingerols ($\geq 25\%$) **Revision Date:** 29 FEB 2026

1. Product Overview

SIGALD Ginger Oleoresin is a high-potency natural extract obtained by solvent extraction of dried *Zingiber officinale* (ginger) rhizomes, followed by solvent removal under vacuum. Unlike distilled ginger oil, this oleoresin contains **both** the volatile aromatic compounds (gingerene, zingiberene) and the non-volatile pungent principles (gingerols, shogaols), delivering the complete sensory profile of fresh ginger. With a total gingerol content of 30.8%, it offers exceptional flavor intensity, warming properties, and functional benefits. Produced under GMP conditions, it is free from artificial additives and complies with global food, cosmetic, and pharmaceutical standards.

Key Benefits:

- **Complete Flavor:** Combines aromatic and pungent notes (missing in distilled oil).
- **High Potency:** Concentrated formula reduces usage levels compared to fresh ginger.
- **Functional:** Natural antioxidant, anti-inflammatory, and warming properties.
- **Stable:** Better shelf life than fresh ginger; pungency intensifies slightly over time (shogaol formation).

2. Technical Specifications

Parameter	Specification	Test Method
Appearance	Dark amber to brown viscous liquid/paste	Visual
Odor	Characteristic pungent, warm ginger aroma	Sensory
Total Gingerols	$\geq 25.0\%$ (Typical: 30.8%)	HPLC
Relative Density (20/20°C)	0.980 - 1.020	Pycnometer
Refractive Index (20°C)	1.5200 - 1.5400	Abbe Refractometer
Optical Rotation (20°C)	-20.0° to 0.0°	Polarimeter
Acid Value	≤ 10.0 mg KOH/g	Titration
Water Content	$\leq 0.5\%$	Karl Fischer
Heavy Metals (Pb)	≤ 5 ppm	AAS
Solubility	Soluble in 95% Ethanol (1:2)	Visual
Microbial Count	Total Plate Count ≤ 100 CFU/g	Microbiological Test

3. Application Fields & Recommended Dosage

Ginger Oleoresin is a versatile ingredient used for flavor, function, and fragrance. **Mandatory dilution required for all applications.**

Industry	Application	Recommended Dosage (%)
Food & Beverage	Sauces, marinades, baked goods, beverages, confectionery	0.01 - 0.5% (GB 2760 compliant)
Cosmetics	Massage oils, warming creams, body lotions, soaps	0.2 - 3.0% (diluted in base oil)
Pharmaceuticals	Digestive aids, pain relievers, dietary supplements	0.5 - 5.0% (formulated dosage)
Fragrance	Spicy, oriental, and masculine perfumes, candles	1.0 - 8.0%
Feed Additive	Livestock feed flavor enhancer	0.005 - 0.05%

4. Usage Guidelines & Processing

4.1 Solubility & Incorporation



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>

1. **Solubility:** Insoluble in water. **Critical Step:** Pre-dissolve in a cosolvent (95% ethanol, propylene glycol) or fixed oil (jojoba, sunflower) before adding to aqueous formulations (e.g., beverages, shampoos).
2. **Viscosity Handling:** Warm the oleoresin to 30-40°C to reduce viscosity for easier mixing and measuring.
3. **Processing Temperature:** Stable up to 120°C for short durations (suitable for baking/cooking). Add at the final stage to preserve maximum aroma.

4.2 Compatibility & Stability

- **Compatible With:** Most food ingredients, cosmetic base oils, emulsifiers, and fragrance materials.
- **Incompatible With:** Strong alkalis (pH > 8.5) and strong oxidizing agents (may cause degradation).
- **Storage Stability:** Avoid direct sunlight and high temperatures. Nitrogen blanketing extends shelf life and prevents oxidation.

4.3 Safety Note

Due to high gingerol content, it causes a warming sensation on skin. **Always perform a patch test** before cosmetic use. Do not apply to broken skin.

5. Packaging & Storage

5.1 Packaging Specifications

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Grade	Packaging
Sample	10g, 30g Amber Glass Jars
Commercial	100g, 500g, 1kg Amber Glass Jars/Tins
Bulk	5kg, 25kg Light-proof HDPE Drums (nitrogen-filled); 200L Stainless Steel Drums

5.2 Storage Conditions

- **Temperature:** 5-25°C (cool, dry place). Refrigeration (5-10°C) recommended for long-term storage after opening.
- **Handling:** Keep tightly sealed when not in use. Minimize air exposure to prevent oxidation.
- **Shelf Life:**
 - **Unopened:** 24 months from manufacture (nitrogen-filled packaging).
 - **Opened:** 6 months (store in refrigerator, tightly sealed).
- **Note:** Slight darkening and increase in pungency over time are natural and do not indicate spoilage.

6. Quality Assurance & Regulatory Compliance

- **Manufacturing:** Produced in an ISO 9001 and HACCP certified facility. Solvent extraction uses food-grade solvents with residual levels < 50 ppm.
- **Compliance:**
 - **Food:** GB 2760-2021 (China), FDA 21 CFR (USA), EU Flavoring Regulation (1334/2008).
 - **Cosmetics:** EU 1223/2009, China Cosmetic Safety Technical Specification.
 - **REACH/TSCA:** Fully registered and listed.
- **Documentation:** Each batch is accompanied by a **Certificate of Analysis (COA)** and, upon request, a Certificate of Origin and Halal/Kosher certification.

7. Supplier Information

- **Supplier:** NEWAY SINOPHC TECH. LIMITED
- **Address:** RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE
- **Telephone:** +86-021-50350029
- **Fax:** +86-021-50350029
- **Technical Support:** Our team provides formulation guidance for food, cosmetic, and pharmaceutical applications, including solubility solutions and dosage optimization.