

## Technical Data Sheet (TDS)

### - Clove Bud Tincture (Extract)

**Product Name:** Clove Bud Tincture (Extract) **English Name:** Clove Bud Tincture (Extract) **Main Components:** 70% Food Grade Ethanol + Clove Bud Extract (Eugenol  $\geq$  3.0%) **Revision Date:** 28 FEB 2026

#### 1. Product Overview

SIGALD Clove Bud Tincture is a standardized herbal extract produced by macerating and percolating dried *Syzygium aromaticum* (Clove) buds in 70% food-grade ethanol. This product is a concentrated liquid formulation that preserves the characteristic pungent, spicy, and warm aromatic notes of clove buds, along with their key bioactive component, Eugenol. Unlike essential oil, the tincture offers **excellent water solubility** due to its alcoholic base, making it ideal for direct incorporation into aqueous formulations such as beverages, tonics, water-based cosmetics, and household cleaners. It is manufactured under GMP conditions and complies with international food and cosmetic safety standards.

#### Key Benefits:

- **Water Soluble:** Eliminates the need for solubilizers in aqueous systems.
- **Convenient Handling:** Ready-to-use liquid, no dilution required before formulation.
- **Stable Aroma:** Ethanol acts as a preservative, stabilizing the volatile aromatic compounds.
- **Dual Function:** Combines flavor/fragrance properties with natural antibacterial benefits.

#### 2. Technical Specifications

Parameter	Specification	Test Method
Appearance	Clear to slightly hazy amber liquid	Visual (25°C)
Odor	Characteristic clove, pungent	Sensory
Eugenol Content (as is)	$\geq$ 3.0% (Typical: 3.8%)	GC
Ethanol Content	68.0 - 72.0% (v/v)	GC-FID
Relative Density (20/20°C)	0.860 - 0.880	Pycnometer
Refractive Index (20°C)	1.4550 - 1.4650	Abbe Refractometer
pH (1:10 in Water)	4.0 - 6.0	pH Meter
Water Content	$\leq$ 30.0%	Karl Fischer
Microbiology	Total Plate Count $\leq$ 100 CFU/mL E. coli, Salmonella: Negative	Microbiological Testing
Storage Shelf Life	24 months (Unopened, 5-25°C)	-

#### 3. Application Fields & Recommended Dosage

This tincture is versatile for industries requiring a water-dispersible clove flavor or fragrance. **Note: Dosages are based on the tincture as supplied (not further diluted).**

Industry	Application	Recommended Dosage (%)
Food & Beverage	Craft beers, bitters, tonics, confectionery	0.05 - 0.5%
Cosmetics	Toners, serums, mouthwash, hand sanitizer	0.1 - 1.0%
Fragrance	Room sprays, reed diffusers, liquid soaps	0.5 - 3.0%
Household	All-purpose cleaners, disinfectants	1.0 - 5.0%
Pharmaceuticals	Topical analgesic tinctures (diluted)	2.0 - 10.0%

#### 4. Usage Guidelines & Processing

1. **Solubility:** The product is **miscible with water** and most organic solvents. No additional solubilizers are needed for aqueous formulations.
2. **Incorporation:**



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- Add during the cool down phase (below 40°C) to minimize evaporation of ethanol and loss of volatile aroma compounds.
- Stir gently to ensure uniform distribution.
- 3. **Compatibility:**
  - **Compatible with:** Surfactants, emulsifiers, most cosmetic actives.
  - **Avoid:** Strong alkaline conditions (pH > 8.0), which may cause hydrolysis of esters. Strong oxidizing agents (e.g., bleach).
- 4. **Safety Note:** Due to the high ethanol content (flammable) and eugenol content (irritant), **always dilute** the tincture in the formulation; do not use undiluted on skin or mucous membranes.

## 5. Packaging & Storage

### 5.1 Packaging Specifications

Grade	Packaging
Laboratory/Trial	100 mL, 500 mL Amber Glass Bottles
Commercial	1 L, 5 L Amber Glass Bottles
Industrial Bulk	25 L, 200 L UN-Approved HDPE Drums (for flammables)

### 5.2 Storage Conditions

- **Temperature:** Store in a cool, dry place between 5°C and 25°C. Refrigeration (2-8°C) is recommended for long-term storage to extend shelf life.
- **Light:** Protect from direct sunlight; store in original amber packaging.
- **Handling:** Keep container tightly closed when not in use to prevent evaporation of ethanol and contamination.
- **Shelf Life:**
  - **Unopened:** 24 months from date of manufacture (see Batch Number).
  - **Opened:** 6 months. Replace cap tightly and refrigerate after opening.

## 6. Quality Assurance & Regulatory Compliance

- **Manufacturing Standards:** Produced in an ISO 9001 certified facility following GMP (Good Manufacturing Practices).
- **Compliance:**
  - **Food:** Complies with China GB 2760-2021 and EU Flavoring Regulations.
  - **Cosmetics:** Complies with EU Regulation 1223/2009 and China Cosmetic Safety Technical Specification.
- **Documentation:** Each batch is accompanied by a **Certificate of Analysis (COA)** confirming purity and specifications.
- **Support:** Our technical team provides formulation support to optimize dosage and compatibility for your specific application.

## 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
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- **After-Sales:** 24-hour technical consultation for formulation and application questions.