

01060-1224

**SAFETY DATA SHEET (SDS)**

Prepared in accordance with U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System (GHS), Revision 9

Revision Date: 11 July 2025

1. IDENTIFICATION

Product Identifier: Clove Oil (SKU 510-43OCL)

Recommended Use: Additive for artist mediums and paints, solvent reference for conservation studies. Not intended for food, drug, or cosmetic use.

Manufacturer/Supplier: *Natural Pigments, LLC* | 291 Shell Lane, Willits, CA 95490 USA | +1-707-459-9998 (business)

Emergency Telephone (24 h): +1-800-424-9300 (CHEMTREC US) | +1-703-527-3887 (International)

2. HAZARD(S) IDENTIFICATION

GHS Classification of the substance

- **Skin Irritation, Category 2** (H315)
- **Serious Eye Irritation, Category 2A** (H319)
- **Skin Sensitization, Category 1A** (H317)
- **Specific Target Organ Toxicity – Single Exposure, Category 3 (respiratory tract)** (H335)

Label Elements (GHS):**Pictograms:**

Signal Word:	Warning
Hazard Statements:	H227 Combustible liquid. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H411 Toxic to aquatic life with long-lasting effects.
Precautionary Statements:	Prevention: P210 Keep away from heat, hot surfaces, sparks, open flames. No smoking. P261 Avoid breathing vapors. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves and eye protection. Response: P302+P352 IF ON SKIN: Wash with plenty of water and soap. P333+P313 If skin irritation or rash occurs: Get medical advice. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER/doctor if you feel unwell. P370+P378 In case of fire: Use CO ₂ , dry chemical, alcohol-resistant foam, or water fog.
	Storage: P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up. P403+P235 Keep cool.
	Disposal: P501 Dispose of contents/container in accordance with local regulations.

Other Hazards: Vapors may form explosive mixtures with air above flash point. Essential-oil vapors may cause respiratory irritation at high concentrations. Repeated skin contact may cause defatting.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance	CAS No.	Weight %	GHS Classification*
Clove oil (<i>Eugenia Caryophyllata</i> leaf oil)	8000-34-8	100 (exact % withheld as trade secret)	H227, H315, H317, H319, H335

*Primary constituent is eugenol (≈ 70–85 %) together with eugenyl acetate and β-caryophyllene, which drive the classifications above.

4. FIRST-AID MEASURES

- **Inhalation:** Remove person to fresh air. If respiratory irritation or dizziness persists, seek medical attention.
- **Skin Contact:** Remove contaminated clothing. Wash with plenty of soap and water. If irritation or rash develops, get medical advice.
- **Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
- **Ingestion:** Rinse mouth. Do *not* induce vomiting. Give water if victim is conscious. Call a poison center or physician.

Most Important Symptoms/Effects: Redness, itching, or rash on skin; burning sensation and tearing in eyes; headache or respiratory discomfort on inhalation.

5. FIRE-FIGHTING MEASURES

- **Suitable Extinguishing Media:** Dry chemical, carbon dioxide, alcohol-resistant foam, or water spray.
- **Unsuitable Media:** Straight water jet may spread burning liquid.

- **Specific Hazards:** Combustible liquid; vapor may travel to ignition source and flash back. Closed containers may rupture when heated.
- **Protective Equipment for Firefighters:** Self-contained breathing apparatus and full protective clothing.

Flash Point (closed cup): > 60 °C (Category 4 – exact value not determined)

6. ACCIDENTAL RELEASE MEASURES

- **Personal Precautions:** Eliminate ignition sources. Provide adequate ventilation. Wear protective gloves and eye protection.
- **Containment/Clean-up:** Contain spill. Absorb with inert material (sand, vermiculite). Transfer to labeled, non-sparking containers for disposal. Wash spill area with detergent. Prevent entry into drains or waterways.

7. HANDLING AND STORAGE

- Handle in well-ventilated area away from heat, sparks, and open flames.
- Use only non-sparking tools; ground/bond transfer equipment.
- Store tightly closed in a cool (≤ 25 °C), well-ventilated place in approved combustible-liquid containers; keep locked up.
- Dispose of oil-soaked cloths in water-filled metal containers to prevent spontaneous combustion.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits: No OSHA PELs or ACGIH TLVs for clove oil. Provide ventilation to keep airborne concentrations below nuisance levels (< 50 ppm total terpenes recommended).

Engineering Controls: Local exhaust or general dilution ventilation.

Personal Protective Equipment:

- **Eye/Face:** Tight-sealing safety goggles.
- **Skin:** Nitrile or other chemical-resistant gloves; long sleeves.
- **Respiratory:** NIOSH-approved organic-vapor respirator if ventilation is inadequate or vapor levels exceed comfort limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Clear, viscous, colorless to pale yellow or brown oily liquid
Odor	Characteristic spicy clove aroma
pH	Not applicable
Melting/Freezing Point	No data available (< 0 °C expected)
Initial Boiling Point	251 °C (483 °F)
Flash Point (CC)	> 60 °C (Category 4 – combustible)
Evaporation Rate	No data
Flammability	Combustible liquid (Cat 4)
Vapor Pressure	No data
Relative Density	1.04 (water = 1)

Solubility (water)	Insoluble
Partition Coefficient (log K _{ow})	No data (eugenol > 3)
Auto-ignition Temperature	No data
Viscosity	No data

10. STABILITY AND REACTIVITY

- **Reactivity:** Not reactive under normal conditions.
- **Chemical Stability:** Stable when stored properly.
- **Hazardous Reactions:** None expected.
- **Conditions to Avoid:** Heat, sparks, static discharge, strong sunlight.
- **Incompatible Materials:** Strong acids, bases, oxidizing agents.
- **Hazardous Decomposition Products:** CO, CO₂, and phenolic smoke in fire.

11. TOXICOLOGICAL INFORMATION

Endpoint	Result
Acute Oral Toxicity	LD ₅₀ (rat) ≈ 1370 mg/kg fileciteturn3file0
Acute Dermal Toxicity	LD ₅₀ (rabbit) ≈ 1200 mg/kg fileciteturn3file0
Skin Irritation	Irritating (Cat 2)
Eye Irritation	Serious eye irritation (Cat 2A)

Skin Sensitization	Sensitizer (Cat 1A)
STOT - SE	May cause respiratory irritation (Cat 3)
Carcinogenicity	Not listed by IARC, NTP, OSHA

12. ECOLOGICAL INFORMATION

Environmental impact has not been fully investigated; avoid uncontrolled release.

- **Persistence/Degradability:** Inherently biodegradable.
- **Bioaccumulative Potential:** Not expected to bioaccumulate significantly.

13. DISPOSAL CONSIDERATIONS

Dispose of waste in accordance with local, state, and federal regulations. Do not dispose into sanitary sewers or natural waterways. Empty containers may retain residues; follow label precautions even after container is emptied.

14. TRANSPORT INFORMATION

Not regulated as a dangerous good by DOT, IMDG, IATA, ADR, or RID (combustible liquid in non-bulk packaging).

15. REGULATORY INFORMATION

- **TSCA:** All components listed or exempt.

- **SARA 311/312:** Combustible liquid; skin/eye irritation; skin sensitization; STOT – single exposure.
- **SARA 313:** None.
- **CERCLA:** Not listed.
- **Proposition 65:** No listed substances.
- **WHMIS (Canada):** Combustible liquid; skin sensitizer; eye irritant; STOT SE.

16. OTHER INFORMATION

This SDS is based on Liberty Natural SDS and Spectrum Chemical SDS Revision 2 (18 Aug 2022) and other publicly available data. While believed accurate, no warranty is expressed or implied. Users must determine suitability and ensure compliance with local regulations.

Revision History

- 11 Jul 2025 .
