



ECO ORGANICS

An ISO 9001 : 2008 Certified Company

- Flavours
- Fragrances
- Ingredients

SAFETY DATA SHEET

EUGENOL

(As per GHS / SDS 16-Section Format)

SDS Version: 1.0 | Date of Issue: 29 September, 2026

SECTION 1: IDENTIFICATION

Product Name: Eugenol

Synonyms: 4-Allylguaicol; 4-Allyl-2-methoxyphenol; 2-Methoxy-4-(2-propenyl)phenol; Eugenic Acid

CAS No.: 97-53-0 | **EC No.:** 202-589-1 | **FEMA No.:** 2467

Molecular Formula: C₁₀H₁₂O₂

Botanical Source: Syzygium aromaticum (Clove) — natural, obtained by steam distillation and rectification of Clove Oil

Recommended Use: Flavour & Fragrance ingredient (spice/clove-type flavours, perfumery); chemical intermediate. Not for pharmaceutical/API use — see Section 15.

Supplier: Eco Organics, B-5/C-5 to C-7, D-20, Ajeetpur Indl. Estate, Rampur – 244901, U.P., India

Contact / Emergency Telephone: +91 94122 51810, +91 97209 99980 | Email: sales@ecorganics.org

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification: Skin Sensitisation – Category 1 (H317); Eye Irritation – Category 2 (H319); Aquatic Chronic – Category 2 (H411)

Signal Word: WARNING

Hazard Statements: H317 – May cause an allergic skin reaction. H319 – Causes serious eye irritation. H411 – Toxic to aquatic life with long lasting effects.

Precautionary Statements:

P261 Avoid breathing vapour/mist. P264 Wash exposed skin thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves/eye protection. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present. P321 Specific treatment (see label). P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash before reuse. P391 Collect spillage. P501 Dispose of contents/container in accordance with local, state and central regulations.

Other Hazards: Combustible liquid; tends to darken and thicken on prolonged exposure to air. Iron, zinc, and other metal ions may catalyse oxidation — avoid contact with reactive metals.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

Component: Eugenol – CAS No. 97-53-0

Concentration: Min. 99.0% (per specification)

SECTION 4: FIRST-AID MEASURES

Inhalation: Remove to fresh air. Seek medical attention if symptoms persist.

Skin Contact: Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical advice if irritation or an allergic reaction develops.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present. Get medical advice if irritation persists.

Ingestion: Rinse mouth with water. Do not induce vomiting. Seek medical attention if feeling unwell or if a large quantity is swallowed.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical, CO₂, foam, water spray/fog.

Unsuitable Media: Do not use a direct/solid water jet, as it may spread the fire.



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Specific Hazards: Combustible liquid (flash point approx. 104°C, literature). No unusual fire or explosion hazards known. May decompose on burning to form carbon oxides and irritant fumes.

Firefighter Protection: Wear self-contained breathing apparatus (SCBA) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ensure adequate ventilation. Wear appropriate PPE. Avoid skin/eye contact and avoid breathing vapour/mist.

Environmental Precautions: Prevent entry into drains, water courses, or soil — this material is toxic to aquatic life with long lasting effects (H411).

Containment / Clean-up: Soak up with inert absorbent material and collect in suitable, closed containers for disposal as hazardous waste. Do not allow to enter sewers or waterways.

SECTION 7: HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes and avoid inhalation of vapour/mist. Wash hands before breaks and after work.

Storage: Store in a cool place, in a tightly closed container with minimum headspace, at 15–35°C, in a dry place, protected from direct sunlight. Storage under inert gas is recommended for extended storage, as the product is air-sensitive and may darken/thicken on exposure to air. Avoid contact with reactive metals (iron, zinc).

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: No specific Indian or international OEL identified for this substance in the sources reviewed; consult your EHS professional.

Engineering Controls: Use with adequate general or local exhaust ventilation.

PPE – Eyes/Face: Chemical safety goggles or face shield.

PPE – Skin/Hands: Chemical-resistant gloves, inspected before use; avoid skin contact given the skin sensitisation classification.

PPE – Respiratory: Use an approved organic-vapour respirator if ventilation is inadequate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless to pale yellow liquid; darkens/thickens on exposure to air
Odour	Spicy, sweet, clove-like, characteristic eugenol odour
Molecular Formula	C ₁₀ H ₁₂ O ₂
Molecular Weight	164.20 g/mol
Specific Gravity at 25°C	1.0590 – 1.0700 (per specification)
Refractive Index at 20°C	1.5400 – 1.5420 (per specification)
Boiling Point	Approx. 254°C (literature)
Melting Point	Approx. –7°C to –9°C (literature)
Flash Point	Approx. 104°C, Closed Cup (literature; supplier COAs report 93–140°C range)
Solubility in Water	Slightly soluble; miscible with alcohol, ether, chloroform, and most organic solvents
Purity	Eugenol Content Min. 99.0% (by GC)

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions. Air-sensitive — gradually darkens and thickens on exposure to air over time.

Conditions to Avoid: Heat, open flames, prolonged exposure to air and light.

Incompatible Materials: Highly reactive chemical oxidants; reactive metals such as iron and zinc, which catalyse oxidation.



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Hazardous Decomposition: Carbon oxides and irritant fumes on combustion.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Oral LD50 (rat): approx. 2,680 mg/kg (literature) – generally regarded as low acute oral toxicity; some sources classify Acute Tox. 4 (Oral) for lower-purity (85–95%) grades.

Skin Contact: May cause an allergic skin reaction (sensitiser); mild skin irritation reported on prolonged exposure.

Eye Contact: Causes serious eye irritation.

Mutagenicity: Some data indicate mutation in mammalian somatic cell studies; not formally classified as a mutagen under the majority of sources reviewed.

Carcinogenicity: Not listed as a carcinogen by NTP or IARC based on sources reviewed.

Chronic Effects: Avoid prolonged or repeated exposure as good practice, particularly to skin, given the sensitisation potential.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Classified Aquatic Chronic 2 (H411) – toxic to aquatic life with long lasting effects. Avoid release to the environment.

Persistence / Degradability: Expected to be biodegradable based on chemical structure; specific data limited.

Bioaccumulation: Limited specific data available.

Mobility: Slightly soluble in water; expected to have moderate mobility in soil.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with applicable local, state and central pollution control regulations. Do not discharge into drains or water courses, given the aquatic toxicity classification. Offer surplus or non-recyclable material to a licensed hazardous waste disposal company; dispose of contaminated packaging as unused product.

SECTION 14: TRANSPORT INFORMATION

Transport Classification: Non-DGR (Non-Dangerous Goods Regulated).

This material is classified as Non-DGR and is not regulated as a Dangerous Good under ADR/IMDG/IATA. Note that this transport classification is separate from the GHS health hazard classification in Section 2 — the health hazards (H317, H319, H411) still apply to handling, storage, and occupational exposure even though the material is not restricted for transport.

SECTION 15: REGULATORY INFORMATION

This product is supplied solely for use as a Flavour & Fragrance ingredient and is not manufactured, used, or supplied for any pharmaceutical formulation or Active Pharmaceutical Ingredient (API) application. Eco Organics does not hold a Drug Manufacturing License. Users must ensure compliance with all applicable central, state and local regulations governing the storage, handling and use of this material.

SECTION 16: OTHER INFORMATION

This Safety Data Sheet has been compiled using the product specification together with published scientific and regulatory literature and reference Certificates of Analysis from other suppliers of comparable Eugenol grades, to the best of our knowledge, and is provided in good faith, as no independent batch-specific test report for this product was available at the time of preparation. It does not constitute a warranty of any specific property. Given some variation across sources (e.g., flash point, acute oral toxicity classification), we recommend this document be verified against your own batch testing and, where relevant, a manufacturer SDS before it is relied upon for regulatory or shipping purposes. This SDS is subject to revision as new information becomes available.

Date: 29 September, 2026

Authorized Signatory



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For Eco Organics

Partner

(Company Seal)