



SAFETY DATA SHEET (SDS)

Prepared in accordance with Regulation (EC) No. 1907/2006, Commission Regulation (EU) 2020/878, Regulation (EC) No. 1272/2008 and the Globally Harmonized System.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND COMPANY

1.1 Product Identifier

Product Name: Clove Leaf Oil
Supplier Product Name: Clove Leaf Oil Rectified 85%
Product Code/IPC Number: CL-185
Botanical Name: Syzygium aromaticum
INCI Name: Syzygium aromaticum Extract
CAS Numbers: 84961-50-2; 8000-34-8
EC/EINECS Numbers: 904-912-8; 284-638-7
FEMA/GRAS Number: 2325
EU REACH Number: 01-2119970580-36-XXXX
REACH Tonnage Band: 10–100 metric tonnes per year
Product Type: Rectified natural clove leaf essential oil
Principal Constituent: Eugenol, 80.00–88.00%

1.2 Relevant Identified Uses

Recommended Uses:

- Professional perfumery
- Fragrance compounding
- Flavour and fragrance manufacture
- Cosmetics and personal-care products
- Soap and toiletries
- Candles and home-fragrance products
- Industrial manufacturing

Recommended Restriction: For manufacturing and professional use only.

1.3 Supplier Details

Aromology
G05 Al Ghazal Building
Nadd Al Hamar
Dubai, United Arab Emirates

Website: www.aromology.com
Email: info@aromology.com
Telephone: +971 505197601



SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008:

Physical Hazards: Not classified

Health Hazards:

- Acute Toxicity, Oral – Category 4
- Aspiration Hazard – Category 1
- Acute Toxicity, Dermal – Category 4
- Skin Irritation – Category 2
- Skin Sensitisation – Category 1B
- Serious Eye Irritation – Category 2

Environmental Hazards: Not classified

2.2 Label Elements

Signal Word: Danger

Hazard Pictograms:

- GHS07: Exclamation mark
- GHS08: Health hazard

Hazard Statements

H302: Harmful if swallowed.

H304: May be fatal if swallowed and enters airways.

H312: Harmful in contact with skin.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

Precautionary Statements

P261: Avoid breathing dust, fumes, gas, mist, vapours or spray.

P264: Wash exposed skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves, protective clothing, eye protection and face protection.

P301+P316: IF SWALLOWED: Get emergency medical help immediately.

P302+P352: IF ON SKIN: Wash with plenty of water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.



P331: Do not induce vomiting.

P333+P313: If skin irritation or rash occurs, get medical advice or attention.

P337+P313: If eye irritation persists, get medical advice or attention.

P363: Wash contaminated clothing before reuse.

P501: Dispose of contents and container through a licensed waste-disposal company in accordance with applicable regulations.

2.3 Other Hazards

No additional hazards identified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance Composition

Component	CAS Number	Concentration	GHS Classification
Eugenol	97-53-0	80.00–88.00%	Skin Sens. 1, H317; Eye Irrit. 2, H319
β-Caryophyllene	87-44-5	7.80–11.10%	Asp. Tox. 1, H304; Skin Sens. 1, H317
α-Humulene	6753-98-6	1.15–2.23%	Asp. Tox. 1, H304; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335
Eugenyl Acetate	93-28-7	0.00–0.90%	STOT SE 3, H335; Aquatic Chronic 3, H412
Methyl Eugenol	93-15-2	0.00–0.01%	Acute Tox. 4, H302; Muta. 2, H341; Carc. 2, H351

The product is a natural complex substance. Its exact composition may vary according to the botanical source, harvest and rectification process.

SECTION 4: FIRST-AID MEASURES

4.1 Description of First-Aid Measures

General Information:

Ensure medical personnel are aware of the material involved and take precautions to protect themselves. Show this SDS to the attending physician.

Inhalation:

If breathing is difficult, move the affected person to fresh air and keep at rest in a position comfortable for breathing. Oxygen may be required in cases of breathing difficulty. Contact a physician if symptoms develop or persist.

Skin Contact:

Immediately remove contaminated clothing. Wash the affected skin thoroughly with soap and



water for several minutes. Obtain medical attention if irritation or sensitisation develops or persists.

Eye Contact:

Remove contact lenses if present and easy to do. Rinse the eyes immediately with plenty of clean water, lifting the upper and lower eyelids. Continue rinsing for at least 15 minutes. Seek medical attention if irritation persists.

Ingestion:

Immediately contact a physician or poison centre. Rinse the mouth with water if the person is conscious. Do not induce vomiting. If vomiting occurs, keep the head below hip level to prevent material from entering the lungs.

4.2 Most Important Symptoms and Effects

Aspiration into the lungs may cause pulmonary oedema or chemical pneumonitis.

Other possible symptoms include:

- Skin irritation
- Allergic skin reaction
- Serious eye irritation
- Gastrointestinal discomfort
- Breathing difficulty

4.3 Immediate Medical Attention

Treat symptomatically. Monitor for delayed symptoms of aspiration into the lungs.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media:

- Water spray or fog
- Carbon dioxide
- Dry chemical powder
- Alcohol-resistant foam

Unsuitable Extinguishing Media:

Do not use a solid or high-pressure water stream, as this may scatter and spread the fire.

5.2 Special Hazards

Fire may produce irritating, corrosive and toxic gases, including:



- Carbon monoxide
- Carbon dioxide
- Irritating organic vapours and smoke

5.3 Advice for Firefighters

Wear suitable protective clothing and self-contained breathing apparatus. Cool exposed containers with water spray where this can be done safely.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

- Keep unnecessary personnel away.
- Eliminate all ignition sources.
- Ensure adequate ventilation.
- Avoid breathing vapour or mist.
- Avoid contact with skin and eyes.
- Do not touch damaged containers or spilled material without suitable protective equipment.
- Ventilate enclosed areas before entry.

6.2 Environmental Precautions

- Stop further leakage if safe to do so.
- Do not contaminate water.
- Prevent entry into drains, groundwater and waterways.
- Retain and dispose of contaminated wash water.
- Contact the relevant authorities if the material enters drains or the aquatic environment.

6.3 Containment and Cleaning

Large Spills:

- Eliminate ignition sources.
- Stop the flow if this can be done safely.
- Dike or contain the spill.
- Cover where necessary to prevent spreading.
- Absorb using dry clay, sand, diatomaceous earth, vermiculite or a commercial absorbent.
- Transfer the collected material into suitable waste containers.

Small Spills:

- Wipe up with absorbent material.
- Clean the affected surface thoroughly.
- Do not return spilled material to its original container.



- Collect and dispose of the waste as hazardous material.

The product is immiscible with water and may spread across the water surface.

SECTION 7: HANDLING AND STORAGE

7.1 Safe Handling

- Do not handle near open flames, heat or ignition sources.
- Ground and bond equipment used when handling the product.
- Take precautions against static discharge.
- Avoid contact with eyes, skin and clothing.
- Avoid prolonged exposure.
- Avoid breathing vapour.
- Wash thoroughly after handling.
- Use only in adequately ventilated areas.

7.2 Safe Storage

- Keep containers tightly closed.
- Handle containers carefully.
- Open containers slowly to control any pressure release.
- Store in a cool, dry and well-ventilated location.
- Protect from heat, direct sunlight and ignition sources.
- Keep away from strong oxidising agents.

7.3 Specific End Uses

For professional flavour, fragrance and manufacturing applications only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

No product-specific occupational exposure limit is available.

8.2 Exposure Controls

Engineering Controls:

Use adequate or explosion-proof ventilation equipment to control vapour concentrations.

Eye and Face Protection:

Wear safety glasses with side shields or chemical safety goggles.

Hand Protection:

Wear chemical-resistant protective gloves.

**Skin and Body Protection:**

Wear suitable protective clothing to prevent skin contact.

Respiratory Protection:

Normally not required where adequate ventilation is available. If ventilation is insufficient, use suitable respiratory protection.

Thermal Hazards:

Wear suitable thermal protective clothing where necessary.

Hygiene Measures:

- Wash thoroughly after handling.
- Wash before eating, drinking or smoking.
- Routinely clean contaminated work clothing.
- Clean and maintain protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Information
Appearance	Colourless to pale-yellow mobile liquid
Odour	Spicy, earthy, warm, woody and eugenol-like
Melting/Freezing Point	Not applicable
Boiling Point	251 °C/483.8 °F
Flammability	Not applicable
Explosive Limits	Not available
Flash Point	110 °C/230 °F
Auto-Ignition Temperature	Not available
Decomposition Temperature	Not available
pH	Not applicable
Kinematic Viscosity	Not available
Water Solubility	Insoluble
Ethanol Solubility	Soluble
Alcohol Solubility Test	1 ml dissolves in 2 ml of 70% alcohol
Partition Coefficient	Not available
Vapour Pressure	Not available
Relative Vapour Density	Not available
Refractive Index at 20 °C	1.5330–1.5356
Specific Gravity at 25 °C	1.0250–1.0500
Optical Rotation at 25 °C	–2.00° to 0°
Acid Value	Not available



Property	Information
Particle Characteristics	Not applicable

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable and non-reactive under normal conditions of use, storage and transport.

10.2 Chemical Stability

Stable under recommended storage conditions.

10.3 Hazardous Reactions

No dangerous reactions are known under normal conditions of use.

10.4 Conditions to Avoid

- Temperatures exceeding the flash point
- Heat and ignition sources
- Contact with incompatible materials

10.5 Incompatible Materials

Strong oxidising agents.

10.6 Hazardous Decomposition Products

No hazardous decomposition products are expected when the product is stored and handled as recommended. Combustion may produce carbon oxides and irritating organic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Toxicological Effects

Acute Oral Toxicity: Harmful if swallowed.

Acute Dermal Toxicity: Harmful in contact with skin.

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory Sensitisation: No data available.

Skin Sensitisation: Classified as Skin Sensitisation Category 1B based on the composition.

Germ-Cell Mutagenicity: The complete product is not classified; methyl eugenol at up to 0.01% is classified as suspected of causing genetic defects.

Carcinogenicity: The complete product is not classified; methyl eugenol at up to 0.01% is



classified as suspected of causing cancer.

Reproductive Toxicity: Not expected to cause reproductive or developmental effects.

STOT – Single Exposure: Certain constituents may cause respiratory irritation.

STOT – Repeated Exposure: No data available.

Aspiration Hazard: May be fatal if swallowed and enters airways.

11.2 Endocrine-Disrupting Properties

The substance has not been evaluated for endocrine-disrupting properties that could potentially affect human health.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity

No complete product-specific data available. The product is not classified as environmentally hazardous in the source SDS.

12.2 Persistence and Degradability

Readily biodegradable.

12.3 Bioaccumulative Potential

No data available.

12.4 Mobility in Soil

No data available.

12.5 PBT and vPvB Assessment

The product does not contain components regarded as persistent, bioaccumulative and toxic or very persistent and very bioaccumulative according to Annex XIII of REACH.

12.6 Endocrine-Disrupting Properties

The product has not been evaluated for endocrine-disrupting effects on the environment.

12.7 Other Adverse Effects

No other significant adverse environmental effects are expected, including ozone depletion, photochemical ozone creation or global-warming effects.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste-Treatment Methods

- Do not discharge into drains, waterways or onto the ground.
- Do not contaminate ponds, waterways or ditches.
- Dispose of contents and containers according to applicable local, regional, national and international regulations.
- Empty containers may retain hazardous product residues.
- Follow label warnings even after the container has been emptied.
- Send empty containers to an approved waste-handling facility for recycling or disposal.



SECTION 14: TRANSPORT INFORMATION

ADR/RID – Road and Rail Transport

Classification: Not regulated as dangerous goods.

ICAO/IATA – Air Transport

Classification: Not regulated as dangerous goods.

IMDG – Sea Transport

Classification: Not regulated as dangerous goods.

The transport classification should be reconfirmed against the current carrier requirements and the specific quantity and packaging used.

SECTION 15: REGULATORY INFORMATION

15.1 Applicable Regulations

This SDS has been prepared with reference to:

- Regulation (EC) No. 1272/2008 on classification, labelling and packaging
- Regulation (EC) No. 1907/2006 concerning REACH
- Commission Regulation (EU) 2020/878
- Applicable national and international chemical regulations

15.2 Chemical Safety Assessment

No chemical safety assessment information is available.

SECTION 16: OTHER INFORMATION

16.1 Abbreviations

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

CLP: Classification, Labelling and Packaging Regulation

EC: European Community

GHS: Globally Harmonized System

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods Code

PBT: Persistent, Bioaccumulative and Toxic

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

vPvB: Very Persistent and Very Bioaccumulative



16.2 Disclaimer

The information contained in this SDS is believed to be accurate and represents the best information available at the time of preparation. No warranty, express or implied, is made regarding its completeness or suitability for a particular application.

The user is responsible for determining the suitability of this material for the intended purpose and for ensuring compliance with all applicable regulations.

Authorised by:

Fozia Khot

Director

Aromology Trading LLC