



SAFETY DATA SHEET (SDS)

Prepared in accordance with the Globally Harmonized System (GHS) and Regulation (EC) No. 1907/2006 (REACH, as amended)

SECTION 1: Identification

Product Name: Fennel Essential Oil

Alternative Names: Sweet Fennel Essential Oil, Fennel Seed Oil

Botanical Name: *Foeniculum vulgare* Mill. var. *Dulce*

INCI Name: Foeniculum Vulgare Dulce Seed Oil

CAS Number: 8006-84-6

EC Number: 282-892-3

FEMA Number: 2483

Product Type: Natural Essential Oil

Plant Part: Seeds / Dried Fruits

Extraction Method: Steam Distillation

Origin: India

Grade: Premium Perfumery Grade

Recommended Use: Professional perfumery, cosmetic and fragrance raw material.

Supplier

Aromology Trading LLC

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Dubai, United Arab Emirates

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SECTION 2 – HAZARD IDENTIFICATION

GHS Classification

- Aspiration Hazard – Category 1
- Skin Irritation – Category 2
- Skin Sensitisation – Category 1
- Eye Irritation – Category 2
- Hazardous to the Aquatic Environment – Chronic Category 2



Published safety information for fennel oil identifies aspiration, irritation and allergic-reaction hazards; exact classification may vary according to batch composition and jurisdiction.

Signal Word

Danger

Hazard Statements

- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- 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 vapours.
- P264 Wash thoroughly after handling.
- P273 Avoid release to the environment.
- P280 Wear protective gloves and eye protection.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTRE or physician.
- P331 Do not induce vomiting.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P333+P313 If skin irritation or rash occurs: Get medical advice.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
- P391 Collect spillage.
- P501 Dispose of contents and container in accordance with applicable regulations.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Component	Information
Product	Fennel Essential Oil
Botanical Name	<i>Foeniculum vulgare</i> Mill. var. <i>dulce</i>
INCI Name	Foeniculum Vulgare Dulce Seed Oil
CAS Number	8006-84-6
EC Number	282-892-3
Purity	100% Natural Essential Oil

Typical Naturally Occurring Constituents



- trans-Anethole
- Fenchone
- Estragole
- Limonene
- α -Pinene
- Anisaldehyde
- α -Phellandrene
- Methyl chavicol

The principal constituents commonly reported for fennel seed oil are trans-anethole, fenchone, estragole and limonene, with concentrations varying by chemotype and growing conditions.

SECTION 4 – FIRST AID MEASURES

Inhalation: Move the exposed person to fresh air and keep at rest. Obtain medical attention if symptoms persist.

Skin Contact: Remove contaminated clothing. Wash the affected area thoroughly with soap and water.

Eye Contact: Rinse cautiously with clean water for at least 15 minutes. Obtain medical attention if irritation persists.

Ingestion: Rinse mouth. Do not induce vomiting. Obtain immediate medical attention due to aspiration risk.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media

Do not use a concentrated water jet.

Hazardous Combustion Products



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

Firefighters should wear suitable protective clothing and self-contained breathing apparatus where required.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment.

Provide adequate ventilation.

Prevent release into drains, soil and waterways.

Absorb the spill with sand, vermiculite or another inert absorbent material.

Transfer collected material into suitable labelled containers for authorised disposal.

SECTION 7 – HANDLING AND STORAGE

Use only in well-ventilated areas.

Avoid breathing vapours and prolonged contact with skin and eyes.

Keep the container tightly closed when not in use.

Store away from heat, ignition sources, direct sunlight and strong oxidising agents.

Recommended Storage Temperature: 5–20°C

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Protection Type	Recommendation
Eye Protection	Chemical safety goggles
Hand Protection	Nitrile or chemically resistant gloves
Skin Protection	Protective clothing
Respiratory Protection	Organic-vapour protection where ventilation is inadequate



Engineering Controls Adequate general or local exhaust ventilation

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Property	Typical Specification
Appearance	Clear, mobile liquid
Colour	Colourless to Pale Yellow
Odour	Sweet, warm, anise-like, herbaceous and spicy
Relative Density (20 °C)	0.930–0.970
Refractive Index (20 °C)	1.528–1.553
Optical Rotation	+5 ° to +25 °
Boiling Point	Approximately 210–230 °C
Flash Point	Approximately 60–70 °C
Solubility in Water	Insoluble
Solubility	Soluble in ethanol, fixed oils and perfumery solvents

Published reference values for sweet fennel oil include a relative density around 0.96, refractive index near 1.538, positive optical rotation and a flash point around 60 °C.

SECTION 10 – STABILITY AND REACTIVITY

Reactivity

No hazardous reaction is expected under recommended handling and storage conditions.

Chemical Stability

Stable under normal conditions.

Conditions to Avoid

- Excessive heat
- Open flames
- Sparks and ignition sources
- Direct sunlight
- Prolonged exposure to air

Incompatible Materials

- Strong oxidising agents



- Strong acids
- Strong alkalis

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and irritating organic vapours.

SECTION 11 – TOXICOLOGICAL INFORMATION

May be fatal if swallowed and enters airways.

May cause skin and eye irritation.

May cause an allergic skin reaction in susceptible individuals.

Repeated or prolonged exposure to oxidised essential oil may increase sensitisation potential.

No complete toxicological dataset is available for every natural batch.

SECTION 12 – ECOLOGICAL INFORMATION

Toxic to aquatic life with long-lasting effects.

Avoid uncontrolled release into drains, surface water, groundwater and soil.

No complete persistence, bioaccumulation or degradation dataset is available for the specific batch.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of unused product, absorbents and contaminated packaging through an authorised waste-management contractor.

Do not discharge into drains or the natural environment.

Empty containers may retain product residues and should be handled accordingly.

SECTION 14 – TRANSPORT INFORMATION

Regulation	Classification
UN Number	UN3082
Proper Shipping Name	Environmentally Hazardous Substance, Liquid, N.O.S. (Fennel Essential Oil)
ADR/RID	Class 9
IMDG	Class 9
IATA	Class 9
Packing Group	III

Transport classification should be confirmed against the measured flash point, environmental classification and quantity shipped for the specific batch.

SECTION 15 – REGULATORY INFORMATION

Prepared with reference to:

- GHS Revision 9
- OSHA Hazard Communication Standard, 29 CFR 1910.1200
- Regulation (EC) No. 1907/2006 concerning REACH
- Regulation (EC) No. 1272/2008 concerning CLP
- Regulation (EU) 2020/878

Fennel Essential Oil is a natural complex substance. Final regulatory classification should be confirmed using the supplier's batch-specific chromatographic composition and current jurisdictional requirements.

SECTION 16 – OTHER INFORMATION

Fennel Essential Oil (India) is steam distilled from the seeds or dried fruits of *Foeniculum vulgare* var. *dulce*. It has a rich sweet, anise-like and herbaceous aroma with warm spicy and slightly green nuances.

In professional perfumery, it is used in aromatic, fougère, herbal, spice, liquorice and oriental accords. It blends well with lavender, coriander, cardamom, basil, clary sage, citrus oils, cinnamon, woods and balsamic ingredients.



Because natural fennel oil varies considerably in trans-anethole, fenchone, estragole and limonene content, the batch-specific GC-MS report should be used for formal safety, IFRA and allergen calculations.

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Prepared and Authorised By:

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