



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

Makrut Lime Leaf Oil

Product Name: Makrut Lime Leaf Oil

Common Name: Makrut Lime Leaf Essential Oil

Synonyms: Combava Leaf Oil, Thai Bergamot Leaf Oil, Citrus hystrix Leaf Oil

Botanical Name: *Citrus hystrix* DC.

INCI Name: *Citrus Hystrix* Leaf Oil

CAS Number: 91771-50-5

EC Number: 294-942-1

Plant Part: Fresh Leaves

Extraction Method: Steam Distillation

Country of Origin: Indonesia

Product Type: Natural Essential Oil

Recommended Use

- Professional perfumery
- Cosmetic ingredient
- Personal care formulations
- Aromatherapy
- Fragrance manufacture

Makrut Lime Leaf Oil is obtained by steam distillation of the fresh leaves of *Citrus hystrix*. Indonesian material is characterised by a citronellal-rich profile with fresh green citrus notes and is widely used in perfumery and cosmetics.

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SECTION 2: Hazard Identification

GHS Classification (Representative Supplier Assessment)

- Skin Irritation – Category 3
- Eye Irritation – Category 2B
- Skin Sensitisation – Category 1
- Aspiration Hazard – Category 1



- Hazardous to the Aquatic Environment (Acute) – Category 3
- Hazardous to the Aquatic Environment (Chronic) – Category 4

Signal Word

Warning

Hazard Statements

- H316 Causes mild skin irritation.
- H317 May cause an allergic skin reaction.
- H320 Causes eye irritation.
- H304 May be fatal if swallowed and enters airways.
- H402 Harmful to aquatic life.
- H413 May cause long lasting harmful effects to aquatic life.

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.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

SECTION 3: Composition / Information on Ingredients

Component	CAS Number	Concentration
<i>Citrus hystrix</i> Leaf Oil	91771-50-5	100%

Representative Naturally Occurring Constituents

The essential oil typically contains:

- Citronellal
- Citronellol
- Geraniol
- β -Pinene
- Sabinene
- Linalool
- Limonene (minor)
- Terpinenes
- Other naturally occurring monoterpenes and oxygenated terpenes



Composition varies according to origin, season and distillation conditions. Indonesian leaf oil is generally citronellal-dominant.

SECTION 4: First Aid Measures

Inhalation

Move to fresh air.

Seek medical attention if symptoms persist.

Skin Contact

Wash immediately with soap and water.

Remove contaminated clothing.

Seek medical advice if irritation or sensitisation develops.

Eye Contact

Flush with clean water for at least 15 minutes.

Obtain medical attention if irritation persists.

Ingestion

Rinse mouth.

Do not induce vomiting due to aspiration hazard.

Seek immediate medical attention.

SECTION 5: Fire Fighting Measures

Suitable Extinguishing Media

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

Unsuitable Media

Direct water jet.

Hazardous Combustion Products

- Carbon monoxide
- Carbon dioxide
- Irritating organic fumes

Firefighters should wear self-contained breathing apparatus.

SECTION 6: Accidental Release Measures

- Wear appropriate PPE.
- Avoid release into drains.
- Absorb using inert absorbent material.



- Collect into suitable containers.
- Wash contaminated surfaces.

SECTION 7: Handling and Storage

Handling

- Avoid skin and eye contact.
- Avoid breathing concentrated vapours.
- Use only with adequate ventilation.
- Observe good industrial hygiene practices.

Storage

Store:

- Between 15–25 °C
- In tightly closed containers
- Protected from direct sunlight
- Away from heat and ignition sources
- Away from oxidising agents

SECTION 8: Exposure Controls / Personal Protection

Engineering Controls

General mechanical ventilation.

Eye Protection

Chemical safety goggles.

Hand Protection

Nitrile gloves.

Respiratory Protection

Organic vapour respirator where ventilation is inadequate.

Skin Protection

Protective clothing.

SECTION 9: Physical and Chemical Properties

Property	Typical Value
Appearance	Clear pale yellow to greenish-yellow liquid
Odour	Fresh, green, citrus, herbal, citronellal-rich
Physical State	Liquid
Relative Density (20 °C)	0.840–0.855
Refractive Index (20 °C)	1.445–1.465
Flash Point	Approximately 65 °C
Solubility	Insoluble in water; soluble in alcohol



Representative values vary by harvest and batch.

SECTION 10: Stability and Reactivity

Stable under recommended storage conditions.

Avoid

- Strong oxidising agents
- Excessive heat
- Open flames
- Direct sunlight

Hazardous Decomposition Products

- Carbon monoxide
- Carbon dioxide
- Irritating smoke

SECTION 11: Toxicological Information

Routes of Exposure

- Skin
- Eyes
- Inhalation
- Ingestion

Potential Effects

- Mild skin irritation.
- Allergic skin reaction in susceptible individuals.
- Eye irritation.
- Aspiration hazard if swallowed.
- Low acute toxicity under intended professional use.

SECTION 12: Ecological Information

Avoid uncontrolled release into waterways.

Essential oils may be harmful to aquatic organisms in concentrated form.

SECTION 13: Disposal Considerations

Dispose of contents and packaging through an authorised waste disposal contractor.

Do not discharge into drains.



SECTION 14: Transport Information

Item	Information
UN Number	Not regulated (subject to quantity and applicable transport regulations)
Proper Shipping Name	Not regulated
Hazard Class	Not applicable
Packing Group	Not applicable
Marine Pollutant	Evaluate according to shipment and regulations

SECTION 15: Regulatory Information

Prepared with reference to:

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

SECTION 16: Other Information

This Safety Data Sheet applies to Makrut Lime Leaf Oil – Indonesia, a natural steam-distilled essential oil obtained from the leaves of *Citrus hystrix*. The oil is naturally rich in citronellal together with citronellol and geraniol, contributing to its characteristic fresh green citrus aroma. As a Natural Complex Substance, the chemical profile varies according to origin, season, cultivation practices and distillation parameters. This SDS represents a professional supplier template and should be supported by batch-specific analytical documentation where available.

Authorised by

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Director

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