MATERIAL SAFETY DATA SHEET
CAN BE HAZARDOUS ACCORDING TO WORKSAFE CRITERIA

SECTION 1 - MATERIAL & SUPPLY COMPANY IDENTIFICATION
Product Name: Clove Leaf Oil
Botanical Name: eugenia carophyllata AKA SYZYGIUM AROMATICUM
Recommended Use: Cosmetics Use Only
Supplier: Escentials of Australia P/L
ABN: 22765784206
Address: 5/49 Gateway Drive
Telephone: 61 7 5442 4559
Email: escentials@optusnet.com.au

SECTION 2 - PRODUCT COMPOSITION

<table>
<thead>
<tr>
<th>Component Entity</th>
<th>CAS Number</th>
<th>EINECS Number</th>
<th>Proportions [%w/w]</th>
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<tbody>
<tr>
<td>Clove Leaf Oil</td>
<td>8000-34-8</td>
<td>84961-50-2</td>
<td>100% pure</td>
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</table>

SECTION 3 - HAZARD IDENTIFICATION

3.1 Physical - Chemical Hazards

**EUGENOL** *(CAS no 97-53-0)* <80%

- Explosion: None identified.
- Flammable: Combustible liquid, produces oxides of carbon when burning.
- Oxidizing: Not applicable.
- Toxic: Yes toxic to marine animals
- Radioactive: Not applicable.
- Corrosive: None identified.
- Miscellaneous: None identified.

3.2 Environmental Hazards: **Toxic to aquatic animals – do not dispose of in water courses**

3.3 Health Hazards

- Acute Effects: Swallowed: Maybe Harmful, May cause abdominal pain
Excessive ingestion can cause gastric distress.
- Eye: Will be irritating.
- Skin: Can be irritating or sensitising.
- Inhalation: May be harmful IN LARGE DOSES
- Chronic Effects: None identified.
Mutagenic Effects: None identified.
Reproductive Effects: None identified.
Carcinogenic Effects: None identified.
Sensitisation: None identified.
Infectious: None identified.

SECTION 4 - FIRST AID

4.1 Eye Contact: Flush immediately with clean water for at least 15 minutes. Ensure irrigation under eyelids. Do not try to remove contact lenses unless trained. Contact a physician immediately.

4.2 Skin Contact: Remove any contaminated clothing and footwear. Clean before re-use. Wash affected areas thoroughly with soap and water for at least 15 minutes. Contact a physician as necessary.

4.3 Inhalation: Remove from the exposure to fresh air. If breathing has stopped, administer artificial respiration and oxygen if available. Contact a physician as necessary.

4.4 Ingestion: Do not induce vomiting. Wash out mouth with water and give water slowly to dilute [as much as casualty can comfortably drink] provided person is conscious. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconsciousness. Contact a physician or local poison control centre immediately. If vomiting occurs, lean patient forward or place on left side [head-down position, if possible] to maintain open airway and prevent aspiration.

4.5 Contact Point: Poisons Information Centre Sydney [T] 131126

4.6 Advice to Doctor: Treat symptomatically. Note the nature of this product.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing Media: Carbon Dioxide; Dry Chemical; Universal-Type Foam.

5.2 Unsuitable Extinguishing Media: Water Spray; Others not established.

5.3 Unusual Firefighting Hazards: None identified.

5.4 Special Procedures: Determine the need to evacuate or isolate the area according to your local emergency plan.

5.5 Protective Equipment: Self-contained breathing apparatus and protective clothing should be worn when fighting fires involving essential oils or chemicals.

5.6 Combustion Products: Oxides of carbon.

5.7 Contact Point: Dial 000 Emergency in case of fire [In Australia] or Local Emergency Authority [Out of Australia].

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions: Use of self-contained breathing apparatus is recommended for any major chemical spill. Refer also to section 8.

6.2 Safety Precautions: Eliminate ALL ignition sources. Ventilate area. Determine the need to evacuate or isolate the area according to your local emergency plan;

6.3 Environmental Precautions: Keep away from drains, surface and ground water. Report spills to appropriate Authorities if required.

6.4 Methods For Cleaning Up: Contain spill and recover free product. Absorb remainder on vermiculite or other suitable absorbent material. Wipe small spills with cloth. Clean with hot water and detergent. Refer also to Section 13. for disposal procedures.

SECTION 7 - SAFE HANDLING AND STORAGE INFORMATION

7.1 Handling: Dermal irritant. Avoid inhalation and contact with skin and eyes. Good personal hygiene practices should be used. Wash after any contact, before breaks and meals, and at the end of the work period. Contaminated clothing and shoes should be cleaned before re-use.

7.2 Storage: Can be a hazardous material. Containers should be kept closed in order to minimise contamination. Store in a cool, dry, well ventilated place protected from light. Keep from extreme heat and away from ALL sources of ignition. Make sure the material does not come into contact with substances listed as: "Materials to Avoid". Refer to Section 10.

7.3 Unsuitable Packaging Materials: Long term storage is best in glass. Oil may cause debriding and sedimentation of the epoxy lining in Aluminium Bottles.
SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Respiratory Protection: None generally required. Use NIOSH approved respirator in confined areas or if ventilation is inadequate.

8.2 Ventilation Protection: Ensure adequate ventilation to keep exposure levels to a minimum. Local exhaust meeting ACGIH criteria is required.

8.3 Eye Protection: Using goggles or face shield is recommended.

8.4 Protective Gloves: Using chemical resistant gloves is recommended.

8.5 Protective Clothing: Using chemical resistant clothing is recommended.

8.6 Protective Equipment: An eyewash fountain and / or safety shower should be available in the work area.

8.7 Special Engineering Controls: None established.


8.9 Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol / spray applications may require additional precautions.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

TEST SPECIFICATION
9.1 Appearance: brown mobile liquid. Slight haziness occasionally
9.2 Odour: Characteristic & very spicy (eugenolic)
Odour Threshold: High
9.3 Specific Gravity: 0.98 - 1.03
9.4 Refractive Index: 1.5280 - 1.5640
9.5 Optical Rotation: 1.5 – 0.00
9.6 pH: Not available.
9.7 Solubility: Soluble in vegetable oils, alcohol
9.8 Solubility in Water: Insoluble.
9.9 Flash Point: 101 deg C closed cup
9.10 Flammability Limits [as % v/v in Air] NN
9.11 Autoignition Temperature: Not available.
9.12 Melting Point: Not available [-°C @ 760 mm].
9.13 Boiling Point: [89°C @ 760 mm].
9.14 Vapour Pressure: Not available [mm Hg].
9.15 Vapour Density: Not available.

9.16 EFFA Listed Sensitisers & IFRA Notifiable Substances. Detection Limit 0.01%.

<table>
<thead>
<tr>
<th>CONSTITUENT</th>
<th>IFRA</th>
<th>EFFA</th>
<th>CAS Number</th>
<th>EINECS</th>
<th>Number</th>
<th>RANGE</th>
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<td>Not allocated</td>
<td>Not allocated</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 10 - STABILITY AND REACTIVITY

10.1 Stability: Chemically stable, non hazardous material.

10.2 Conditions to Avoid: None established.

10.3 Materials to Avoid: Strong acids, strong alkalis and oxidizing agents.

10.4 Flammability: Flammable liquid.

10.5 Hazardous Polymerization: Will not occur.

10.6 Hazardous Combustion or Decomposition Products: Carbon monoxide and unidentified organic compounds may be formed during combustion.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity

LD50 [Oral]: Not tested on animals – So not available.
LD50 [Dermal]: Not tested on animals – So not available.
LC50 [Inhalation]: Not tested on animals – So not available.

11.2 Exposure Limits

OSHA TWA: None established.
OSHA STEL: None established.
ACGIH TWA: None established.
ACGIH STEL: None established.
NOHSC TWA: None established.

11.3 Short Term Toxicity: Not available.
11.4 Long Term Toxicity: Not available.
11.5 Human Exposure Tests: Not available.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Eco-toxicity: Toxic to environment. Avoid pollution to soil, rivers and the ocean.
12.2 Mobility: Low mobility in the soil.
12.3 Persistence & Degradability: Low persistence level and readily biodegradable.
12.4 Bio-accumulative Potential: None established.
12.5 Other Adverse Effects: None established.

SECTION 13 - DISPOSAL CONSIDERATION

13.1 Waste Material: Place material and / or absorbent into sealed containers and dispose of in accordance with current applicable laws and regulations. Refer to local Authority advice.
13.2 Contaminated Packaging: Dispose of in accordance with current applicable laws and regulations. Refer to local Authority advice.
13.3 Note: Empty containers can have residues, gases and mists. Use the proper Waste Disposal Methods & Procedures for Empties as well.

SECTION 14 - TRANSPORT INFORMATION

14.1 Transportation: Not Dangerous Goods according to criteria of the Australian Dangerous Goods Code for Transport by Road and Rail. No special transport required.
14.2 UN Number: Not allocated.
14.3 Packaging Group: Not allocated.
14.4 DG Class: Not allocated.
14.5 Poison Schedule: Not Scheduled.
14.6 Hazchem Code: Not allocated.

SECTION 15 - REGULATORY INFORMATION

15.1 Risk Symbols: Not allocated.
15.2 Risk Phrases: Not allocated.
15.3 Safety Phrases: Not allocated.
15.4 Warning Statements: Not allocated.
15.5 Safety Directions: Not allocated.
15.6 Standard Statements: Not allocated.

SECTION 16 - ADDITIONAL INFORMATION

16.1 Revision Date: May 2019
16.2 Disclaimer

This Material Safety Data Sheet was prepared IAW guidelines in The National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011 (2003)].
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