Classified as hazardous according to the criteria of NOHSC Australia

1. IDENTIFICATION

<table>
<thead>
<tr>
<th>Name:</th>
<th>Tea tree oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other names:</td>
<td>melaleuca oil, <em>Melaleuca alternifolia</em> oil, T36-C7, teebaumol</td>
</tr>
<tr>
<td>Recommended use:</td>
<td>Topical antibacterial agent, antiseptic, anti-inflammatory agent</td>
</tr>
<tr>
<td>SUSDP name:</td>
<td>Melaleuca oil (tea-tree oil)</td>
</tr>
<tr>
<td>Supplier name:</td>
<td>(Manufacturer to complete)</td>
</tr>
<tr>
<td>Street address:</td>
<td>(Manufacturer to complete)</td>
</tr>
<tr>
<td>Telephone:</td>
<td>(Manufacturer to complete)</td>
</tr>
<tr>
<td>Emergency contact:</td>
<td>(Manufacturer to complete)</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

| Hazard classification: | Classified as Hazardous according to the criteria of NOHSC Australia. Classified as Dangerous Goods for the purpose of transport by road or rail. |
| Risk phrases:          | R10 Flammable \n                         | R22 Harmful if swallowed \n                         | R36/37/38 Irritating to eyes, respiratory system and skin |
| Safety phrases:        | S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre (13 11 26, Australia wide). \n                         | S36 Wear suitable protective clothing |
| HAG phrases:           | (9) Form: liquid \n                         | (62) Avoid personal/skin contact \n                         | (15) Flammable \n                         | (83) Fire fighting: foam \n                         | (18) Combustible \n                         | (85) Fire fighting: dry agent \n                         | (51) Does not mix with water |
| RTECS number           | RJ3697600 |

3. COMPOSITION

| Chemical identity:     | Melaleuca oil (tea-tree oil) |
| Common names:          | melaleuca oil, *Melaleuca alternifolia* oil, T36-C7, teebaumol, *Tea tree (melaleuca alternifolia) oil* |
| CAS#:                  | 68647-73-4, 85085-48-9, 8022-72-8 |

4. FIRST AID MEASURES

Poison Information Centres can provide additional assistance on 13 11 26 (Australia wide).

| Eye: | Irrigate with copious amounts of water. Seek immediate medical attention. |
| Inhalation: | If over-exposure occurs leave exposure area immediately. If other than minor symptoms are displayed seek immediate medical attention. |
| Skin: | Gently flush affected areas with water. Remove contaminated clothing and wash thoroughly before re-use. Seek medical attention if irritation develops. |
| Ingestion: | If swallowed do NOT induce vomiting. Give a glass of water. Seek immediate medical attention. |
| Facilities: | Eye wash facilities and safety shower are recommended. |

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Dry agent, carbon dioxide, foam or water fog. Do not use full water jet.

Hazards from combustion products: May evolve toxic gases (hydrocarbons, carbon oxides) if burning.

Precautions and special protective equipment: Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus when combating fire. Use waterfog to cool intact containers and nearby storage areas.

Hazchem code: 3[Y]
6. ACCIDENTAL RELEASE MEASURES

Spillage: In case of spillage (bulk), wear splash-proof goggles, PVC/rubber gloves, coveralls and rubber boots (see section 8). Keep people away, evacuate area.

Containment and clean up: Absorb spill with sand or similar, collect and place in sealable containers using non-sparking tools and transport outdoors for disposal. Ventilate area and wash spill site after material pick-up is complete. Prevent spill from entering drains or waterways. Caution: slippery when spilt.

7. HANDLING AND STORAGE

Handling: Measures should be taken to prevent materials from being splashed into the eyes or on the skin. Wear eye-shields and protective clothing. Smoking should not be permitted in work areas. Provide adequate ventilation.

Storage: Store in a cool, dry, well-ventilated area, away from oxidising agents (eg hypochlorites), acids (eg sulfuric acid), heat and light sources, and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Keep only in original container. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems. This material is a Scheduled Poison (S6) and must be stored, maintained and used in accordance with the relevant regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National exposure standards: No exposure standard allocated

Biological limits: No biological limit allocated

Engineering controls: Ensure adequate ventilation. In poorly ventilated areas, mechanical explosion-proof extraction ventilation is recommended. Keep containers closed when not in use.

PPE: Wear coveralls, splash-proof goggles and PVC or rubber gloves. Where an inhalation risk exists, wear a Type A (organic vapour) Respirator. In a laboratory situation, wear a laboratory coat.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colourless to pale yellow liquid
Odour: Characteristic, myristic
Solubility: Insoluble in water, 1 part miscible with 2 parts ethanol (85% v/v) at 20°C.

pH: Not applicable
Vapour pressure: Not available
Vapour density: Not available
Boiling point/range: 116° – 265°C
Freezing point: Not available
Specific density: 0.885 - 0.906 at 20°C.
Flash point: 57° - 60°C (closed cup)
Fire point: 72°C (Cleveland open cup (IP 36))
Upper flammable limit in air: Not available
Lower flammable limit in air: Not available
Ignition temperature: Not available
Specific heat value: Not available
Percent volatile: 100%
Refractive index: 1,475 0 – 1,482 0 at 20°C.
Optical rotation: Between +5° and +15° at 20°C.

10. STABILITY AND REACTIVITY

Chemical stability: Stable
Conditions to avoid: Heat, light, open flames and other sources of ignition
Incompatible materials: Strong oxidising or reducing agents. Protect from air.
Hazardous decomposition products: Carbon monoxide and carbon dioxide (from combustion).
Hazardous reactions: Hazardous polymerisation will not occur.
11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS

Eye contact: Severe irritant

Skin contact: Irritant. May cause erythema, irritation or oedema. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

Inhalation: Potential irritant. Over-exposure at high levels may result in mucous membrane irritation of the nose and throat with coughing.

Ingestion: May be harmful if swallowed. Swallowing can result in allergic dermatitis, hallucinations, ataxia, diarrhoea, central nervous system depression, sleep or coma.

Acute toxicity*:

Ear TD (guinea pig): 100% (instilled for 30 min)
  Toxic effects: D40 (change in acuity)\textsuperscript{11}

Dermal LD\textsubscript{50} (rabbit): >5 g/kg\textsuperscript{i}

Dermal LDLo (rabbit): 5 g/kg\textsuperscript{i}

Dermal TD (cat): 5-7 mL/kg\textsuperscript{2}
  Toxic effects: F19 (ataxia); P72 (changes in leucocyte count)

Dermal TD (dog): 0.143 – 0.164 g/kg\textsuperscript{3}
  Toxic effects: F07 (somnolence), F19 (ataxia), partial paralysis

Dermal TD (human adult): > 25% (in white soft paraffin, applied for 21 d)\textsuperscript{4}

Oral LD\textsubscript{50} (rat): 1.9 g/kg (1.4 – 2.7 g/kg)\textsuperscript{i}

Oral LD\textsubscript{50} (rat): 1.9 – 2.6 g/kg\textsuperscript{13}

Oral TD (rat): 1.5 g/kg\textsuperscript{5}
  Toxic effects: F07 (somnolence) F18 (muscle weakness), F19 (ataxia), partial paralysis

Oral TD (human adult): 21 \mu L/kg (after repeated low dose exposure)\textsuperscript{6}
  Toxic effects: P20 (changes in cell count (unspecified)); R01 (dermatitis, allergic); R03 (dermatitis, other)\textsuperscript{4}

Oral TD (human adult): 0.5-1.0 mL/kg\textsuperscript{7}
  Toxic effects: F08 (hallucinations, distorted perceptions); F24 (coma); K12 (hypermotility, diarrhoea)

Oral TD (human child): 0.5 mL/kg\textsuperscript{8}
  Toxic effects: F04 (sleep); F19 (ataxia)

Oral TD (human child): 0.5 mL/kg\textsuperscript{9}
  Toxic effects: F08 (hallucinations, distorted perceptions); F19 (ataxia)\textsuperscript{5}

Oral TD (human child): 0.6 mL/kg (approx.)\textsuperscript{10}
  Toxic effects: F07 (somnolence), F19 (ataxia), F24 (coma)

Chronic toxicity: No information available

Sensitisation potential: Low (modified FCA method, guinea pig model)\textsuperscript{12}

Other: Not mutagenic as determined by the AMES test

* see Toxic Effects Code from the Registry of Toxic Effects of Chemical Substances (RTECS)

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not acutely toxic to fish (LC\textsubscript{50} > 100 mg/l OECD 206)

Persistence/Degradability: Readily biodegradable (OECD301F)

Mobility: No information available
13. DISPOSAL CONSIDERATIONS

Disposal methods: Dispose of small amounts at an approved landfill site. For larger amounts contact a licensed professional waste disposal service.

Precautions: Prevent contamination of drains or waterways.

14. TRANSPORT INFORMATION

UN number: 2319
UN proper shipping name: TERPENE HYDROCARBONS, N.O.S.
Un Packing group: III
ADG proper shipping name: Not listed in ADG code
Class and subsidiary risk(s): Class 3. No subsidiary risks listed.
Hazchem: 3 [Y]
EPG: 3A1

Special precautions for user: Classified as dangerous goods for the purpose of transport by road or rail. Class 3 Flammable Liquid. Do not transport with chemicals of class 1 (Explosives), 2.1/2.3 (Flammable/Toxic gases), 4.2 (Spontaneously combustibles), 5.1 (Oxidising agents), 5.2 (Organic peroxides), 6 (Toxics), 7 (Radioactives) and foodstuffs.

15. REGULATORY INFORMATION

Poison Schedule: 6
AICS: This material is listed on the Australian Inventory of Chemical substances
EINECS: This material is listed on the European Inventory of Existing Commercial Substances

16. OTHER INFORMATION

This document was last modified on: 18th July 2003

ABBREVIATIONS

ADG (Australian Dangerous Goods); AICS (Australian Inventory of Chemical Substances); CAS (Chemical Abstract Service); EINECS (European Inventory of Existing Commercial Substances); EPG (Emergency Procedure Guide); FCA (Freund’s Complete Adjuvant); HAG (Hazmat Action Guide); LD₅₀ (Dose lethal for 50% of the test population); LDLo (Lowest Published Lethal Dose); N.O.S. (Not Otherwise Specified); NOHSC (National Occupational Health and Safety Commission); PPE (Personal Protective Equipment); RTECS (Registry of Toxic Effects of Chemical Substances); SUSDP (Standard for the Uniform Scheduling of Drugs and Poisons); TD (Toxic Dose); TDLo (Lowest Published Toxic Dose); UN (United Nations)

REFERENCES


DATA SOURCES


Disclaimer: This Material Safety Data Sheet was prepared according to the National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011(2003)]. The above information is believed to be correct but does not claim to be all inclusive and shall be used only as a guide.

- END OF REPORT -