

Version 1.02

Issued 05 June 2015

Tea Tree (*Melaleuca alternifolia*) leaf oil

1. IDENTIFICATION of the SUBSTANCE and the COMPANY

Product Name: Tea Tree (*Melaleuca alternifolia*) leaf oil
Other Names: Tea Tree Oil, Melaleuca oil, *Melaleuca alternifolia* oil, Teebaumöl
Recommended Use: Topical antibacterial, antiseptic and anti-inflammatory agent
Australian AHECC Code and Name: 3301.29.60, Essential Oil of Tea Tree (*Melaleuca alternifolia*)

Suppliers Product Name (as Labelled)	
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Supplier	
Street Address	
Telephone	
Fax	
Email	

Emergency Telephone Number	
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2. HAZARD IDENTIFICATION

UN Proper Shipping Name: TERPENE HYDROCARBON, N.O.S. (Tea Tree Oil)
UN Number: 2319
UN Packing Group: III
GHS Classification: Flammable liquids category 3⁽¹¹⁾; Acute toxicity category 4⁽⁴⁾; Mildly irritating to eyes category 2B⁽¹⁷⁾ Irritating to skin category 2⁽⁶⁾

GHS Pictograms:



GHS Signal word: Warning
Hazard Statements: Flammable liquid and vapour, Harmful if swallowed, Causes eye irritation, Causes skin irritation

GHS Precautionary Statements

Prevention: P210, P233, P240, P241, P242, P243, P264, P270, P280
Response: P301, P303, P305, P312, P313, P330, P337, P338, P351, P353, P361, P370, P378
Storage: P235, P403
Disposal: P501 (For full precautionary statements see Section 15 on page 7)

Poisons Schedule: S6 - Poison

Health Hazards: This product may be harmful if swallowed. Vapour/mist/sprays may be mildly irritating to the eyes

Reactivity Hazards: None known

Environmental Hazards: May cause adverse effects in aquatic environments. This product is biodegradable

Emergency Considerations: Emergency responders must wear proper personal protective equipment and have appropriate fire suppression equipment suitable for the situation to which they are responding

EU Labelling and Classification: For further information under CLP Regulation (EC) 1271/2008 refer to section 15 on page 7

Health Hazards or Risks from Exposure:

Acute: Prolonged contact with this product may cause irritation to the skin. Contact with eyes may cause mild irritation or redness. This product may be harmful if swallowed.

Chronic: None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Identity: Oil of Melaleuca, Terpinen-4-ol type ISO 4730:2004

Common Names: Tea Tree Oil, Melaleuca oil, *Melaleuca alternifolia* oil, Teebaumöl

HAZARDOUS INGREDIENTS	CAS Number	EINECS Number (EC No.)	ICSC Number	Weight %	HAZARD CLASSIFICATION; RISK PHRASES
Tea Tree Oil	68647-73-4	285-3771	Not Established	100%	Hazard Classification: Flammable liquids category 3; Acute Toxicity category 4; Mildly irritating to eyes category 2B Hazard Statements: H226, H302, H320
Balance of water and other components. Each of the other components is present in less than 1% concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers and mutagens)					Hazard Classification: Not classified Hazard Statements: None

NOTE: All Canadian WHMIS required information is included in appropriate sections based on GHS format. This product has been classified in accordance with hazard criteria of the GHS and the SDS contains all the information required by the GHS, EU Directives and the Japanese Industrial Standard JIS Z 7250: 2000
See Sections 2 and 15 for full text of **Hazard Classification**, **Signal Words** and **Hazard Statements**

4. FIRST AID MEASURES

Individuals contaminated by chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention if necessary. Take a copy of the label and MSDS to the health professional with contaminated individual.

Symptoms caused by exposure

Human adult: Hallucination, distorted perception, coma, diarrhoea, allergic dermatitis

Human child: Hallucination, distorted perception, sleep, ataxia, coma, somnolence, diarrhoea

Medical Attention and Special Treatment

Eye Contact: Causes mild eye irritation. If in the eyes, open victims' eyes while under gentle running water. Use sufficient force to open eyelids. Flush for a minimum of fifteen (15) minutes. Remove contact lenses if worn and accessible. Seek immediate medical attention if irritation persists

Skin Contact: Wash contacted area thoroughly with soap and water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Seek medical attention if irritation develops

Inhalation: If fumes or vapours are inhaled, or breathing difficulty is experienced, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek immediate medical attention if breathing difficulty persists

Ingestion: If the chemical is swallowed, call a physician or poison control centre for the most current information. If no professional advice is available, DO NOT induce vomiting, rinse the mouth. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions or who cannot swallow. Victims of chemical exposure must be taken for medical attention. Take a copy of the label and SDS with the victim to a health professional

Medical Conditions aggravated by exposure:

Pre-existing skin, eye or respiratory problems may be aggravated by prolonged contact

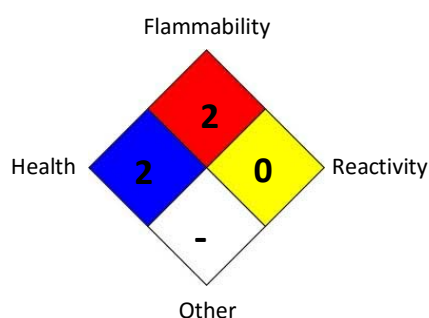
Recommendation to Physicians:

Treat symptoms and eliminate exposure

5. FIRE FIGHTING MEASURES

Flash Point:	59 °C (138 °F) ⁽¹¹⁾
Suitable fire extinguishing materials:	Carbon dioxide, foam, dry chemical, halon or water fog/mist.
Unsuitable fire extinguishing materials:	Do not use full water jet
Unusual fire and explosion hazards:	This product is flammable & vapours may travel some distance and flash back if ignited
Explosion sensitivity to mechanical impact:	Not sensitive
Explosion Sensitivity to static discharge:	Sensitive
Specific hazards arising from the substance:	May produce toxic fumes of carbon monoxide and/or carbon dioxide and hydrocarbons if burning.
Special fire fighting procedures:	Incipient fire responders should wear eye protection. Structural fire fighters must wear self-contained breathing apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise keep containers cool with carefully applied water spray/mist. If possible, prevent runoff water from entering storm drains, bodies of water or other environmentally sensitive areas

NFPA RATING:



Hazard Scale:

- 0 = Minimal
- 1 = Slight
- 2 = Moderate
- 3 = Serious
- 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Proper protective equipment should be used (see Section 8: Personal Protection). Personnel should be trained for spill response operations.
Emergency Procedures:	Trained personnel following pre-planned procedures should handle non-incident releases.
Spill Containment/Cleanup:	Contain spilled material using poly-pads or other suitable absorbent material. Avoid generating mists or sprays. Place all spill residues in an appropriate container and seal. Ventilate area and wash spill area after material pickup is complete.
Environmental Precautions:	Prevent run-off into drains and waterways. Decontaminate area thoroughly. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State and Local procedures (see Section 13).

7. HANDLING and STORAGE

Work Practices and Hygiene Practices: Read all labels before use. As with all chemicals; avoid getting this product on you or in you. Wear personal protective equipment (see Section 8) and wash thoroughly after handling this product. Do not eat, drink, smoke or apply cosmetics while handling this product. Avoid breathing mists or sprays generated by this product. Use in a well ventilated location. Remove contaminated clothing immediately.

Storage and Handling Practices: Observe all Federal and State regulations pertaining to the storage and handling of flammable liquids. Store in a cool, dry, well ventilated area away from direct sunlight. Keep containers tightly closed when not in use. Store away from sources of heat or ignition (sparks, open flame, hot surfaces). Store away from incompatible materials (oxidising agents and acids). Inspect regularly for damage and leaks. Take precautionary measures against static discharge: Ground container and receiving equipment, use only non-sparking tools and use explosion-proof electrical and other equipment.

This product is listed in the Australian Scheduling of Drugs and Poisons as a Schedule 6 Poison; storage and handling procedures must be in accordance with the relevant regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below

Chemical Name	CAS Number	ACGIH-TLV's	OSHA PEL's	NIOSH-TLV's	Other
Tea Tree Oil	68647-73-4	Not Established	Not Established	Not Established	Not Established

Currently, international exposure limits are not established for the components of this product. Please check with a competent authority in each country for the most recently established limits

The following information on Personal Protective Equipment (PPE) is provided to assist employers in complying with OSHA regulations found in 29 CFR sub-part I (beginning at 1910.132) or equivalent standard of Australia and Canada, or standards of EU member states (including EN 149 for respiratory PPE and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for full relevant details

Eye/Face Protection: Splash goggles or safety glasses with side shields are recommended. If necessary, refer to US OSHA Standard 29 CFR 1910.133, the European Standard EN 166, the appropriate Australian Standards, Canadian Standards, or the relevant Japanese Standards

Hand Protection: Compatible protective gloves are recommended. Wash hands after removing gloves. If necessary, refer to US OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Australian Standards, Canadian Standards, or the relevant Japanese Standards

Body Protection: Use body protection appropriate to the task. Coveralls, rubber aprons or chemical protective clothing made from natural rubber are generally acceptable depending on the task. If a hazard of injury to the feet exists due to falling objects, rolling objects or where objects may pierce the soles of the feet or where an employee's feet may be exposed to electrical hazards, use foot protection in accordance with US OSHA 29 CFR 1910.136. If necessary refer to the appropriate Australian Standards, Canadian Standards, or the relevant Japanese and European Standards

Respiratory Protection: If exposure limits are exceeded, use only respiratory protection authorised in the US Federal OSHA Respiratory Standard 29 CFR 1910.134, equivalent US State standards, Canadian CSA Standard Z94.4-93, the European Standard EN 149 or equivalent EU member State Standards

9. PHYSICAL and CHEMICAL PROPERTIES

Appearance:	Colourless to pale yellow liquid ⁽¹¹⁾
Odour:	Myrtistic, characteristic ⁽¹¹⁾
Odour threshold:	Mild ⁽¹¹⁾
pH:	Not established
Melting point:	Not applicable (liquid at room temperature)
Freezing point:	-22 °C
Boiling point/range:	97 °C – 220 °C
Flash point:	59 °C (Penkysy-Martin closed cup) ⁽¹¹⁾
Evaporation rate:	Not established
Flammability:	55 °C (Cleveland open cup) ⁽¹⁾
Upper flammability:	Not established
Lower flammability:	Not established
Vapour pressure:	2100 Pa ⁽¹⁸⁾
Vapour density:	Not established

Relative density:	0.885-0.906 ⁽¹¹⁾
Solubility:	Insoluble in water, 1 part miscible with 2 parts ethanol (85% v/v) at 20 °C ⁽¹¹⁾
Partition coefficient:	Log ₁₀ P _{ow} = 3.4 – 5.5 ⁽¹⁸⁾
Auto-ignition temp:	269 °C ⁽¹⁾
Decomposition temp:	Not established
Viscosity (Kinematic):	2.86 mm ² /s at 20 °C and 1.71 mm ² /s at 40 °C ⁽¹⁸⁾
(Dynamic):	2.54 mPa.s at 40 °C & 1.52 mPa.s at 40 °C ⁽¹⁸⁾
VOC content (% volatile):	100%
Optical rotation:	+5° to +15° at 20 °C ⁽¹¹⁾
Saturated vapour concentration:	Not established
Release of invisible flammable vapours and gases:	This product is flammable & vapours may travel some distance and flash back if ignited

10. STABILITY and REACTIVITY

Reactivity:	None known
Chemical stability:	Stable under ordinary conditions of use and storage
Conditions to avoid:	Excessive heat, sparks, flames and other sources of ignition
Incompatible materials:	Strong oxidising or reducing agents. Protect from air
Hazardous depolymerisation:	Will not occur
Hazardous decomposition products:	When heated, decomposition may produce hydrocarbons, CO and/or CO ₂

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure and symptoms related to exposure

Eye contact:	Mild irritant. May cause redness, irritation or oedema
Skin contact:	Potential irritant. May cause erythema, irritation or oedema if oil is oxidised 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. May result in allergic dermatitis, hallucination, ataxia, diarrhoea, central nervous system depression, sleep or coma

Measures of toxicity

Acute oral toxicity:	Oral LD ₅₀ rat:	1900 mg/Kg ⁽⁹⁾
Skin corrosion/irritation:	Dermal LD ₅₀ rabbit:	>5000 mg/Kg ⁽⁹⁾
Eye damage/irritation:	HET-CAM	Mild irritant ⁽¹⁵⁾
Dermal Toxic Dose :	Feline:	5-7 mL/Kg ⁽³⁾
Dermal Toxic Dose:	Canine:	0.143 – 0.164 g/Kg ⁽¹⁴⁾
Dermal Toxic Dose:	Human adult:	> 25% (in white paraffin applied for 21 days) ⁽²⁰⁾
Oral Toxic Dose:	Human adult:	0.5 – 1.0 mL/Kg after repeated low dose exposure ⁽¹⁸⁾
Oral Toxic Dose (1):	Human child:	0.5 mL/Kg ^{(7) (12)}
Oral Toxic Dose (2):	Human child:	Approx. 0.6 mL/Kg ⁽¹⁶⁾

Toxic effects

Rat:	Somnolence, muscle weakness, ataxia, partial paralysis
Feline:	Ataxia, change to leukocyte count
Canine:	Somnolence, ataxia, partial paralysis
Human adult:	Hallucination, distorted perception, coma, diarrhoea, allergic dermatitis
Human child:	Hallucination, distorted perception, sleep, ataxia, coma, somnolence, diarrhoea

Sensitisation potential

Skin:	Low (modified FCA method, guinea pig model); LLNA ⁽¹⁰⁾
Eye:	Category 2B for reversible eye effects ⁽¹⁷⁾

Germ cell mutagenicity: Not mutagenic as determined by the Ames test⁽⁴⁾; Micronucleus Assay OECD 474⁽¹⁾

Carcinogenicity: The components of this product are not listed by agencies tracking the carcinogenic potential of chemical compounds as follows:

NTP Regulated: No
IARC Regulated: No
OSHA Regulated: No

Reproductive Toxicity Effects of this product and its components on the human reproductive system:
Mutagenicity: The components of this product are not reported to produce mutagenic effects in humans
Embryotoxicity: The components of this product are not reported to produce embryotoxic effects in humans
Teratogenicity: The components of this product are not reported to produce teratogenic effects in humans
Reproductive Toxicity: The components of this product are not reported to produce reproductive effects in humans

STOT: single exposure: No valid data

STOT: repeated exposure: No valid data

Aspiration hazard: No valid data

12. ECOLOGICAL INFORMATION

All work practices must be aimed at eliminating environmental contamination

Environmental Toxicity: Not acutely toxic to fish $LC_{50} > 100$ mg/L (OECD 203) ⁽¹⁸⁾
Environmental Fate: May cause adverse side effects in an aquatic environment, biodegradable in seawater
Persistence and Degradability: This product is readily biodegradable (OECD 301F) ⁽¹⁸⁾
Mobility in Soil: No data available
Other Adverse Effects: None known

13. DISPOSAL CONSIDERATIONS

Preparing waste for Disposal: Waste disposal must be in accordance with the appropriate Australian Federal, State and Local regulations as well as those of Canada, USA, EU Member States and Japan
Disposal methods: Dispose of containers and small amounts at an approved landfill site. For larger quantities contact a licensed professional waste disposal service
Precautions: Prevent contamination of drains and/or waterways

14. STORAGE and TRANSPORT INFORMATION

UN Proper Shipping Name: TERPENE HYDROCARBONS, N.O.S. (Tea Tree Oil)
UN Number: 2319
UN Transport Hazard Class: Flammable liquids category 3
UN Packing Group: III
GHS Packing Groups: P001, IBC02, LP01
GHS Labelling requirements
GHS Signal word: Warning
GHS Classifications: Flammable liquids category 3; Acute Toxicity category 4; Mildly irritating to eyes category 2B ⁽⁶⁾

GHS Pictograms:



GHS Hazard Statements: **H226:** Flammable liquid and vapour; **H302** Harmful if swallowed; **H320:** Causes eye irritation; **H315:** Causes Skin Irritation

Hazchem EAC Code: 3Y

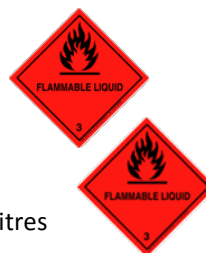
US DOT Labelling Requirements: Flammable Label (Flame pictogram)

Environmental Hazards: May cause adverse effects in aquatic environments.
This product is biodegradable

Special Precautions during Transport

IATA and IMO Labelling Requirements: Flammable Label (Flame pictogram)

Aircraft Restrictions: Passenger Aircraft 60 litres, Cargo Aircraft 220 Litres



Australian National Transport Commission: This produce is classified as **Dangerous Goods** under the Australian Dangerous Goods Code (ADG7).

US Dept. of Transport (DOT) Shipping Regulations: This product is classified as **Dangerous Goods** per DOT regulations under 49 CFR 172.101.

Transport Canada, Transport of Dangerous Goods Regulations: This product is classified as **Dangerous Goods** as per regulations of Transport Canada (Canadian Transport of Dangerous Goods).

International Air Transport Association (IATA): This product is classified as **Dangerous Goods** requirements under IATA DG Regulations which are based in part on the UN Recommendations for the Transport of Dangerous Goods

International Maritime Organisation (IMO) Designation: This product is classified as **Dangerous Goods** under IMO DG Code which is based in part on the UN Recommendations for the Transport of Dangerous Goods

European Agreement concerning the international carriage of Dangerous Goods by Road (ADR): This product is classified as **Dangerous Goods** by the United Nations Economic Commission for Europe

15. REGULATORY INFORMATION

Note: All countries have specific requirements for labelling depending on a wide variety of factors. The following regulatory information is provided to assist in complying with some common regulations for major export destinations including Australia, the USA, Canada, EU member states and Japan. Please reference applicable regulations and standards for full relevant details for destinations

Australia

AICS Status: All components of this product are listed or exempt

Standard for the Uniform

Scheduling of Drugs and Poisons: Schedule 6 (S6) Poison

Classification & Labelling: UN GHS for classification and labelling of chemicals.

Classification: Flammable liquid category 3; Acute toxicity category 4; Mildly irritating to eyes, category 2B; Irritating to skin category 2

GHS Pictograms:



GHS Signal Word: Warning

GHS Hazard Statements: **H226:** Flammable liquid and vapour; **H302** Harmful if swallowed; **H320:** Causes eye irritation; **H315:** Causes skin irritation

GHS Precautionary Statements *For full details refer to the appropriate section of this SDS*

Prevention: **P210:** Keep away from heat/sparks/open flames/hot surfaces.-No Smoking, **P233:** Keep container tightly closed
P240: Ground/bond container and receiving equipment, **P242:** Use only non-sparking tools
P241: Use explosion proof electrical/venting/lighting equipment
P243: Take precautionary measures against static discharge
P270: Do not eat, drink or smoke when using this product, **P264:** Wash thoroughly after handling
P280: Wear protective gloves/eye protection/face protection

Response: **P301 + P312:** IF SWALLOWED: call a POISON CENTRE or doctor/physician if you feel unwell.

P303+P361+P353: IF ON SKIN (or hair): remove/take off immediately all contaminated clothing. Rinse skin with water/shower

P305+P351+P338: IF IN EYES: Rinse cautiously for several minutes, remove contact lenses if present & easy to do, continue rinsing.

P313+P317: If eye irritation persists get medical attention, **P330:** Rinse mouth

P370+ P378: In case of fire: Use [appropriate media] for extinction

Storage: **P403+P235:** Store in a well-ventilated place, keep cool

Disposal: **P501:** Dispose of contents/container in accordance with local/regional/national/international regulations.

United States

SARA Reporting Requirements: None

Marine Pollutant: This product contains no component listed as a Marine Pollutant under 49 CFR 172.101 Appendix B

TSCA: All components in this product mixture are listed on the US TSCA inventory of chemicals or are exempt from listing

SARA 31/312: Acute Health: Yes; Chronic Health: No; Fire: Yes; Reactivity: No

US CERCLA (RQ): None

California (Proposition 65): This product does not contain any component above the 0.1% level which is listed as a California Proposition 65 Chemical

Canada

Canada DSL Inventory Status: All of the components of this product are on the Domestic Substance List (DSL). This product is listed on the DSL as *Oils, tea-tree* under identifier # 68647-73-4

CEPA Substance List: No component of this product is on the CEPA First Priorities Substance List

Canadian WHMIS Classification and Symbol:

Class B-2 Flammable Liquid. (Flame pictogram):
Canadian federal Hazardous Products Act (HPA) and associated
Controlled Products Regulations (CPR)



European Union

EINCS: This material is listed on the European Inventory of Existing Chemical Substances (EINCS).

Classification & Labelling: CLP Regulation (EC) 1271/2008 classified as a substance of "Unknown or Variable composition, Complex reaction products or Biological materials" (UVCB substance).

International Chemical Inventories Summary

Listing of the components on individual country Chemical Inventories:

Asia-Pacific:	Listed or exempt	Australian ICS:	Listed or exempt
Korean ECL:	Listed or exempt	Japanese ENICS:	Listed or exempt
Philippines ICCS:	Listed or exempt	Swisse Giftliste:	Listed or exempt
USA TSCA:	Listed or exempt	Canadian DSL:	Listed or exempt

16. OTHER INFORMATION

Abbreviations

ACGIH American Conference of Governmental Industrial Hygienists, **ADG7** Australian Dangerous Goods 7th Edition, **AHECC** Australian Harmonized Export Commodity Classification, **AICS** Australian Inventory of Chemical Substances, **California (Proposition 65)** The Safe Drinking Water and Toxic Enforcement Act of 1986, **CAS** Chemical Abstracts Service, **CEPA** Canadian Environmental Protection Act, **CERCLA** Comprehensive Environmental Response Compensation and Liability Act, **CFR** Code of Federal Regulations, **CLP** Classification, Labelling & Packaging, **DSL** Domestic Substances List, **DIN** Deutsches Institut für Normung, **DOT** Department of Transport, **DPD** Dangerous Preparations Directive, **ECL** Existing Chemicals List, **ENICS** Existing national Inventory of Chemical Substances, **EU** European Union, **FCE** Formal Concept Analysis, **HET-CAM** Hen's Egg Test Chorioallantoic Membrane, **IATA** International Air transport Association, **ICCS** Inventory of Chemicals and Chemical Substances, **ICS** Inventory of Chemical Substances, **IMO** International Maritime Organisation, **JIS** Japanese Industrial Standards, **LD₅₀**, Lethal Dose 50%, **LLNA** Local Lymph Node Assay, **MITI** Minister of International Trade and Industry, **NFPA** National Fire Protection Association, **NIOSH** National Institute for Occupational Safety and Health, **NOS** Not Otherwise Specified, **OECD** Organisation for Economic Cooperation and Development, **OSHA** Occupational Safety & Health Administration, **PELs** Permissible Exposure Limits, **PPE** Personal Protective Equipment, **RQ** Reportable Quantity, **SARA** Superfund Amendments and Reauthorization Act 1986, **SDS** Safety Data Sheet, **STOT** Single Target Organ Toxicity, **TLV** Threshold Limit Value, **TSCA** Toxic Substances Control Act, **UN** United nations, **GHS** Globally Harmonised System, **UVCB** Unknown or Variable Composition, Complex reaction products or Biological Materials, **VOC** Volatile Organic Compound, **WHMIS** Workplace Hazardous Materials Information System.

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- (13) Kim D. et al, American Chemical Society National Meeting 2002; **223: 114-MEDI Part 2**
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Disclaimer

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Version 1.0 (New)
Last modified on:

Issued 1 June 2012
05 June 2015

End of SDS

Document Control

Date	Version #	Changes
05 Jun 2015	1.02	Irritating to skin category 2 added to sections 2 and 15, STOT repeat exposure (removed), Eye irritation category 2B added and appropriate GHS Hazard & Precaution Statements amended. Product name amended to INCI's ' Tea Tree (<i>Melaleuca alternifolia</i>) leaf oil '
11 Mar 2013	1.01	UN Packing group III added to section 2 and 14
1 June 2012	1.0 (New)	New, read entire document