1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: EUCALYPTUS OIL

Other name(s): Oil of Eucalyptus; Oil of Eucalyptus 60% Cineole; Oil of Eucalyptus Radiata; Oil of Eucalyptus Residue; Oil of Eucalyptus Australian Mallee; Oil of Eucalyptus Industrial; Eucalyptus Oil 70/75 BP; PPEUC03050; AAOIL03050; Eucalyptus Oil 80/85% BP; Eucalyptus Oil 80/85%; PPEUC03070; Oil of Eucalyptus 80/85%; Oil of Eucalyptus Chinese; Eucalyptus Oil 80/85% Cineol; Eucalyptus Oil Cineol; Oil Eucalyptus 80/85% BP; AAOIL00330; Eucalyptus Oil Globulus

Recommended Use of the Chemical and Restrictions on Use

Essential oil. Perfume or flavouring compound. Pharmaceutical applications.

Supplier:
Ixom Operations Pty Ltd (Bronson & Jacobs division) - incorporated in Australia
ABN: 51 600 546 512
Street Address: 70 Marple Avenue
Villawood NSW 2163
Australia

Telephone Number: +61 2 8717 2929
Facsimile: +61 2 9755 9611
Emergency Telephone: 1 800 033 111 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Flammable liquids - Category 3
Aspiration hazard - Category 1
Skin Irritation - Category 2
Skin Sensitisation - Category 1

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:
Acute Oral Toxicity - Category 5
Acute Dermal Toxicity - Category 5
Acute Aquatic Toxicity - Category 2
Chronic Aquatic Toxicity - Category 2

SIGNAL WORD: DANGER
Safety Data Sheet

Hazard Statement(s):
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

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.
P241 Use explosion-proof electrical / ventilating / lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing mist / vapours / spray.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves / protective clothing / eye protection / face protection.

Response:
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P310 Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P362 Take off contaminated clothing and wash before reuse.
P363 Wash contaminated clothing before re-use.
P370 In case of fire:
P378 Use normal foam, dry agent (carbon dioxide, dry chemical powder) to extinguish.
P391 Collect spillage.

Storage:
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

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

Poisons Schedule (SUSMP):   S6 Poison.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>Proportion</th>
<th>Hazard Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oils, Eucalyptus Citriodora</td>
<td>8000-48-4</td>
<td>100%</td>
<td>H227, H303, H313, H315, H317, H319, H401, H411</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor at once. Urgent hospital treatment is likely to be needed.

Product Name: EUCALYPTUS OIL  
Substance No: 000000032880  
Issued: 08/09/2015  
Version: 5
Inhalation:
Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact:
If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water and soap. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye Contact:
If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

Ingestion:
Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Get to a doctor or hospital quickly.

Indication of immediate medical attention and special treatment needed:
Treat symptomatically. Delayed pulmonary oedema may result.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Normal foam, dry agent (carbon dioxide, dry chemical powder).

Unsuitable Extinguishing Media:
Water jet.

Hazchem or Emergency Action Code: 3Y

Specific hazards arising from the chemical:
Flammable liquid. On burning will emit toxic fumes, including those of oxides of carbon.

Special protective equipment and precautions for fire-fighters:
Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Shut off all possible sources of ignition. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Use non-sparking tools. Collect and seal in properly labelled containers or drums for disposal.
7. HANDLING AND STORAGE

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

Precautions for safe handling:
Avoid skin and eye contact and breathing in vapour, mists and aerosols. Keep out of reach of children.
May form flammable vapour mixtures with air. Vapour may travel a considerable distance to source of ignition and flash back. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing switches and electrical equipment etc) must be eliminated both in and near the work area. Do NOT smoke. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities:
Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Store away from foodstuffs. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia.

Appropriate engineering controls:
Use in well ventilated areas. If inhalation risk exists: Use with local exhaust ventilation or while wearing organic vapour/particulate respirator. Keep containers closed when not in use.

Individual protection measures, such as Personal Protective Equipment (PPE):
The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES.

Wear overalls, chemical goggles and impervious gloves. If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour:</td>
<td>Colourless to Pale Yellow</td>
</tr>
<tr>
<td>Odour:</td>
<td>Herbal, Eucalyptol, Camphoraceous</td>
</tr>
<tr>
<td>Odour Threshold:</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Practically insoluble in water.</td>
</tr>
</tbody>
</table>
Safety Data Sheet

Specific Gravity:  
- approx. 0.909 (crude) @ 20°C  
- approx. 0.913 - 0.920 (rectified) @ 20°C  

Relative Vapour Density (air=1): Not available  

Vapour Pressure (20 °C):  
- approx. 351 Pa @ 25°C (crude)  
- approx. 262 Pa @ 25°C (rectified)  

Flash Point (°C): 45.5  

Flammability Limits (%): Not available  

Autoignition Temperature (°C): 270  

Solubility in water (g/L): 1.82 mg/L @ 20°C  

Boiling Point/Range (°C): 153 - 184  

Decomposition Point (°C): Not available  

pH: Not applicable  

Viscosity: 2.46 mPa.s (dynamic)  

Partition Coefficient: log Pow = 2.84 - 4.42  

Freezing Point/Range (°C):  
- <-20 (crude)  
- <5 (rectified)  

10. STABILITY AND REACTIVITY

Reactivity: No information available.  

Chemical stability: Stable under normal conditions.  

Possibility of hazardous reactions: Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. Hazardous polymerisation will not occur.  

Conditions to avoid: Avoid exposure to heat, sources of ignition, and open flame. Avoid exposure to air.  

Incompatible materials: Incompatible with strong oxidising agents and strong reducing agents.  

Hazardous decomposition products: Oxides of carbon.  

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:  

Ingestion: Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkeness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia (inflammation of the lung). Swallowing may result in breathing difficulties. If ingested in quantity sympotms may include dizziness, muscular weakness and rapid pulse. In severe cases delerium and convulsions may occur.  

Eye contact: May be an eye irritant.
Safety Data Sheet

Skin contact: Contact with skin will result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis. A skin sensitiser. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

Inhalation: Material may be irritant to the mucous membranes of the respiratory tract (airways). Overexposure at high levels may result in mucous membrane irritation of the nose and throat with coughing.

Acute toxicity:
Oral LD50 (rat): 2,480 mg/kg (1)
Dermal LD50 (rabbit): 2,480 mg/kg (1)

Skin corrosion/irritation: Moderate irritant (rabbit). (1)
Serious eye damage/irritation: No information available.
Respiratory or skin sensitisation: A skin sensitiser.

Chronic effects: No information available for the product.

Mutagenicity: No information available.
Carcinogenicity: No information available.
Reproductive toxicity: No information available.
Specific Target Organ Toxicity (STOT) - single exposure: No information available.
Specific Target Organ Toxicity (STOT) - repeated exposure: No information available.
Aspiration hazard: May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Avoid contaminating waterways.
Persistence/degradability: No information available.
Bioaccumulative potential: No information available.
Mobility in soil: No information available.
Aquatic toxicity: Toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life.

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of contents / container in accordance with local / regional / national / international regulations.

14. TRANSPORT INFORMATION
Road and Rail Transport
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

UN No: 1169
Transport Hazard Class: 3 Flammable Liquid
Packing Group: III
Proper Shipping Name or Technical Name: EXTRACTS, AROMATIC, LIQUID
Hazchem or Emergency Action Code: 3Y

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 1169
Transport Hazard Class: 3 Flammable Liquid
Packing Group: III
Proper Shipping Name or Technical Name: EXTRACTS, AROMATIC, LIQUID
IMDG EMS Fire: F-E
IMDG EMS Spill: S-D

Air Transport
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 1169
Transport Hazard Class: 3 Flammable Liquid
Packing Group: III
Proper Shipping Name or Technical Name: EXTRACTS, AROMATIC, LIQUID

15. REGULATORY INFORMATION

Classification:
This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.
Classification of the chemical:
Flammable liquids - Category 3
Aspiration hazard - Category 1
Skin Irritation - Category 2
Skin Sensitisation - Category 1

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:
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Hazard Statement(s):
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H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Poisons Schedule (SUSMP): S6 Poison.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION


This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

Reason(s) for Issue:
Revised Primary SDS
Change in Hazardous Chemical Classification
Alignment to GHS requirements
Alignment to HSNO requirements
Change in Physical Properties
Update in Toxicological Information
Update in Ecological Information.
Change to Transport Information
This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Bronson & Jacobs representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

Bronson and Jacobs incorporating the businesses of Woods and Woods and Keith Harris.