



SAFETY DATA SHEET EUCALYPTOL REVISION 3, DATE 02 JUL 20

1. IDENTIFICATION

Product Name	Eucalyptol
Other Names	Eucalyptol 99%
Uses	Essential oil; antibacterial, anti-fungal, antiseptic, antiviral, antispasmodic, astringent, bronchial dilator, circulatory stimulant, decongestant, diaphoretic, disinfectant, expectorant, flavouring, perfumery.
Chemical Family	No Data Available
Chemical Formula	C ₁₀ H ₁₈ O
Chemical Name	1,8-Cineole
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Schedule 6

Redox Ltd
Corporate Office Sydney
Locked Bag 15 Minto NSW 2566 Australia
2 Swettenham Road Minto NSW 2566 Australia
All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

Phone +61 2 9733 3000
Fax +61 2 9733 3111
E-mail sydney@redox.com
Web www.redox.com
ABN 92 000 762 345

Australia
Adelaide
Brisbane
Melbourne
Perth
Sydney

New Zealand
Auckland
Christchurch
Hawke's Bay
UK
London

Malaysia
Kuala Lumpur
USA
Los Angeles
Oakland
Mexico
Saltillo



Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories Flammable Liquids - Category 3
Acute Toxicity (Oral) - Category 5
Serious Eye Damage/Irritation - Category 2A
Sensitisation (Skin) - Category 1B

Pictograms

Signal Word Warning

Hazard Statements

H226	Flammable liquid and vapour.
H303	May be harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

Precautionary Statements	Prevention	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.	
		P233	Keep container tightly closed.	
		P240	Ground and bond container and receiving equipment.	
		P241	Use explosion-proof electrical/ventilating/lighting and all other equipment.	
		P242	Use non-sparking tools.	
		P243	Take action to prevent static discharges.	
		P280	Wear protective gloves/protective clothing/eye protection/face protection.	
		P261	Avoid breathing mist/vapours/spray.	
	Response	P272	Contaminated work clothing should not be allowed out of the workplace.	
		P370 + P378	In case of fire: Alcohol resistant foam is the preferred fire-fighting medium but, if it is not available, normal foam can be used.	
		P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.	
		P337 + P313	If eye irritation persists: Get medical advice.	
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
		P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.	
		P333 + P313	If skin irritation or rash occurs: Get medical advice.	
	Storage	P363	Wash contaminated clothing before reuse.	
		P403 + P235	Store in a well-ventilated place. Keep cool.	
		Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Physical Hazards	3.1C	Flammable liquid - medium hazard
	Health Hazards	6.4A	Substances that are irritating to the eye
		6.5B	Substances that are contact sensitisers

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
1,8-Cineole	C10H18O	470-82-6	>=99 - 100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice - Urgent hospital treatment is likely to be needed. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN (or hair): Remove and isolate contaminated clothing. Immediately flush skin and hair with running water for at least 15 minutes; Wash skin with soap and water. If skin irritation or rash occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse. *In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Remove contaminated clothing and loosen remaining clothing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically. Keep victim calm and warm. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	Pre-existing skin, eye or respiratory problems may be aggravated by prolonged contact/exposure.

5. FIRE FIGHTING MEASURES

General Measures	Move containers from fire area if you can do it without risk. Cool containers with water spray until well after fire is out.
Flammability Conditions	FLAMMABLE LIQUID & VAPOUR: Will be easily ignited by heat, sparks or flames.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use straight streams. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. *CAUTION: Low flash point: Use of water spray when fighting fire may be inefficient.
Fire and Explosion Hazard	Risk of violent reaction or explosion! Vapours may form explosive mixtures with air. Vapours may travel to source of ignition and flash back. Most vapours are heavier than air - They will spread along ground and collect in low or confined

areas. Vapour explosion hazard indoors, outdoors or in sewers. Containers may explode when heated. Many liquids are lighter than water.

Hazardous Products of Combustion	Fire may produce irritating and/or toxic gases, including Carbon oxides, hydrocarbons.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution. Runoff to sewer may create fire or explosion hazard!
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	43 - 56 °C [PMCC]
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	269 °C
Hazchem Code	•3Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material - Slippery when spilt. Avoid accidents, clean up immediately! Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for disposal (see SECTION 13). Use clean, non-sparking tools to collect absorbed material.
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Dike far ahead of large spill for later disposal. *A vapour-suppressing foam may be used to reduce vapours. Water spray may reduce vapour, but may not prevent ignition in closed spaces.
Decontamination	Ventilate area and wash spill site after material pickup is complete. Recover the cleaning water for subsequent disposal.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses. If contamination of sewers or waterways has occurred advise local emergency services.
Evacuation Criteria	Isolate spill or leak area immediately. Keep unauthorised personnel away. Stay upwind and/or uphill.
Personal Precautionary Measures	Wear protective equipment to prevent skin and eye contact and breathing in vapours (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Prevent generation of vapour or mist. Avoid breathing mist/vapours/aerosols and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). FLAMMABLE LIQUID & VAPOUR: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Ground and bond container and receiving equipment. Use explosion-proof equipment and non-sparking tools. Take action to prevent static discharges. Avoid release to the environment - Collect spillage (see SECTION 6).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed when not in use. Inspect regularly for damage and leaks. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10). Store locked up. *Storage place should be equipped with appropriate fire fighting equipment and leakage emergency equipment.
Container	Keep in the original container. *Do not expose empty container to heat, sparks, open flames or other ignition sources.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	<p>A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.</p> <p>*Use explosion-proof electrical/ventilating/lighting equipment.</p>
Personal Protection Equipment	<p>- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Organic vapour/particulate respirator (refer to AS/NZS 1715 & 1716).</p> <p>- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Splash goggles or safety glasses with side-shields, as appropriate.</p> <p>- Hand protection: Wear protective gloves. Recommended: Wear compatible protective gloves.</p> <p>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Use body protection appropriate to the task. Wear anti-static protective clothing. Coveralls, rubber aprons or chemical protective clothing made from natural rubber are generally acceptable.</p>
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Mild. Fresh, camphor-like
Colour	Colourless to pale yellow
pH	No Data Available
Vapour Pressure	1.62 mmHg (@ 25 °C)
Relative Vapour Density	No Data Available
Boiling Point	155 - 176 °C
Melting Point	1.5 °C
Freezing Point	0 °C
Solubility	Insoluble in water
Specific Gravity	0.9200 - 0.9280
Flash Point	43 - 56 °C [PMCC]
Auto Ignition Temp	269 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	0.0681

Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	1.6 - 2.1 mm ² /s (@ 40 °C)
Volatile Percent	100 %
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	Risk of violent reaction or explosion!
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	*CAUTION: Low flash point: Use of water spray when fighting fire may be inefficient.
Properties That May Initiate or Contribute to Fire Intensity	FLAMMABLE LIQUID & VAPOUR: Will be easily ignited by heat, sparks or flames.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating and/or toxic gases, including Carbon oxides, hydrocarbons.
Release of Invisible Flammable Vapours and Gases	Vapours may form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid exposure to air.
Materials to Avoid	Incompatible/reactive with strong oxidising or reducing agents.
Hazardous Decomposition Products	Fire/decomposition may produce irritating and/or toxic gases, including Carbon oxides, hydrocarbons.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"> - Acute toxicity: May be harmful if swallowed. May cause internal irritation, nausea and vomiting, dizziness and muscular weakness, rapid pulse and difficulty breathing. In severe cases, delirium and convulsions may occur. - Skin corrosion/irritation: Potential irritant. Repeated or prolonged skin contact may lead to allergic contact dermatitis. - Eye damage/irritation: Causes serious eye irritation. Severe irritant. - Respiratory/skin sensitisation: May cause an allergic skin reaction. - Germ cell mutagenicity: The components of this product are not reported to produce mutagenic effects in humans. Not mutagenic (Ames test; Micronucleus Assay) [OECD 474]. - Carcinogenicity: The components of this product are not listed by agencies tracking the carcinogenic potential of chemical compounds (NTP/IARC/OSHA). - Reproductive toxicity: The components of this product are not reported to produce embryotoxic, teratogenic or reproductive effects in humans. - STOT (single exposure): Potential irritant. Over-exposure at high levels may result in mucous membrane irritation of the nose and throat with coughing. - STOT (repeated exposure): With repeated exposure, this product may cause damage to blood, respiratory system, nervous system. - Aspiration toxicity: May be fatal if swallowed and enters airways.
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Acute

Ingestion	Acute toxicity (Oral): - LD50, Rat: 2,480 mg/kg *Toxic effects: Somnolence, muscle weakness, ataxia, partial paralysis (Rat). Hallucination, distorted perception, coma, diarrhoea, allergic dermatitis (Human adult).
Other	Acute toxicity (Dermal): - LD50, Rabbit: >5,000 mg/kg
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC50, Fish: >100 mg/L [OECD 203].
Persistence/Degradability	This product is readily biodegradable.
Mobility	No information available.
Environmental Fate	May cause adverse side effects in the aquatic environment. Prevent contamination of drains and waterways.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Normally suitable for incineration by an approved agent.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Eucalyptol)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	1993
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Eucalyptol)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available

EPG	14 Liquids - Highly Flammable
UN Number	1993
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Eucalyptol)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	1993
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Eucalyptol)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
ERG	128 Flammable Liquids (Non-Polar / Water-Immiscible)
UN Number	1993
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Eucalyptol)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1993
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available
EMS	F-E, S-E
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (Eucalyptol)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	1993
Hazchem	•3Y
Pack Group	III

Special Provision

No Data Available

Comments

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

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification

Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION**General Information**

CINEOLE

Poisons Schedule (Aust)

Schedule 6

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval CodeHSR002495
HSR006668 (Revoked)**National/Regional Inventories****Australia (AIIIC)**

Listed

Canada (DSL)

Listed

Canada (NDSL)

Not Determined

China (IECSC)

Not Determined

Europe (EINECS)

Not Determined

Europe (REACH)

Not Determined

Japan (ENCS/METI)

Listed or exempt

Korea (KECI)

Listed or exempt

Malaysia (EHS Register)

Not Determined

New Zealand (NZIoC)

Listed

Philippines (PICCS)

Listed

Switzerland (Giftliste 1)

Listed

Switzerland (Inventory of Notified Substances)

Not Determined

Taiwan (NCSR)

Not Determined

USA (TSCA)

Listed

16. OTHER INFORMATION

Related Product Codes	EUCALY1000, EUCALY1002, EUCALY1003, EUCALY1004, EUCALY1005, EUCALY1006, EUCALY1007, EUCALY1008, EUCALY1009, EUCALY1100, EUCALY1200, EUCALY1500, EUCALY1650, EUCALY1700, EUCALY1800, EUCALY2000, EUCALY2100, EUCALY2200, EUCALY3000, EUCALY3001, EUCALY3002, EUCALY3003, EUCALY4000, EUCALY4100, EUCALY4500, EUCALY5000, EUCALY5500, EUCALY6000, EUCALY6001, EUCALY6500, EUCALY7000, EUCALY8000, EUCALY8100, EUCALY9000, EUCALY9100, EUCALY9700, EUCALY9900
Revision	3
Revision Date	02 Jul 2020
Reason for Issue	Updated SDs
Key/Legend	<p>< Less Than > Greater Than</p> <p>AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours. LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. ltr or L Litre m³ Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m³ Milligrams per Cubic Metre Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre mmH₂O Millimetres of Water mPa.s Millipascals per Second N/A Not Applicable NIOSH National Institute for Occupational Safety and Health NOHSC National Occupational Heath and Safety Commission OECD Organisation for Economic Co-operation and Development Oz Ounce PEL Permissible Exposure Limit Pa Pascal ppb Parts per Billion ppm Parts per Million ppm/2h Parts per Million per 2 Hours ppm/6h Parts per Million per 6 Hours psi Pounds per Square Inch R Rankine</p>

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight