



SAFETY DATA SHEET DIPENTENE REVISION 5, DATE 03 JAN 22

1. IDENTIFICATION

Product Name	DIPENTENE
Other Names	By-products of isomerizing turpentine into camphene; Limonene
Uses	Detergent; reprocessing solvent of rubber; basic material of synthetic perfume.
Chemical Family	No Data Available
Chemical Formula	C ₁₀ H ₁₆
Chemical Name	p-Mentha-1,8(9)-diene
Product Description	Natural material derived from distillation of tree-sap extracted from Pinus massoniana tree. Description: DIPENTENE is the by-product of the processing in which turpentine is produced into terpineol through hydration.

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)

Not Scheduled

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	New Zealand	Malaysia
Adelaide	Auckland	Kuala Lumpur
Brisbane	Christchurch	USA
Melbourne	Hawke's Bay	Los Angeles
Perth	UK	Oakland
Sydney	London	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 Skin Corrosion/Irritation - Category 2 Sensitisation (Skin) - Category 1 Aspiration Hazard - Category 1 Acute Hazard To The Aquatic Environment - Category 1 Long-term Hazard To The Aquatic Environment - Category 1

Pictograms



Signal Word Danger

Hazard Statements	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.
	H410	Very toxic to aquatic life with long lasting effects.

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)
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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
	Environmental Hazards	9.1A	Substances that are very ecotoxic in the aquatic environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Dipentene	C10H16	138-86-3	>=92 - 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. 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; Consult an eye specialist.
Skin	IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately flush skin and hair with running water for at least 15 minutes. 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. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically. May result in aspiration into the lungs. Keep under medical supervision for at least 48 hours. 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	No information available.

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 at ambient temperatures.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), water spray or regular foam for extinction. Do not use straight streams. *CAUTION: This product has a very 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 oxides of Carbon.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution; Vapours from runoff may create an explosion hazard!
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	45 °C [Closed cup]
Lower Explosion Limit	0.7 %
Upper Explosion Limit	6.1 %
Auto Ignition Temperature	236 - 237 °C
Hazchem Code	3Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources. All equipment
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used in handling the product must be earthed. Do not touch or walk through spilled material - Spill area may be slippery. Clean up any spills as soon as possible! 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. Use clean, non-sparking tools to collect absorbed material. Dispose of materials or solid residues at an authorised site (see SECTION 13).

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.

*Vapours can accumulate in low areas. Beware of vapours accumulating to form explosive concentrations. A vapour-suppressing foam may be used to reduce vapours. Water spray may reduce vapour, but may not prevent ignition in closed spaces.

Decontamination

Do not wash untreated material to drain or sewer.

Environmental Precautionary Measures

Spillages and decontamination runoff should be prevented from entering drains and watercourses. Notify authorities if product enters sewers or public waters.

Evacuation Criteria

Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.

Personal Precautionary Measures

Do not attempt to take action without suitable protective equipment (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. Avoid breathing mist/vapours/spray 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/bond container and receiving equipment. Use explosion-proof equipment and non-sparking tools. Take precautionary measures against static discharge. 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 used - Check regularly for 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.

Container

Keep in the original container.

*Flammable vapours may accumulate in the container!

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**General**

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

Exposure Limits

No Data Available

Biological Limits

No information available.

Engineering Measures

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.

*Use explosion-proof electrical/ventilating/lighting equipment.

Personal Protection Equipment

- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Organic vapour/particulate respirator (refer to AS/NZS 1715 & 1716).

- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Wear chemical safety goggles.

- Hand protection: Wear protective gloves. Recommended: Wear chemical-impervious gloves.

- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Wear chemical-preventive work clothes.

Special Hazards Precautions

No information available.

Work Hygienic Practices

Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Transparent liquid
Odour	Mild pine
Colour	Light yellow
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	4.66 Air = 1
Boiling Point	174 - 175 °C
Melting Point	No Data Available
Freezing Point	-97 °C
Solubility	No Data Available
Specific Gravity	0.86 (Water = 1)
Flash Point	45 °C [Closed cup]
Auto Ignition Temp	236 - 237 °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	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
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	No information available.
Properties That May Initiate or Contribute to Fire Intensity	FLAMMABLE LIQUID & VAPOUR: Low flashpoint - Will be easily ignited by heat, sparks or flames at ambient temperatures.
Reactions That Release Gases or Vapours	Fire may produce irritating and/or toxic gases, including oxides of Carbon.
Release of Invisible Flammable Vapours and Gases	Vapours will form explosive mixtures with air.

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"> - Acute toxicity: Low toxicity (animal test). - Skin corrosion/irritation: Causes skin irritation. - Eye damage/irritation: Liquid droplets and steam may cause eye irritation. - Respiratory/skin sensitisation: May cause an allergic skin reaction. Repeated or prolonged skin contact may cause allergic reactions. - Germ cell mutagenicity: No information available. - Carcinogenicity: No information available. - Reproductive toxicity: No information available. - STOT (single exposure): Droplets and steam may cause nose and throat irritation. - STOT (repeated exposure): Limited data suggest that repeated or long-term occupational exposure may cause organs or biochemical system health effects; may cause kidney damage. - Aspiration toxicity: May be fatal if swallowed and enters airways.
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rats: 5,300 mg/kg [Supplier's SDS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	No information available.
Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	Very toxic to aquatic life with long lasting effects - Avoid release to the environment.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of by incineration at an approved waste disposal facility and in accordance with local/regional/national regulations.
Special Precautions for Land Fill	No information available.

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

ADG Code

Proper Shipping Name	DIPENTENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	2052
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	DIPENTENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	2052
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	DIPENTENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	2052
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	DIPENTENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
ERG	128 Flammable Liquids (Non-Polar / Water-Immiscible)
UN Number	2052
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	DIPENTENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	2052
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available
EMS	F-E, S-E
Marine Pollutant	Yes

Air Transport

IATA DGR

Proper Shipping Name	DIPENTENE
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	2052
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

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)
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15. REGULATORY INFORMATION

General Information	LIMONENE (DIPENTENE) is listed in Appendix B of the SUSMP - Substances considered not to require control by scheduling (Low Toxicity; Any use).
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Poisons Schedule (Aust)	Not Scheduled
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Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR001142 (Reissued)
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined

China (IECSC)	Not Determined
Europe (EINECS)	205-341-0
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	DIPENT1000, DIPENT1001, DIPENT1002, DIPENT1003, DIPENT1004, DIPENT1005, DIPENT1006, DIPENT1007, DIPENT1008, DIPENT1009, DIPENT1010, DIPENT1011, DIPENT1012, DIPENT1013, DIPENT2000, DIPENT2001, DIPENT2100, DIPENT2305, DIPENT2500, DIPENT3000, DIPENT4000, DIPENT4001, DIPENT4002, DIPENT4003, DIPENT4004, DIPENT4100, DIPENT5500, DIPENT7700, DIPENT8000, DIPENT8001, DIPENT8003, DIPENT9300
Revision	5
Revision Date	03 Jan 2022
Reason for Issue	SDS Updated
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.</p>

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 Health 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

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