



Safety Data Sheet
Dipentene (Mixture Of Isomers)
Revision 3, Date 21 Jan 2014

1. IDENTIFICATION

Product Name	Pine Solv -
Other Names	Dipentene (Mixture Of Isomers)
Uses	Cyclohexene, 1-Methyl-4-(1-Methylethenyl)-; Dipent (Mixed Isomers); Dipentene
Chemical Family	Heavy duty Cleaner/Spotter
Chemical Formula	No Data Available
Chemical Name	C ₁₀ H ₁₆
Chemical Name	Dipentene (Mixture Of Isomers)
Product Description	EMERGENCY OVERVIEW: May cause irritation to the eyes, skin and respiratory system., Harmful to flora, fauna, soil organisms and aquatic organisms., May cause sensitization by skin contact

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	2132A E. Dominguez Street Carson CA 90810 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	No. 8, Block G, Ground Floor, Taipan 2 Jalan PJU 1A/3 Ara Damansara 47301, Petaling Jaya, Selangor, Malaysia	+60-3-7843-6833

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

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.

Precautionary Statements

Prevention	P233	Keep container tightly closed.	
	P240	Ground/bond container and receiving equipment.	
	P242	Use only non-sparking tools.	
	P243	Take precautionary measures against static discharge.	
	P264	Wash exposed skin thoroughly after handling.	
	P272	Contaminated work clothing should not be allowed out of the workplace.	
	P273	Avoid release to the environment.	
	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.	
	P241	Use explosion-proof electrical/ventilating/lighting/equipment.	
	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.	
	P280	Wear protective gloves/protective clothing/eye protection/face protection.	
	Response	P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
		P303 + P361 + P353	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
		P321	Specific treatment (see First Aid Measures on Safety Data Sheet).
P331		Do NOT induce vomiting.	
P333 + P313		If skin irritation or rash occurs: Get medical advice/attention.	
P362		Take off contaminated clothing and wash before reuse.	
Storage	P370 + P378	In case of fire: Use dry chemical, alcohol resistant foam or dry sand for extinction.	
	P391	Collect spillage.	
	P403 + P235	Store in a well-ventilated place. Keep cool.	
Disposal	P405	Store locked up.	
	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	6.3B	Substances that are mildly irritating to the skin
		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 (Mixed Isomers)	No Data Available	138-86-3	96.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Eye	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
Skin	Rinse immediately with plenty of water for at least 15 minutes. Call a physician immediately.
Inhaled	Remove victim from exposure to fresh air. If not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.
Medical Conditions Aggravated by Exposure	No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	Flame-proof equipment is necessary in all areas where this chemical is being used. Nearby equipment must be earthed.
Flammability Conditions	Product is a flammable liquid.
Extinguishing Media	In case of fire, appropriate extinguishing media include dry chemical, carbon dioxide, water spray and alcohol foam. Water mist may be used to cool closed containers.
Hazardous Products of Combustion	Burning produces irritant fumes. Thermal decomposition can lead to release of irritating gases and vapours such as carbon oxides.
Special Fire Fighting Instructions	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.
Flash Point	□\$DMPTFEDVQ
Lower Explosion Limit	6.1
Upper Explosion Limit	0.7
Auto Ignition Temperature	□\$

Hazchem Code

3Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Shut off all possible sources of ignition. Avoid accidents, clean up immediately. Increase ventilation. Avoid walking through spilled product as it is slippery when spilt.
Clean Up Procedures	Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment.
Containment	Stop leak if safe to do so.
Decontamination	Do not flush into surface water or sanitary sewer system.
Environmental Precautionary Measures	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Use clean, non-sparking tools and equipment.
Evacuation Criteria	Evacuate all unnecessary personnel.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Remove contaminated clothing and wash before reuse. Chemicals should be used only by those trained in handling potentially hazardous materials. Use only in area provided with appropriate exhaust ventilation.
Storage	Store in a cool, dry, well-ventilated, fire-proof area. Keep containers tightly sealed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Ground and bond storage containers. Store away from incompatible materials as listed in section 10. Store at room temperature. This product has a UN Classification of 2052 and a Dangerous Goods Class 3 (flammable) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail
Container	Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No exposure standard has been established for this product by the Australian Safety and Compensation Council (ASCC).
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
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 a flame proof exhaust ventilation system.
Personal Protection Equipment	RESPIRATOR: Breathing apparatus only if aerosol or dust is formed (AS1715/1716). EYES: Chemical goggles to prevent splashing in the eyes (AS1336/1337). HANDS: PVC or other plastic material gloves (AS2161). CLOTHING: Impervious clothing and safety footwear (AS3765/2210).
Work Hygienic Practices	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid

Odour	No Data Available
Colour	Clear - Slightly Yellow
pH	No Data Available
Vapour Pressure	11B !□\$
Relative Vapour Density	4.70 Air = 1
Boiling Point	□\$
Melting Point	□\$
Freezing Point	No Data Available
Solubility	Insoluble
Specific Gravity	0.86 g/cm3
Flash Point	□\$DMPTFEDVQ
Auto Ignition Temp	□\$
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	136.23 g/mol
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	Refractive index at 20 deg C: 1.4680 -
Potential for Dust Explosion	1.4770 Product is a liquid.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	Flammable liquid.
Chemical Stability	Product is stable under directed conditions of use, storage and
Conditions to Avoid	temperature. Exposure to air or moisture over prolonged periods.
Materials to Avoid	Incompatible with oxidising and spontaneously flammable products. Forms explosive mixture with air. Strong oxidizers may cause fire and explosions. Thermal decomposition can lead to release of irritating gases and vapours such as carbon oxides.

Hazardous Decomposition Products

Hazardous Polymerisation None under normal processing.

11. TOXICOLOGICAL INFORMATION

General Information Oral LD50 Rat: 5300mg/Kg
 Oral LD50 Mouse: 5550uL/Kg
 Chronic Toxicity: Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness. Local effects: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Specific effects: May include moderate to severe erythema (redness) and moderate edema (raised skin), nausea, vomiting, headache.

Eyelrritant Contact with eyes may cause irritation.

Ingestion Ingestion may cause irritation to the mouth, throat and stomach.

Inhalation Irritating to respiratory system.

SkinIrritant Irritating to skin. May cause sensitization by skin contact. May cause allergic skin reaction.

Carcinogen Category No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 80 mg/l - 96.0 h
 Toxicity to daphnia and other aquatic nvertebrates : EC50 - Daphnia magna (Water flea) - 17 mg/l - 48 h Very toxic to aquatic life.

Persistence/Degradability No information available on persistence/degradability for this product.

Mobility No information available on mobility for this product.
 Insoluble in water.

Environmental Fate Avoid contaminating waterways, drains and sewers.

Bioaccumulation Potential No information available on bioaccumulation for this product.

Environmental Impact No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.

Special Precautions for Land Fill Contact a specialist disposal company or the local waste regulator for advice.
 This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous. Contaminated packaging: Do not re-use empty containers
 Methods for cleaning up: Soak up with inert absorbent material.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG

Proper Shipping Name DIPENTENE
Class 3 Flammable Liquids

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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-
UN Number	Immiscible) 2052
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG

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	FE,SE

Marine Pollutant Yes

Air Transport

IATA

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)

15. REGULATORY INFORMATION

General Information No Data Available
Poisons Schedule (Aust) Not scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code HSR001142

National/Regional Inventories

Australia (AICS) 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, DIPENT2500, DIPENT3000, DIPENT4000, DIPENT4001, DIPENT4002, DIPENT4003, DIPENT4004, DIPENT4100, DIPENT9300, DIPENT8000, DIPENT2100, DIPENT8001, DIPENT2001
Revision	3
Revision Date	21 Jan 2014
Reason for Issue	SDS Updated
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand GHJ Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand GHJ 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 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</p>

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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