

SAFETY DATA SHEET

according to the Hazardous Substances and New Organisms Act (1996)

VERSION: 1.0

1. SECTION 1: Identification of the hazardous chemical and of the supplier

1.1. Product identifier

Trade name	Waeco Daphne Hermetic Oil 1234yf
Product form	Mixtures
SDS Number	217

1.2. Other means of identification

No additional information available.

1.3. Relevant identified uses of the substance or mixture and uses advised against

Recommended use	Compressor oil for air conditioning systems
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1.4 Supplier's details

Supplier
DOMETIC NEW ZEALAND LTD.
PO Box 12011
Penrose
Auckland 1642
Tel +64 9 622 1490
Fax +64 9 622 1573
Mail customerservices@dometic.co.nz

Emergency telephone number
Emergency number +49 (172) 3180-285 (Mo. - Fr. 08:00 - 18:00 CET)

2. SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

FLLQ-NC	Flam. Liq. Not classified
SKCO-3	6.3B: Skin Irrit. 3
SESK-1	6.5B: Skin Sens. 1
TORE-2	6.8B: Repr. 2
LACT-0	6.8C: Lact.
AEAH-1	9.1A: Aquatic Acute 1
AECH-2	9.1B: Aquatic Chronic 2

2.2. Label elements

Hazard pictograms



Signal word	Warning
Contains	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-methyl-.omega.-methoxy-;2,6-di-tert-butyl-p-cresol; Tris(methylphenyl) phosphate
Hazard statements	H316 - Causes mild skin irritation H317 - May cause an allergic skin reaction H361 - Suspected of damaging fertility or the unborn child H362 - May cause harm to breast-fed children H400 - Very toxic to aquatic life H411 - Toxic to aquatic life with long lasting effects

Precautionary statements

P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P263 - Avoid contact during pregnancy/while nursing
 P273 - Avoid release to the environment.
 P281 - Use personal protective equipment as required
 P308+P313 - IF exposed or concerned: Get medical advice/attention
 P405 - Store locked up
 P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards not contributing to the classification**Other hazards not contributing to the classification**

The mixture contains no substance that fulfils the criteria of a PBT- or vPvB substance.

3. SECTION 3: Composition and information of the ingredients of the hazardous chemical**3.1. Substances**

Not applicable.

3.2. Mixtures

Chemical name	CAS- No	%	Classification according to the United Nations GHS (Rev. 4, 2011)
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-methyl-.omega.-methoxy-	24991-61-5	50 - < 100	6.5B: Skin Sens. 1, H317
Decyloxirane	2855-19-8	1 - < 2	Flam. Liq. Not classified 6.3A: Skin Irrit. 2, H315 9.1A: Aquatic Acute 1, H400(M=10) 9.1A: Aquatic Chronic 1, H410
Dodecyloxirane	3234-28-4	1 - < 2	Acute Tox. Not classified (Oral) Acute Tox. Not classified (Dermal) 6.3A: Skin Irrit. 2, H315 9.1A: Aquatic Acute 1, H400(M=100) 9.1A: Aquatic Chronic 1, H410(M=10)
Tris(methylphenyl) phosphate	1330-78-5	0.1 - < 1	6.1E: Acute Tox. 5 (Oral), H303 6.1D: Acute Tox. 4 (Dermal), H312 6.3B: Skin Irrit. 3, H316 6.4A: Eye Irrit. 2A, H319 6.8B: Repr. 2, H361 6.9A: STOT SE 1, H370 9.1A: Aquatic Acute 1, H400 9.1A: Aquatic Chronic 1, H410

Chemical name	CAS- No	%	Classification according to the United Nations GHS (Rev. 4, 2011)
2,6-di-tert-butyl-p-cresol	128-37-0	0.1 - < 1	Ecotoxicity to terrestrial vertebrates C, H433 6.1D: Acute Tox. 4 (Inhalation:gas), H332 6.5B: Skin Sens. 1, H317 6.8C: Lact., H362 6.9B: STOT RE 2, H373 9.1D: Aquatic Acute 2, H401 9.1D: Aquatic Chronic 4, H413
Hexadec-1-ene	629-73-2	0.5	6.1E: Acute Tox. 5 (Oral), H303
Diocadec-9-enyl phosphonate	64051-29-2	0.18	Not classified

4. SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Inhalation	Remove person to fresh air and keep comfortable for breathing.
Skin contact	Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
Eyes contact	Rinse immediately with plenty of water. If eye irritation persists: Get medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Do NOT induce vomiting. Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	May cause an allergic skin reaction. Causes mild skin irritation. Suspected of damaging fertility.
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4.3. Indication of any immediate medical attention and special treatment needed

Other medical advice or treatment	Treat symptomatically.
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5. SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Carbon dioxide. Foam.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Reactivity	The product is non-reactive under normal conditions of use, storage and transport
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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	Move containers from fire area if it can be done without personal risk.
Protection during firefighting	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Hazchemcode

2[Z]

6. SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available.

For non-emergency personnel

Emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the MSDS.

For emergency responders

Protective equipment

Wear recommended personal protective equipment.

Emergency procedures

Keep unnecessary personnel away. For personal protection, see section 8 of the MSDS.

6.2. Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small spills: Take up liquid spill into absorbent material. Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.

7. SECTION 7: Handling and storage, including how the chemical may be safely used

7.1. Precautions for safe handling

Precautions for safe handling

Ensure good ventilation of the work station. Avoid contact with skin and eyes. Avoid breathing mist, vapours. Wear personal protective equipment. Protect material from direct sunlight. Observe good industrial hygiene practices.

Hygiene measures

Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Keep cool. Protect from sunlight. Store in a dry place. Store in a closed container.

8. SECTION 8: Exposure controls/personal protection

8.1. Control parameters

New Zealand

<u>Regulation</u>	<u>Substance</u>	<u>Type</u>	<u>Value</u>
	2,6-di-tert-butyl-p-cresol (128-37-0)	TWA	10 mg/m ³ inhalable fraction

8.2. Monitoring

No additional information available.

8.3. Appropriate engineering controls

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

8.4. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing Wear suitable protective clothing.

Individual protection measures, such as personal protective equipment (PPE)

Eye protection Safety glasses with side shields

Skin protection

Hand protection Wear protective gloves.

Material	Permeation	Thickness (mm)	Penetration	Comments
Nitrile rubber (NBR)		> 0.3 mm		EN 374
Other protective measures		No additional information available.		
Respiratory protection		In case of insufficient ventilation, wear suitable respiratory equipment		
Thermal hazard protection		Wear appropriate thermal protective clothing, when necessary.		
Environmental exposure controls		Inform appropriate managerial or supervisory personnel of all environmental releases.		

9. SECTION 9: Physical and chemical properties

Physical state	Liquid
Appearance	No data available.
Colour	Colourless
Odour	Characteristic
Odour threshold	No data available.
pH	No data available.
Evaporation rate	No data available.
Relative evaporation rate (butylacetate=1)	No data available.
Melting point / Freezing point	No data available.
Boiling point	No data available.
Flash point	170 °C
Auto-ignition temperature	No data available.
Flammability (solid, gas)	No data available.
Vapour pressure	No data available.
Relative density	No data available.
Density	Density : 0.9882 g/cm ³
Solubility	No data available.
Log Pow	No data available.
Viscosity	Viscosity, kinematic : 42.66 mm ² /s (40 °C)
Explosive properties	No data available.
Explosive limits	No data available.
Minimum ignition energy	No data available.

10. SECTION 10: Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	No dangerous reactions known under normal conditions of use.
Conditions to avoid	Heat. Sparks. Open flame.
Incompatible materials	Strong oxidizing agents. Strong bases.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.

11. SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
Skin corrosion/irritation	Causes mild skin irritation.
Serious eye damage/irritation	Not classified
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Suspected of damaging fertility or the unborn child. May cause harm to breast-fed children.
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified

12. SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Acute aquatic toxicity	Very toxic to aquatic life.
Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.
Soil toxicity	Not classified
Terrestrial vertebrate toxicity	Not classified
Terrestrial invertebrate toxicity	Not classified

Acute aquatic toxicity

Substance / Product	Trophic level	Species	Type	Value	Duration	Remarks
Decyloxirane (2855-19-8)	algae	Pseudokirchnerella subcapitata	EC50	0.056 mg/l	72 hours	(OECD 201 method)
	crustacea	Daphnia magna	EC50	0.171 mg/l	48 hours	(OECD 202 method)
Dodecyloxirane (3234-28-4)	algae	Pseudokirchnerella subcapitata	EC50	0.002 mg/l	72 hours	(OECD 201 method)
Tris(methylphenyl) phosphate (1330-78-5)	Fish	Oncorhynchus mykiss (Rainbow trout)	LC50	0.21 - 0.32 mg/l	96 hours	

Chronic aquatic toxicity

Substance / Product	Trophic level	Species	Type	Value	Duration	Remarks
Dodecyloxirane (3234-28-4)	algae	Pseudokirchnerella subcapitata	NOEC	0.002 mg/l	72 hours	

12.2. Persistence and degradability

Decyloxirane (2855-19-8)

Biodegradation	60 - 70 % 28 d (OECD 301 B)
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Dodecyloxirane (3234-28-4)

Biodegradation	>= 60 - 70 % (OECD 301 B)
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12.3. Bioaccumulative potential**Decyloxirane (2855-19-8)**

Log Pow	5.9 @ 25 °C
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Dodecyloxirane (3234-28-4)

Log Kow	5.77 @ 25 °C
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Tris(methylphenyl) phosphate (1330-78-5)

Log Kow	5.11
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12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Ozone	Not classified
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GWPmix comment	No known effects from this product.
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Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.
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13. SECTION 13: Disposal considerations

Waste treatment methods	Do not allow this material to drain into sewers/water supplies. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Dispose of contents/container in accordance with licensed collector's sorting instructions.
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Sewage disposal recommendations	Disposal must be done according to official regulations.
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Product/Packaging disposal recommendations	Empty containers should be taken to an approved waste handling site for recycling or disposal.
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Ecology - waste materials	Avoid release to the environment. Avoid discharge into drains, water courses or onto the ground.
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Additional information	Do not re-use empty containers. Dispose in accordance with all applicable regulations.
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14. SECTION 14: Transport information**14.1. UN number**

UN-No. (UN RTDG)	3082
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UN-No. (IMDG)	3082
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UN-No. (IATA)	3082
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14.2. Proper Shipping Name

Proper Shipping Name (UN RTDG)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Decyloxirane, Dodecyloxirane)
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Proper Shipping Name (IMDG)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Decyloxirane, Dodecyloxirane)
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Proper Shipping Name (IATA)	Environmentally hazardous substance, liquid, n.o.s. (Decyloxirane, Dodecyloxirane)
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14.3. Transport hazard class(es)

UN RTDG	
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Transport hazard class(es) (UN RTDG)	9
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IMDG	
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Transport hazard class(es) (IMDG)	9
Danger labels (IMDG)	9
IATA	
Transport hazard class(es) (IATA)	9
Hazard labels (IATA)	9
14.4. Packing group	
Packing group (UN RTDG)	III
Packing group (IMDG)	III
Packing group (IATA)	III
14.5. Environmental hazards	
Marine pollutant	No
Other information	No supplementary information available.
UN RTDG	
Special provisions (UN RTDG)	274, 331, 335, 375
Limited quantities (UN RTDG)	5L
Excepted quantities (UN RTDG)	E1
Packing instruction (UN RTDG)	P001, IBC03, LP01
Special packing provisions (UN RTDG)	PP1
Portable tank and bulk container special instructions (UN RTDG)	T4
Portable tank and bulk container special provisions (UN RTDG)	TP1, TP29
IMDG	
Special provisions (IMDG)	274, 335, 969
Limited quantities (IMDG)	5 L
Packing instructions (IMDG)	P001, LP01
EmS-No. (Fire)	F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	A
IATA	
PCA Excepted quantities (IATA)	E1
PCA Limited quantities (IATA)	Y964
PCA limited quantity max net quantity (IATA)	30kgG
PCA packing instructions (IATA)	964
PCA max net quantity (IATA)	450L
CAO packing instructions (IATA)	964
CAO max net quantity (IATA)	450L
Special provisions (IATA)	A97, A158, A197
ERG code (IATA)	9L
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
Not applicable.	
14.8. Hazchem or Emergency Action Code	
Hazchemcode	2[Z]

15. SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

New Zealand CWC Prohibition Act: Listed substance

Not listed.

New Zealand Inventory of Chemicals (NZIoC): Registration status

2,6-Di-tert-butyl-4-methylphenol (128-37-0) - HSNO Approved

Tris(methylphenyl) phosphate (1330-78-5) - HSNO Approved

Hexadec-1-ene (629-73-2) - HSNO Approved

Decyloxirane (2855-19-8) - May be used as a single component chemical under an appropriate group standard

Dodecyloxirane (3234-28-4) - May be used as a single component chemical under an appropriate group standard

Phosphonic acid, di-9-octadecen-1-yl ester - May be used as a single component chemical under an appropriate group standard (64051-29-2)

15.2. Chemical safety assessment

No additional information available.

16. SECTION 16: Other information

SDS Major/Minor	None
Issue date	4/5/2017
Data sources	Workplace Exposure Standards and Biological Exposure Indices; June 2016, 8th EDITION. EPA HSNO chemical classification information database (CCID), for specific chemicals.
Training advice	Normal use of this product shall imply use in accordance with the instructions on the packaging.

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road.
BCF	Bioconcentration factor.
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters..
EC50	Median effective concentration.
HSNO	Hazardous Substances and New Organisms (Act and Regulation) .
IMDG	International Maritime Dangerous Goods.
IATA	International Air Transport Association.
NOEC	No-Observed Effect Concentration.
OECD	Organisation for Economic Co-operation and Development.
PBT	Persistent Bioaccumulative Toxic.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail.
SDS	Safety Data Sheet.
vPvB	Very Persistent and Very Bioaccumulative.
WES	Workplace Exposure Standard – The airborne concentration of a biological or chemical agent to which a worker may be exposed.

Full text of H-statements

6.3A: Skin Irrit. 2	6.3A: Skin corrosion/irritation, Category 2
6.3B: Skin Irrit. 3	6.3B: Skin corrosion/irritation, Category 3
6.5B: Skin Sens. 1	6.5B: Skin sensitisation, Category 1
6.8B: Repr. 2	6.8B: Reproductive toxicity, Category 2

6.8C: Lact.	6.8C: Reproductive toxicity, Additional category, Effects on or via lactation
9.1A: Aquatic Acute 1	9.1A: Hazardous to the aquatic environment — Acute Hazard, Category 1
9.1A: Aquatic Chronic 1	9.1A: Hazardous to the aquatic environment — Chronic Hazard, Category 1
9.1B: Aquatic Chronic 2	9.1B: Hazardous to the aquatic environment — Chronic Hazard, Category 2
Acute Tox. Not classified (Dermal)	Acute toxicity (dermal) Not classified
Acute Tox. Not classified (Oral)	Acute toxicity (oral) Not classified
Flam. Liq. Not classified	Flammable liquids Not classified
H315	Causes skin irritation
H316	Causes mild skin irritation
H317	May cause an allergic skin reaction
H361	Suspected of damaging fertility or the unborn child
H362	May cause harm to breast-fed children
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.