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Page 1 of 17 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878) Revision date / version: 26.02.2025 / 0003 Replacing version dated / version: 11.12.2024 / 0002 Valid from: 26.02.2025 PDF print date: 26.02.2025 Waeco Daphne Hermetic Oil 1234yf

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by **Regulation (EU) 2020/878)**

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Waeco Daphne Hermetic Oil 1234yf

1.2 Relevant identified uses of the substance or mixture and uses advised against Relevant identified uses of the substance or mixture:

Compressor oil for air conditioning systems Uses advised against: No information available at present.

1.3 Details of the supplier of the safety data sheet

WAECO Germany WSE GmbH, Hollefeldstr. 63, 48282 Emsdetten, Germany Tel +49 2572 879-0 waeco@dometic.com waeco.com

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Dometic UK Ltd., Dometic House, The Brewery, Blandford St. Mary, Dorset DT11 9LS, United Kingdom, Tel. +44 344 626 0133

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number Emergency information services / official advisory body:

National Poisons Information Centre, Beaumont Hospital, Dublin 9, Ireland, Tel.: +353 (0)1 809 2166 (Public Poisons Info Line, 8am-10pm, 7 days a week) +353 (0)1 809 2566 (Info for Healthcare Professionals ONLY, 24 h, 7 days a week)

Telephone number of the company in case of emergencies:

+49 (0) 700 / 24 112 112 (CCWA) +1 872 5888271 (CCWA)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) 1272/2008 (CLP) Hazard class Hazard category Hazard statement Skin Sens. 1

1 Aquatic Acute

H317-May cause an allergic skin reaction. H400-Very toxic to aquatic life.

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Aquatic Chronic

H411-Toxic to aquatic life with long lasting effects.

2.2 Label elements Labeling according to Regulation (EC) 1272/2008 (CLP)

2



Warning

H317-May cause an allergic skin reaction. H410-Very toxic to aquatic life with long lasting effects.

P261-Avoid breathing vapours or spray. P273-Avoid release to the environment. P280-Wear protective gloves. P333+P313-If skin irritation or rash occurs: Get medical advice / attention.

EUH205-Contains epoxy constituents. May produce an allergic reaction.

Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-methyl-.omega.-methoxy-

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0.1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substances

n.a. 3.2 Mixtures

Poly[oxy(methyl-1,2-ethanediyl)], .alphamethylomegamethoxy-	
Registration number (REACH)	
Index	
EINECS, ELINCS, NLP, REACH-IT List-No.	
CAS	24991-61-5
content %	50-<100
Classification according to Regulation (EC) 1272/2008 (CLP), M-	Skin Sens. 1, H317
factors	

Decyloxirane	
Registration number (REACH)	01-2119943390-42-XXXX
Index	
EINECS, ELINCS, NLP, REACH-IT List-No.	220-667-3
CAS	2855-19-8
content %	1-<2
Classification according to Regulation (EC) 1272/2008 (CLP), M-	Skin Irrit. 2, H315
factors	Aquatic Acute 1, H400 (M=10)
	Aquatic Chronic 1, H410 (M=1)

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Dodecyloxirane	
Registration number (REACH)	01-2119943387-29-XXXX
Index	
EINECS, ELINCS, NLP, REACH-IT List-No.	221-781-6
CAS	3234-28-4
content %	1-<2
Classification according to Regulation (EC) 1272/2008 (CLP), M-	Skin Irrit. 2, H315
factors	Aquatic Acute 1, H400 (M=100)
	Aquatic Chronic 1, H410 (M=10)
2,6-di-tert-butyl-p-cresol	

Registration number (REACH)	01-2119565113-46-XXXX
Index	
EINECS, ELINCS, NLP, REACH-IT List-No.	204-881-4
CAS	128-37-0
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-	Aquatic Acute 1, H400 (M=1)
factors	Aquatic Chronic 1, H410 (M=1)

Tris(methylphenyl) phosphate	
Registration number (REACH)	01-2119531335-46-XXXX
Index	
EINECS, ELINCS, NLP, REACH-IT List-No.	809-930-9
CAS	1330-78-5
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-	Repr. 2, H361fd (oral)
factors	Aquatic Acute 1, H400 (M=1)
	Aquatic Chronic 1, H410 (M=1)

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

Inhalation

Supply person with fresh air and consult doctor according to symptoms.

Skin contact

Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Rinse the mouth thoroughly with water.

Do not induce vomiting. Consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1. In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours. reddening of the skin

Allergic reaction

4.3 Indication of any immediate medical attention and special treatment needed Symptomatic treatment.



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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Adapt to the nature and extent of fire.

Water jet spray / alcohol resistant foam / CO2 / dry extinguisher.

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop: Oxides of carbon Oxides of phosphorus Toxic gases

5.3 Advice for firefighters

For personal protective equipment see Section 8. In case of fire and/or explosion do not breathe fumes. Protective respirator with independent air supply. According to size of fire Full protection, if necessary. Cool container at risk with water. Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination. Ensure sufficient ventilation, remove sources of ignition.

Avoid dust formation with solid or powder products.

Leave the danger zone if possible, use existing emergency plans if necessary.

Keep unprotected persons away.

Avoid contact with eyes or skin.

If applicable, caution - risk of slipping.

6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent surface and ground-water infiltration, as well as ground penetration.

Prevent from entering drainage system.

If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.

Fill the absorbed material into lockable containers.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation. Avoid contact with eyes or skin. Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.



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Observe directions on label and instructions for use. Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.

Store product closed and only in original packing.

Not to be stored in gangways or stair wells.

Under all circumstances prevent penetration into the soil.

Protect from direct sunlight and warming.

Store in a dry place.

Store cool.

7.3 Specific end use(s)

No information available at present.

Observe the instructions for good working practice and the recommendations for risk assessment.

Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries,

depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Chemical Name	2,6-di-tert-butyl-p-cresol	
WEL-TWA: 10 mg/m3	WEL-STEL:	
Monitoring procedures:		
BMGV:		Other information:
Chemical Name	2.6-di-tert-butyl-p-cresol	
	· · · · · · · · · · · · · · · · · · ·	
OELV-8h: 2 mg/m3	OELV-15min:	
Monitoring procedures:		
BLV:		Other information:

Area of application	Exposure route / Environmental compartment	Effect on health	Descripto r	Value	Unit	Note
	Environment - freshwater		PNEC	0,171	µg/l	
	Environment - marine		PNEC	0,017	µg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,71	µg/l	
	Environment - sewage treatment plant		PNEC	3,6	mg/l	
Consumer Human - oral		Long term, systemic effects	DNEL	6,25	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	6,25	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	10,9	mg/m3	
Workers / employees Human - dermal		Long term, systemic effects	DNEL	10,4	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	36,7	mg/m3	

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Dodecyloxirane						
Area of application	Exposure route / Environmental	Effect on health	Descripto r	Value	Unit	Note
	compartment					
	Environment - freshwater		PNEC	0,002	µg/l	
	Environment - marine		PNEC	0,0002	µg/l	
	Environment - water, sporadic (intermittent) release		PNEC	0,024	µg/l	
	Environment - sewage treatment plant		PNEC	2,61	mg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	6,25	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	6,25	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	10,9	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	10,4	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	36,7	mg/m3	

Area of application	Exposure route / Environmental	Effect on health	Descripto r	Value	Unit	Note
	compartment					
	Environment - freshwater		PNEC	0,199	µg/l	
	Environment - marine		PNEC	0,02	µg/l	
	Environment - water,		PNEC	1,99	µg/l	
	sporadic (intermittent)				-	
	release					
	Environment - sediment,		PNEC	0,458	mg/kg dw	
	freshwater					
	Environment - sediment,		PNEC	0,046	mg/kg dw	
	marine					
	Environment - soil		PNEC	0,054	mg/kg dw	
	Environment - oral (animal		PNEC	16,67	mg/kg	
	feed)					
	Environment - sewage		PNEC	0,017	mg/l	
	treatment plant					
Consumer	Human - oral	Long term, systemic	DNEL	0,25	mg/kg	
		effects			bw/d	
Consumer	Human - dermal	Long term, systemic	DNEL	0,25	mg/kg	
		effects			bw/d	
Consumer	Human - inhalation	Long term, systemic	DNEL	0,435	mg/m3	
		effects				
Workers / employees	Human - dermal	Long term, systemic	DNEL	0,5	mg/kg	
		effects			bw/d	
Workers / employees	Human - inhalation	Long term, systemic	DNEL	1,76	mg/m3	
		effects				

Area of application	Exposure route / Environmental	Effect on health	Descripto r	Value	Unit	Note
	compartment					
	Environment - freshwater		PNEC	0,001	mg/l	
	Environment - sediment,		PNEC	2,05	mg/kg dw	
	freshwater					

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	Environment - sediment, marine		PNEC	0,205	mg/kg dw
	Environment - soil		PNEC	1,01	mg/kg dw
	Environment - sewage treatment plant		PNEC	100	mg/l
	Environment - marine		PNEC	0	mg/l
	Environment - water, sporadic (intermittent) release		PNEC	0,001	mg/l
	Environment - oral (animal feed)		PNEC	0,65	mg/kg
Consumer	Human - oral	Long term, systemic effects	DNEL	0,05	mg/kg
Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,08	mg/m3
Consumer	Human - dermal	Long term, systemic effects	DNEL	1,25	mg/kg bw/day
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2,5	mg/kg bw/day
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	0,46	mg/m3

Inited Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU: (8) = Inhalable fraction (2004/37/CE, 2017/164/EU). (9) = Respirable fraction (2004/37/CE, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). | | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU: (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |

| BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).

(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |

| Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage. (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or

2024/869/EU: (13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible.

Ireland/Éire | OELV-8h = Occupational Exposure Limit Value - 8-hour reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU: (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). | | OELV-15min = Occupational Exposure Limit Value - 15-minute reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU: (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |

| BMGV = Biological Monitoring Guidance Value (Biological Monitoring Guidelines 2011, HSA (Health and Safety Authority)): ACGIH-BEI = BMGV have been sourced from Biological Exposure Indices (BEI) as issued by the American Conference of Governmental Industrial Hygienists (ACGIH). SCOEL = BMGV have been sourced from the Scientific Committee on Occupational Exposure Limit Values (SCOEL) which was set up by a Commission Decision (95/320/EC) with the mandate to advise the European Commission on occupational exposure limits for chemicals in the workplace. HSE = BMGV have been sourced from the Health and



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Safety Executive (HSE), UK.

(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL))

| Other information (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): Carc1A, Carc1B = carcinogenic substance, Cat. 1A or 1B. Muta1A, Muta1B = mutagenic substance, Cat. 1A or 1B. Repr1A, Repr1B = Substances known to be toxic for reproduction, Cat. 1A or 1B. Skin = Can be absorbed through skin. Asphx = asphyxiant. Sens = The substance can cause sensitisation. BOELV = Binding Occupational Exposure Limit Values. IOELV = Indicative Occupational Exposure Limit Values.

(EÚ) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:

(13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn. Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and nonmetrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection: Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection: Chemical resistant protective gloves (EN ISO 374). Recommended Protective nitrile gloves (EN ISO 374).

Minimum layer thickness in mm:

> 0,3

Permeation time (penetration time) in minutes:

> 30

Protective hand cream recommended.

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions. The recommended maximum wearing time is 50% of breakthrough time.

The recommended maximum wearing time is 50% of breakthough time.

Skin protection - Other: Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection: Normally not necessary. If air supply is not sufficient, wear protective breathing apparatus. Gas mask filter A (EN 14387), code colour brown Observe wearing time limitations for respiratory protection equipment.

Thermal hazards: Not applicable

Additional information on hand protection - No tests have been performed. In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.



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Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account. Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use. The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: Liquid Colour: Colourless, Light Odour: Mild, Characteristic Melting point/freezing point: There is no information available on this parameter. Boiling point or initial boiling point and boiling range: There is no information available on this parameter. Flammability: Combustible. Lower explosion limit: There is no information available on this parameter. Upper explosion limit: There is no information available on this parameter. 170 °C (Cleveland, open cup) Flash point: Auto-ignition temperature: There is no information available on this parameter. Decomposition temperature: There is no information available on this parameter. Mixture is non-soluble (in water). pH: Kinematic viscosity: 46,66 mm2/s (40°C) Kinematic viscosity: 9,512 mm2/s (100°C) Solubility: Insoluble Partition coefficient n-octanol/water (log value): Does not apply to mixtures. Vapour pressure: There is no information available on this parameter. Density and/or relative density: 0,9882 g/cm3 (15°C) Relative vapour density: There is no information available on this parameter. Particle characteristics: Does not apply to liquids. 9.2 Other information Explosives: There is no information available on this parameter. There is no information available on this parameter.

Oxidising liquids:

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested. **10.2 Chemical stability** Stable with proper storage and handling. 10.3 Possibility of hazardous reactions No dangerous reactions are known. 10.4 Conditions to avoid Heating, open flame, ignition sources **10.5** Incompatible materials

Avoid contact with strong alkalis. Avoid contact with strong oxidizing agents.

Avoid contact with strong acids.

10.6 Hazardous decomposition products

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Possibly more information on health effects, see Section 2.1 (classification).

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Waeco Daphne Hermetic Oil 1	234vf					
Waeco Daprine Flemietic Oir T	234yi					
Waeco Daphne Hermetic Oil	1234vf					
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	Lindpoint	value	Onit	Organishi	rest method	n.d.a.
Acute toxicity, by dermal						n.d.a.
route:						n.u.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye						n.d.a.
damage/irritation:						ind.d.
Respiratory or skin						n.d.a.
sensitisation:						11.0.0.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:	1	1				n.d.a.
Specific target organ toxicity -						n.d.a.
single exposure (STOT-SE):						
Specific target organ toxicity -	1					n.d.a.
repeated exposure (STOT-						
RE):						
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.
Decyloxirane						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal	LD50	>2000	mg/kg	Rat	OECD 402 (Acute	
route:					Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute	Irritant
					Dermal	
					Irritation/Corrosion)	
Serious eye				Rabbit	OECD 405 (Acute	Not irritant
damage/irritation:					Eye	
					Irritation/Corrosion)	
Respiratory or skin				Mouse	OECD 429 (Skin	No (skin
sensitisation:					Sensitisation - Local	contact)
					Lymph Node Assay)	
Aspiration hazard:						No
Dodecyloxirane						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by dermal	LD50	>2000	mg/kg	Rat	OECD 402 (Acute	
route:					Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute	Irritant
					Dermal	
					Irritation/Corrosion)	
Serious eye				Rabbit	OECD 405 (Acute	Not irritant
damage/irritation:					Eye	
					Irritation/Corrosion)	
Respiratory or skin				Mouse	OECD 429 (Skin	No (skin
sensitisation:					Sensitisation - Local	contact)
A					Lymph Node Assay)	
Aspiration hazard:						No
2,6-di-tert-butyl-p-cresol						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	2930	mg/kg	Rat	OECD 401 (Acute	
	1	1			Oral Toxicity)	
		-		_		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	

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Serious eye				Irritant
damage/irritation:				
Respiratory or skin		Guinea pig	OECD 406 (Skin	No (skin
sensitisation:			Sensitisation)	contact)

Tris(methylphenyl) phosphate						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>20000	mg/kg	Rat		
Acute toxicity, by dermal	LD50	3700	mg/kg	Rabbit		
route:						
Acute toxicity, by inhalation:	LC50	44,4	mg/l/4h	Rat		Aerosol
Serious eye				Rabbit	(Draize-Test)	Not irritant
damage/irritation:						
Germ cell mutagenicity:					OECD 471 (Bacterial	Negative
					Reverse Mutation	
					Test)	
Reproductive toxicity:		62,5	mg/kg/d	Mouse		Positive
Specific target organ toxicity -	NOEL	250	mg/kg	Rat		
repeated exposure (STOT-						
RE):						

11.2. Information on other hazards

Waeco Daphne Hermetic Oil 1234yf						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Endocrine disrupting						Does not apply
properties:						to mixtures.
Other information:						No other
						relevant
						information
						available on
						adverse effects
						on health.
						on neath.

SECTION 12: Ecological information

Possibly more information		ental effect	s, see Sect	ion 2.1 (cla	ssification).		
Waeco Daphne Herme	tic Oil 1234yf						
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to							n.d.a.
daphnia:							
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT							n.d.a.
and vPvB assessment							
12.6. Endocrine							Does not apply
disrupting properties:							to mixtures.
12.7. Other adverse							No information
effects:							available on
							other adverse
							effects on the
							environment.
Decyloxirane							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes

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12.1. Toxicity to daphnia:	EC50	48h	0,171	mg/l	Daphnia magna	OECD 202 (Daphnia sp.	
						Acute	
						Immobilisation	
						Test)	
12.1. Toxicity to algae:	EC50	72h	0,056	mg/l	Pseudokirchnerie	OECD 201	
					lla subcapitata	(Alga, Growth	
						Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,00416	mg/l	Pseudokirchnerie	OECD 201	
					lla subcapitata	(Alga, Growth	
						Inhibition Test)	
12.2. Persistence and		28d	60-70	%		OECD 301 B	
degradability:						(Ready	
						Biodegradability -	
						Co2 Evolution	
						Test)	
12.3. Bioaccumulative potential:	Log Pow		5,9				
12.5. Results of PBT							No PBT
and vPvB assessment							substance, No
							vPvB substance

Dodecyloxirane							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to algae:	EC50	72h	0,00236	mg/l	Pseudokirchnerie	OECD 201	
					lla subcapitata	(Alga, Growth	
						Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	0,00165	mg/l	Pseudokirchnerie	OECD 201	
					lla subcapitata	(Alga, Growth	
						Inhibition Test)	
12.2. Persistence and			60-70	%		OECD 301 B	
degradability:						(Ready	
						Biodegradability -	
						Co2 Evolution	
						Test)	
12.3. Bioaccumulative	Log Pow		5,77				
potential:							
12.5. Results of PBT							No PBT
and vPvB assessment							substance, No
							vPvB substance

2,6-di-tert-butyl-p-cres Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,199	mg/l		QSAR	
12.1. Toxicity to fish:	NOEC/NOEL	30d	0,053	mg/l	Oryzias latipes	OECD 210 (Fish, Early-Life Stage Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,069	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,48	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	IC50	72h	0,42	mg/l			

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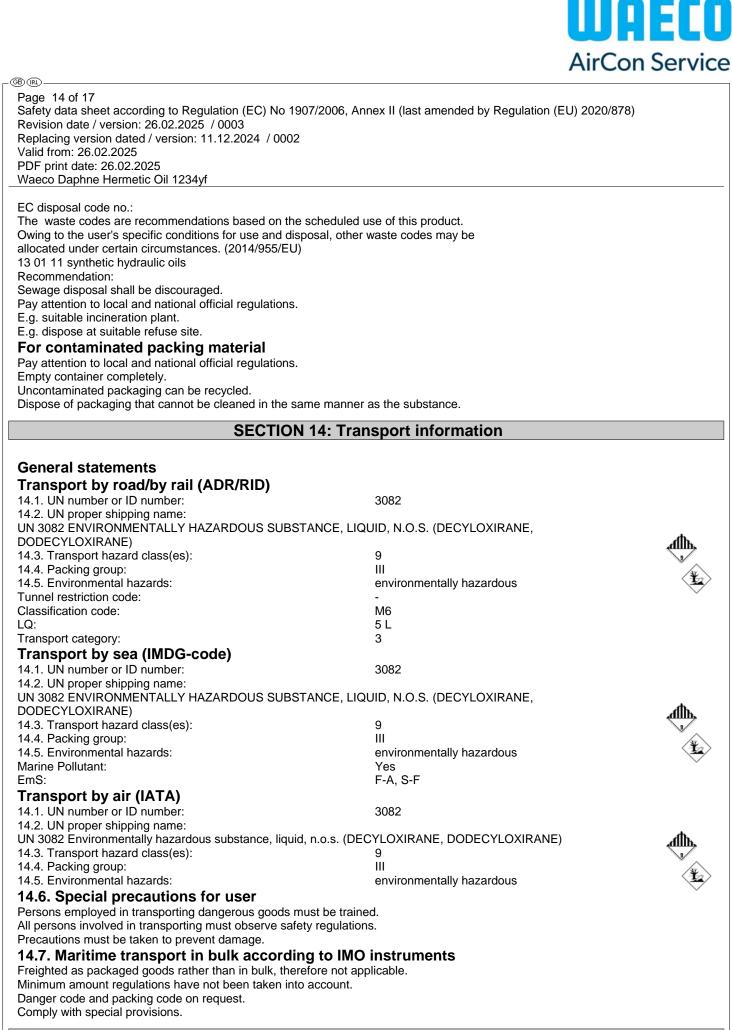
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12.2. Persistence and degradability:			30	%		lot readily iodegradable
12.3. Bioaccumulative potential:	BCF		598		C	concentration organisms ossible.
12.3. Bioaccumulative potential:	Log Pow		5,03			QSAR
Toxicity to bacteria:	EC50	24h	1,7	mg/l		Fetrahymena yriformis

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,56	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	NOEC/NOEL	28d	0,01	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	NOEC/NOEL	14d	0,1	mg/l	Daphnia magna		
12.1. Toxicity to daphnia:	NOEC/NOEL	48h	0,031	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,146	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	0,4	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:			80	%			Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		5,93				
Toxicity to bacteria:	EC50	3h	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Other information:							Does not contain any organically bound halogens which can contribute to the AOX value in waste water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods For the substance / mixture / residual amounts



SECTION 15: Regulatory information

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15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Observe restrictions:

Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!

Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)! Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
	100	200
	200	500
	Notes to Annex I	dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements 100

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Observe incident regulations.

National requirements/regulations on safety and health protection must be applied when using work equipment.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16:	Other	information
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Revised sections:

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Employee training in handling dangerous goods is required. These details refer to the product as it is delivered. Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Skin Sens. 1, H317	Classification according to calculation procedure.
Aquatic Acute 1, H400	Classification according to calculation procedure.
Aquatic Chronic 2, H411	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents. H361fd Suspected of damaging fertility and the unborn child if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

Skin Sens. — Skin sensitization Aquatic Acute — Hazardous to the aquatic environment - acute Aquatic Chronic — Hazardous to the aquatic environment - chronic Skin Irrit. — Skin irritation Repr. — Reproductive toxicity

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Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.

Guidelines for the preparation of safety data sheets as amended (ECHA).

Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).

Safety data sheets for the constituent substances.

ECHA Homepage - Information about chemicals.

GESTIS Substance Database (Germany).

German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany). EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.

National Lists of Occupational Exposure Limits for each country as amended.

Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

Any abbreviations and acronyms used in this document:

acc., acc. to according, according to ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road) AOX Adsorbable organic halogen compounds approximately approx. Article number Art., Art. no. ASTM ASTM International (American Society for Testing and Materials) ATE Acute Toxicity Estimate BAM Bundesanstalt für Materialforschung und -prüfung (= Federal Institute for Materials Research and Testing, Germany) BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany) BCF Bioconcentration factor BSEF The International Bromine Council CAS **Chemical Abstracts Service** Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of CLP substances and mixtures) CMR carcinogenic, mutagenic, reproductive toxic DMEL Derived Minimum Effect Level DNEL Derived No Effect Level DOC Dissolved organic carbon e.g. for example (abbreviation of Latin 'exempli gratia'), for instance EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants) European Community FC ECHA European Chemicals Agency ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect EEC European Economic Community EINECS European Inventory of Existing Commercial Chemical Substances European List of Notified Chemical Substances ELINCS ΕN European Norms United States Environmental Protection Agency (United States of America) EPA $ErCx, E\mu Cx, ErLx (x = 10, 50)$ Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants) et cetera etc. ΕU **European Union** EVAL Ethylene-vinyl alcohol copolymer Fax. Fax number general aen. GHS Globally Harmonized System of Classification and Labelling of Chemicals GWP Global warming potential Adsorption coefficient of organic carbon in the soil Koc octanol-water partition coefficient Kow IARC International Agency for Research on Cancer IATA International Air Transport Association International Bulk Chemical (Code) IBC (Code) International Maritime Code for Dangerous Goods IMDG-code incl. including, inclusive

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The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge. No responsibility.

These statements were made by:

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