



ECO Pen Oil

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 23/10/2024 Revision date: 02/09/2024 Supersedes version of: 24/10/2023 Version: 2.1

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

1.1. Product identifier

Product name : ECO Pen Oil
UFI : TWHY-98MA-0009-PXHX
Product code : BDS000311AE
Vaporizer : Aerosol

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

Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Lubricants

1.3. Details of the supplier of the safety data sheet

Supplier

CRC Industries Europe B.V.
Touwslagerstraat 1
9240 Zele
Belgium
T +32(0)52/45.60.11, F +32(0)52/45.00.34
hse@crcind.com, www.crcind.com

1.4. Emergency telephone number

Emergency number : +32(0)52/45.60.11
Office hours: 9-17h CET

Country/Area	Organisation/Company	Address	Emergency number	Comment
Belgium	Centre Anti-Poisons/Antigifcentrum c/o Hôpital Militaire Reine Astrid	Rue Bruyn 1 1120 Brussels	+32 70 245 245	Please dial: 070 245 245 for any urgent questions about intoxication (free of charge 24/7), if not accessible, dial: 02 264 96 30 (standard fee)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Aerosol, Category 1 H222;H229
Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319
Specific target organ toxicity – Single exposure, Category 3, H336
Narcosis
Hazardous to the aquatic environment – Chronic Hazard, H412
Category 3
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Pressurised container: May burst if heated. Extremely flammable aerosol. May cause drowsiness or dizziness. Causes skin irritation. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS07

Signal word (CLP) :

Danger

Contains :

1-methoxy-2-propanol; monopropylene glycol methyl ether

Hazard statements (CLP) :

H222 - Extremely flammable aerosol.

H229 - Pressurised container: May burst if heated.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H336 - May cause drowsiness or dizziness.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P102 - Keep out of reach of children.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P211 - Do not spray on an open flame or other ignition source.

P251 - Do not pierce or burn, even after use.

P280 - Wear protective gloves/eye protection.

P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

P501 - Dispose of contents/container to a hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
propane (Propellant gas (Aerosol)) substance with national workplace exposure limit(s) (BE)	CAS-No.: 74-98-6 EC-No.: 200-827-9 EC Index-No.: 601-003-00-5 REACH-no: 01-2119486944-21	25 – 50	Flam. Gas 1, H220 Press. Gas (Liq.), H280
butane (Propellant gas (Aerosol)) substance with national workplace exposure limit(s) (BE)	CAS-No.: 106-97-8 EC-No.: 203-448-7 EC Index-No.: 601-004-00-0 REACH-no: 01-2119474691-32	25 – 50	Flam. Gas 1, H220 Press. Gas (Liq.), H280
isobutane (Propellant gas (Aerosol)) substance with national workplace exposure limit(s) (BE)	CAS-No.: 75-28-5 EC-No.: 200-857-2 EC Index-No.: 601-004-00-0 REACH-no: 01-2119485395-27	10 – 25	Flam. Gas 1, H220 Press. Gas (Liq.), H280

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1-methoxy-2-propanol; monopropylene glycol methyl ether substance with national workplace exposure limit(s) (BE); substance with a Community workplace exposure limit	CAS-No.: 107-98-2 EC-No.: 203-539-1 EC Index-No.: 603-064-00-3 REACH-no: 01-2119457435-35	10 – 25	Flam. Liq. 3, H226 STOT SE 3, H336
3-butoxypropan-2-ol; propylene glycol monobutyl ether	CAS-No.: 5131-66-8 EC-No.: 225-878-4 EC Index-No.: 603-052-00-8 REACH-no: 01-2119475527-28	10 – 25	Eye Irrit. 2, H319 Skin Irrit. 2, H315
reaction mass of: 4-[(3-decyloxypropyl)(3-isobutoxy-1-isobutoxycarbonyl-3-oxopropyl)amino]-4-oxobutyric acid; 4-[(3-isobutoxy-1-isobutoxycarbonyl-3-oxopropyl)(3-octyloxypropyl)amino]-4-oxobutyric acid	EC-No.: 423-750-4 EC Index-No.: 607-511-00-3 REACH-no: 01-0000017024-81	< 2,5	Eye Irrit. 2, H319 Aquatic Chronic 2, H411
N,N-dimethyl-octadecan-1-amine	CAS-No.: 124-28-7 EC-No.: 204-694-8 REACH-no: 01-2119486676-20	< 1	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight) Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

Product subject to CLP Annex I, item 1.1.3.7. The disclosure rules of the components is modified in this case.

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If signs/symptoms develop, get medical attention.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. Seek medical attention if irritation develops.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Seek medical attention if irritation develops.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.

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

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable aerosol.
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- Explosion hazard : Pressurised container: May burst if heated.
Hazardous decomposition products in case of fire : During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

- Firefighting instructions : Move containers from fire area if it can be done without personal risk. Use standard firefighting procedures and consider the hazards of other involved materials.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

- Protective equipment : Wear appropriate protective equipment and clothing during clean-up.
Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Mechanically recover the product. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Following product recovery, flush area with water. Take up small spills with dry chemical absorbent. Clean surface thoroughly to remove residual contamination.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For disposal of contaminated materials refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid prolonged exposure. Handle in accordance with good industrial hygiene and safety procedures.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Keep container closed when not in use.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

propane (74-98-6)	
Belgium - Occupational Exposure Limits	
Local name	Hydrocarbures aliphatiques sous forme gazeuse: (Alcanes C1-C3) # Alifatische koolwaterstoffen in gas-vorm: Alkanen (C1-C3)
OEL TWA	1000 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
isobutane (75-28-5)	
Belgium - Occupational Exposure Limits	
Local name	Butane, tous isomères: iso-butane # Butaan, alle isomeren: iso-butaan
OEL STEL	2370 mg/m ³ 980 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
butane (106-97-8)	
Belgium - Occupational Exposure Limits	
Local name	Butane, tous isomères: n-butane # Butaan, alle isomeren: n-butaan
OEL STEL	2370 mg/m ³ 980 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	1-Methoxypropanol-2
IOEL TWA	375 mg/m ³ 100 ppm
IOEL STEL	568 mg/m ³ 150 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Belgium - Occupational Exposure Limits	
Local name	1-Méthoxy-2-propanol # 1-Methoxy-2-propanol
OEL TWA	184 mg/m ³ 50 ppm
OEL STEL	369 mg/m ³ 100 ppm

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1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)

Remark	D: la mention "D" signifie que la r�sorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette r�sorption peut se faire tant par contact direct que par pr�sence de l'agent dans l'air. # D: de vermelding "D" betekent dat de opname van het agens via de huid, de slijmvliezen of de ogen een belangrijk deel van de totale blootstelling vormt. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.
Regulatory reference	Koninklijk besluit/Arr�t� royal 16/11/2023

DNEL and PNEC

3-butoxypropan-2-ol; propylene glycol monobutyl ether (5131-66-8)

DNEL/DMEL (Workers)

Acute - local effects, dermal	50 % in mixture
Long-term - systemic effects, dermal	52 mg/kg bodyweight/day
Long-term - local effects, dermal	50 % in mixture
Long-term - systemic effects, inhalation	147 mg/m ³

DNEL/DMEL (General population)

Acute - local effects, dermal	50 % in mixture
Long-term - systemic effects, oral	12,5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	43 mg/m ³
Long-term - systemic effects, dermal	22 mg/kg bodyweight/day
Long-term - local effects, dermal	50 % in mixture

PNEC (Water)

PNEC aqua (freshwater)	0,525 mg/l
PNEC aqua (marine water)	0,0525 mg/l
PNEC aqua (intermittent, freshwater)	5,25 mg/l

PNEC (Sediment)

PNEC sediment (freshwater)	2,36 mg/kg dwt
PNEC sediment (marine water)	0,236 mg/kg dwt

PNEC (Soil)

PNEC soil	0,16 mg/kg dwt
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PNEC (STP)

PNEC sewage treatment plant	10 mg/l
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N,N-dimethyl-octadecan-1-amine (124-28-7)

DNEL/DMEL (Workers)

Acute - systemic effects, inhalation	1 mg/m ³
Acute - local effects, inhalation	1 mg/m ³
Long-term - systemic effects, inhalation	1 mg/m ³
Long-term - local effects, inhalation	1 mg/m ³

DNEL/DMEL (General population)

Long-term - systemic effects, oral	0,5 mg/kg bodyweight/day
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N,N-dimethyl-octadecan-1-amine (124-28-7)	
PNEC (Water)	
PNEC aqua (freshwater)	0,26 µg/l
PNEC aqua (marine water)	0,03 µg/l
PNEC aqua (intermittent, freshwater)	0,26 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1,25 mg/kg dwt
PNEC sediment (marine water)	0,125 mg/kg dwt
PNEC (Soil)	
PNEC soil	1 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	130 µg/l

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Good general ventilation 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.

Personal protection equipment

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Use eye protection according to EN 166. Safety glasses with side shields.

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Wear suitable gloves tested to EN374. The breakthrough time of the glove should be longer than the total duration of product use. If work lasts longer than the breakthrough time, gloves should be changed part-way through. Nitrile gloves are recommended.

Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Approved organic vapour respirator. Filter type: A

Thermal hazards

Thermal hazard protection:

Not expected to present a significant hazard under anticipated conditions of normal use. Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Amber.
Appearance	: Propane/butane propelled liquid.
Odour	: Neutral.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Extremely flammable aerosol.
Explosive properties	: Pressurised container: May burst if heated.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 37 °C (closed cup)
Auto-ignition temperature	: > 200 °C
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 0,899 g/cm ³ at 20 °C
Relative density	: 0,899 at 20 °C
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

Information with regard to physical hazard classes

% of flammable ingredients : 75 – 100 %

Other safety characteristics

VOC content : 549 g/l

Additional information : For aerosols data for the product without propellant.

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable aerosol. Pressurised container: May burst if heated.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Carbon oxides (CO, CO₂).

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SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)

LD50 oral rat 4016 mg/kg

LD50 dermal rabbit > 2000 mg/kg

LC50 Inhalation - Rat > 25,8 mg/l

3-butoxypropan-2-ol; propylene glycol monobutyl ether (5131-66-8)

LD50 oral rat 3300 mg/kg

LD50 dermal rabbit > 2000 mg/kg

reaction mass of: 4-[(3-decyloxypropyl)(3-isobutoxy-1-isobutoxycarbonyl-3-oxopropyl)amino]-4-oxobutyric acid; 4-[(3-isobutoxy-1-isobutoxycarbonyl-3-oxopropyl)(3-octyloxypropyl)amino]-4-oxobutyric acid

LD50 oral 7700 mg/kg bodyweight

LD50 dermal rabbit > 2000 mg/kg

N,N-dimethyl-octadecan-1-amine (124-28-7)

LD50 oral rat 2116 mg/kg

LD50 dermal rabbit 3432 mg/kg

Skin corrosion/irritation : Causes skin irritation.

N,N-dimethyl-octadecan-1-amine (124-28-7)

pH 10,1

Serious eye damage/irritation : Causes serious eye irritation.

N,N-dimethyl-octadecan-1-amine (124-28-7)

pH 10,1

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

N,N-dimethyl-octadecan-1-amine (124-28-7)

NOAEL (chronic, oral, animal/male, 2 years) 42,3 mg/kg bodyweight

NOAEL (chronic, oral, animal/female, 2 years) 52,6 mg/kg bodyweight

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : May cause drowsiness or dizziness.

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)

STOT-single exposure May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)

LOAEL (oral, rat, 90 days) 2757 mg/kg bodyweight

NOAEL (oral, rat, 90 days) 919 mg/kg bodyweight

NOAEL (dermal, rat/rabbit, 90 days) > 1000 mg/kg bodyweight

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3-butoxypropan-2-ol; propylene glycol monobutyl ether (5131-66-8)	
LOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight
NOAEL (oral, rat, 90 days)	350 mg/kg bodyweight
NOAEL (dermal, rat/rabbit, 90 days)	880 mg/kg bodyweight

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

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Vaporizer	Aerosol

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
Viscosity, kinematic	1,848 mm ² /s

3-butoxypropan-2-ol; propylene glycol monobutyl ether (5131-66-8)	
Viscosity, kinematic	3,85 mm ² /s

N,N-dimethyl-octadecan-1-amine (124-28-7)	
Viscosity, kinematic	8,127 mm ² /s

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)	
LC50 - Fish [1]	6812 mg/l
LC50 - Fish [2]	20800 mg/l
EC50 - Crustacea [1]	21100 – 25900 mg/l
EC50 - Other aquatic organisms [1]	2954 mg/l
ErC50 algae	> 1000 mg/l

3-butoxypropan-2-ol; propylene glycol monobutyl ether (5131-66-8)	
LC50 - Fish [1]	560 – 1000 mg/l
EC50 - Crustacea [1]	> 1000 mg/l Daphnia magna (Water flea)
EC50 96h - Algae [1]	> 1000 mg/l

reaction mass of: 4-[(3-decyloxypropyl)(3-isobutoxy-1-isobutoxycarbonyl-3-oxopropyl)amino]-4-oxobutyric acid; 4-[(3-isobutoxy-1-isobutoxycarbonyl-3-oxopropyl)(3-octyloxypropyl)amino]-4-oxobutyric acid

LC50 - Fish [1]	1,3 mg/l Oncorhynchus mykiss
EC50 - Other aquatic organisms [1]	> 2 mg/l

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N,N-dimethyl-octadecan-1-amine (124-28-7)

LC50 - Fish [1]	0,26 mg/l Oncorhynchus mykiss
EC50 - Crustacea [1]	0,51 mg/l Daphnia magna
EC50 72h - Algae [1]	0,0141 mg/l
LOEC (chronic)	0,108 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

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Persistence and degradability	Not established. No data is available on the degradability of this product.
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12.3. Bioaccumulative potential

1-methoxy-2-propanol; monopropylene glycol methyl ether (107-98-2)

Bioconcentration factor (BCF REACH)	< 100
Partition coefficient n-octanol/water (Log Pow)	0,37

3-butoxypropan-2-ol; propylene glycol monobutyl ether (5131-66-8)

Partition coefficient n-octanol/water (Log Pow)	1,2
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N,N-dimethyl-octadecan-1-amine (124-28-7)

Partition coefficient n-octanol/water (Log Pow)	8,39
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

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Results of PBT assessment	Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII
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12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

12.7. Other adverse effects

Additional information : No other effects known
Global warming potential (GWP) : 2.05 (Fluorinated greenhouse gases - (EC) No 2024/573)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW, EC 2000/532) : According to the European Waste Catalogue (EWC), Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used.

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SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1950	UN 1950	UN 1950	UN 1950	UN 1950
14.2. UN proper shipping name				
AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS	AEROSOLS
Transport document description				
UN 1950 AEROSOLS, 2.1, (D)	UN 1950 AEROSOLS, 2.1	UN 1950 Aerosols, flammable, 2.1	UN 1950 AEROSOLS, 2.1	UN 1950 AEROSOLS, 2.1
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-D EmS-No. (Spillage): S-U	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: 5F
Special provisions (ADR)	: 190, 327, 344, 625
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P207, LP200
Special packing provisions (ADR)	: PP87, RR6, L2
Mixed packing provisions (ADR)	: MP9
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V14
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV9, CV12
Special provisions for carriage - Operation (ADR)	: S2
Tunnel restriction code (ADR)	: D

Transport by sea

Special provisions (IMDG)	: 63, 190, 277, 327, 344, 381, 959
Limited quantities (IMDG)	: SP277
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P207, LP200
Special packing provisions (IMDG)	: PP87, L2
Stowage category (IMDG)	: None
Stowage and handling (IMDG)	: SW1, SW22
Segregation (IMDG)	: SG69

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Air transport

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Y203
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 203
PCA max net quantity (IATA)	: 75kg
CAO packing instructions (IATA)	: 203
CAO max net quantity (IATA)	: 150kg
Special provisions (IATA)	: A145, A167, A802
ERG code (IATA)	: 10L

Inland waterway transport

Classification code (ADN)	: 5F
Special provisions (ADN)	: 190, 327, 344, 625
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01, VE04
Number of blue cones/lights (ADN)	: 1

Rail transport

Classification code (RID)	: 5F
Special provisions (RID)	: 190, 327, 344, 625
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P207, LP200
Special packing provisions (RID)	: PP87, RR6, L2
Mixed packing provisions (RID)	: MP9
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W14
Special provisions for carriage - Loading, unloading and handling (RID)	: CW9, CW12
Colis express (express parcels) (RID)	: CE2
Hazard identification number (RID)	: 23

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

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Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

VOC Directive (2004/42)

VOC content : 549 g/l

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet

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Abbreviations and acronyms:

STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aerosol 1	Aerosol, Category 1
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1	Flammable gases, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
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.
H412	Harmful to aquatic life with long lasting effects.
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

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