

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 13/10/2015 Revision date: 12/01/2021 Supersedes version of: 08/10/2018 Version: 1.2

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

1.1. Product identifier

Product form : Mixture

Product name : Anti Frost Concentrate
UFI : G82E-0D2N-DS5S-YHPV

Product code : 622 Article number : 62200

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Consumer use

Industrial use

Function or use category : Cleaning/washing agents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

BARDAHL NL - OCD NEDERLAND BV Maxwellstraat 41 3316 GP Dordrecht Nederland T 0031 78 651 2322 - F 0031 78 617 4848 mjkooijman@bardahl.nl - www.bardahl.nl

1.4. Emergency telephone number

Emergency number : +31 (0) 6 54924171

During office hours: 8.30 t/m 17:00 h

Country	Official advisory body	Address	Emergency number	Comment
	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2 H225 Serious eye damage/eye irritation, Category 2 H319

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

Adverse physicochemical, human health and environmental effects

No additional information available

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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)

Hazard statements (CLP)

Precautionary statements (CLP)

: Danger

: H225 - Highly flammable liquid and vapour.

H319 - Causes serious eye irritation.

: P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P210 - Keep away from heat, hot surfaces, open flames, sparks, Sources of ignition. - No

smoking.

P233 - Keep container tightly closed.

P264 - Wash hands thoroughly after handling. P280 - Wear eye protection/face protection.

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention.

P403+P235 - Store in a well-ventilated place. Keep cool.

P501 - Dispose of contents/container to a facility for the collection of hazardous or special

waste.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
1,2-ethanediol (107-21-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, 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 is 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

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethanol; ethyl alcohol	CAS-No.: 64-17-5 EC-No.: 200-578-6 EC Index-No.: 603-002-00-5 REACH-no: 01-2119457610-	40 – 60	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 1, H370
1,2-ethanediol	CAS-No.: 107-21-1 EC-No.: 203-473-3 EC Index-No.: 603-027-00-1 REACH-no: 01-2119456816- 28	< 3	Acute Tox. 4 (Oral), H302 STOT RE 2, H373

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
butanone; ethyl methyl ketone	CAS-No.: 78-93-3 EC-No.: 201-159-0 EC Index-No.: 606-002-00-3 REACH-no: 01-2119457290-43	<1	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
propan-2-ol; isopropyl alcohol; isopropanol	CAS-No.: 67-63-0 EC-No.: 200-661-7 EC Index-No.: 603-117-00-0 REACH-no: 01-2119457558- 25	<1	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Ethylhexylique (2-) Alcool	CAS-No.: 104-76-7 EC-No.: 203-234-3 REACH-no: 01-2119487289- 20	< 0.1	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Specific concentration limits:			
Name	Product identifier	Specific concentration limits (%)	
ethanol; ethyl alcohol	CAS-No.: 64-17-5 EC-No.: 200-578-6 EC Index-No.: 603-002-00-5 REACH-no: 01-2119457610-	(50 ≤ C < 100) Eye Irrit. 2, H319	

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 : Never give anything by mouth to an unconscious person. If medical advice is needed, have

product container or label at hand.

First-aid measures after inhalation : Allow affected person to breathe fresh air. If breathing is difficult, remove victim to fresh air

and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact : Take off immediately all contaminated clothing. Wash skin with plenty of water. Wash

contaminated clothing before reuse.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

First-aid measures after ingestion : Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects after eye contact : Causes serious eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Water haze. Dry powder. Alcohol resistant foam.

Unsuitable extinguishing media : Do not use a heavy water stream.

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5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.

Hazardous decomposition products in case of fire : Incomplete combustion will generate poisonous carbon monoxide, carbon dioxide and other

toxic gases.

5.3. Advice for firefighters

Firefighting instructions

Precautionary measures fire : Do not enter fire area without proper protective equipment, including respiratory protection.

: Exercise caution when fighting any chemical fire. Evacuate area. Prevent fire fighting water

from entering the environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate every possible source of ignition. Evacuate area. Keep public away from danger area. Equip cleanup crew with proper protection. Ensure adequate ventilation, especially in

confined areas.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters. Dike for recovery or absorb with appropriate material.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of solid materials or residues refer to section 13: "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas

with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures : Remove contaminated clothes. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide local exhaust or general room ventilation.

Storage conditions : Keep container tightly closed.

Incompatible materials : Freezing. heat. Open flame. Sources of ignition.
Storage area : Store in a dry place. Store in a well-ventilated place.

Special rules on packaging : Store in a closed container.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Anni National occupational exposure and biological limit values			
ethanol; ethyl alcohol (64-17-5)			
EU - Indicative Occupational Exposure Limit (IOEL)			
IOEL TWA	1880 mg/m³		
IOEL TWA [ppm]	1000 ppm		
United Kingdom - Occupational Exposure Limits			
WEL TWA (OEL TWA) [1]	1920 mg/m³ (Long term)		
WEL TWA (OEL TWA) [2]	1000 ppm (Long term)		
1000	parts per million		
1,2-ethanediol (107-21-1)			
EU - Indicative Occupational Exposure Limit (IOEL)			
Local name	Ethylene glycol		
IOEL TWA	52 mg/m³		
IOEL TWA [ppm]	20 ppm		
IOEL STEL	104 mg/m³		
IOEL STEL [ppm]	40 ppm		
Remark	Skin		
propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)			
EU - Indicative Occupational Exposure Limit (IOEL)			
IOEL TWA	983 mg/m³		
IOEL TWA [ppm]	400 ppm		
IOEL STEL	1230 mg/m³		
IOEL STEL [ppm]	500 ppm		
United Kingdom - Occupational Exposure Limits			
WEL TWA (OEL TWA) [1]	999 mg/m³ Propan-2-ol; United Kingdom; Timeweighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)		
WEL TWA (OEL TWA) [2]	400 ppm Propan-2-ol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)		
WEL STEL (OEL STEL)	1250 mg/m³ Propan-2-ol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)		
WEL STEL (OEL STEL) [ppm]	500 ppm Propan-2-ol; United Kingdom; Short time		

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

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8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

Safety glasses. Gloves.

Personal protective equipment symbol(s):







8.2.2.1. Eye and face protection

Eye protection			
Туре	Field of application	Characteristics	Standard
tightly fitting safety goggles			EN 166

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection					
Туре	Material	Permeation	Thickness (mm)	Penetration	Standard
Safety gloves					EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection:

Good ventilation of the workplace required

8.2.2.4. Thermal hazards

рΗ

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid : Blue. Colour Odour : Not available Odour threshold : Not available Melting point : Not available Freezing point : -20 °C Boiling point : > 35 °C Flammability : Not available Lower explosion limit : Not available Upper explosion limit : Not available : 22 °C Flash point Auto-ignition temperature : Not available Decomposition temperature : Not available : 7 – 9

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Viscosity, kinematic : Not available Solubility : Not available Partition coefficient n-octanol/water (Log Kow) : Not available Not available Vapour pressure Vapour pressure at 50°C Not available Density 0.9 g/cm3 20°C Relative density : Not available Relative vapour density at 20°C : Not available Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Open flame. Sparks. Heat. Water, humidity. Freezing.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ethanol; ethyl alcohol (64-17-5)		
LD50 oral rat	13600 mg/kg	
LC50 Inhalation - Rat	> 20 mg/l/4h	
1,2-ethanediol (107-21-1)		
LD50 oral rat	7712 mg/kg	
LD50 dermal rabbit	9530 mg/kg	
LC50 Inhalation - Rat	> 2.5 mg/l	

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pH: 7 – 9	butanone; ethyl methyl ketone (78-93-3)		
LD50 dermal rabbit	LD50 oral rat	> 2193 mg/kg	
LC50 Inhalation - Rat 34 mg/l/dh LC50 Inhalation - Rat [ppm] 11300 ppm/l/dh Dropan-2-01; isopropyl alcohol; isopropanol (67-63-0) LD50 oral rat > 5000 mg/kg LD50 demal rabbit > 5000 mg/kg LD50 oral rat > 20 mg/l/dh Ethylhexylique (2-) Alcool (104-76-7) LD50 oral rat 3290 mg/kg LD50 demal rabbit > 3000 mg/kg LD50 demal rabbit > 3	LD50 dermal rat	> 5000 mg/kg	
LC50 Inhalation - Rat [ppm] 11300 ppm/4h propan-2-ol; isopropyl alcohol; isopropanol (67-63-0) LD50 oral rat > 5000 mg/kg LD50 dermal rabbit > 5000 mg/kg LC50 Inhalation - Rat 2290 mg/k4h Ethylhexylique (2-) Alcool (104-76-7) LD50 dermal rabbit > 3000 mg/kg Phi 7-9 > 9 Serious eye damage/irritation Phi 7-9 Respiratory or skin sensitisation > 1000 mg/kg bodyweight Serious eye damage/irritation > 1000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 4250 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 4000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight STOT-single exposure Causes damage to organs. 1,2-ethaneoliot (107-21-1) NOAEL (croni, rat) 200 mg/kg bodyweight DNAEL (croni, rat) 200 mg/kg bodyweight STOT-single exposure May cause drowsiness or dizziness. Propan-2-ol; isopropyl alcohol; isopropanol (67-63-0) STOT-single exposure May cause drowsiness or dizziness.	LD50 dermal rabbit	5000 mg/kg	
propan-2-ol; isopropyl alcohol; isopropanol (67-63-0) LD50 oral rat > 5000 mg/kg LD50 dermal rabbit > 5000 mg/kg LC50 Inhalation - Rat > 20 mg/l/4h Ethylhexylique (2-) Alcool (104-76-7) LD50 oral rat 3290 mg/kg LD50 dermal rabbit > 3000 mg/kg LC50 Inhalation - Rat 0.89 – 5.3 mg/l/4h Skin corroson/irritation Not classified pht-7 - 9 Pht-7 - 9 Pht-7 - 9 Respiratory or skin sensitisation Not classified Pht-7 - 9 Not classified Carrinogenicity	LC50 Inhalation - Rat	34 mg/l/4h	
LD50 oral rat S000 mg/kg	LC50 Inhalation - Rat [ppm]	11300 ppmv/4h	
LD50 dermal rabbit > 5000 mg/kg LC50 Inhalation - Rat > 20 mg/l/4h Ethylhexylique (2-) Alcool (104-76-7) LD50 oral rat 3290 mg/kg LD50 dermal rabbit > 50000 mg/kg LC50 Inhalation - Rat	propan-2-ol; isopropyl alcohol; isopropanol (6	67-63-0)	
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LC50 Inhalation - Rat 0.89 – 5.3 mg/l/4h Skin corrosion/irritation : Not classified pHt. 7 – 9 Serious eye damage/irritation : Causes serious eye irritation. pHt 77 – 9 Respiratory or skin sensitisation Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Carcinogenicity : Not classified ethanol; ethyl alcohol (64-17-5) NOAEL (chronic, oral, animal/male, 2 years) NOAEL (chronic, oral, animal/female, 2 years) NOAEL (chronic, oral, animal/male, 2 years) NOAEL (chronic, oral, animal/male, 2 years) NOAEL (chronic, oral, animal/female, 2 years) Not classified ethanol; ethyl alcohol (64-17-5) LOAEL (oral, rat) 3 mg/kg bodyweight STOT-single exposure Causes damage to organs. 1.2-ethanediol (107-21-1) NOAEL (oral, rat) NOAEL (oral, rat) 200 mg/kg bodyweight NOAEL (oral, rat) May cause drowsiness or dizziness. Propan-2-ol; isopropyl alcohol; isopropanol (67-63-0) STOT-single exposure May cause drowsiness or dizziness. Ethylhexylique (2-) Alcool (104-76-7)	LD50 oral rat	3290 mg/kg	
Skin corrosion/irritation : Not classified pH: 7 – 9 Serious eye damage/irritation : Not classified pH: 7 – 9 Respiratory or skin sensitisation : Not classified Germ cell mutagenicity : Not classified Germ cell chronic, oral, animal/female, 2 years) 4250 mg/kg bodyweight MoAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight MoAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight NoAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight STOT-single exposure : Not classified Gethanol; ethyl alcohol (64-17-5) Causes damage to organs. 1.2-ethanediol (107-21-1) 4 mg/kg bodyweight Causes damage to organs. 1.2-ethanediol (107-21-1) 200 mg/kg bodyweight MoAEL (oral, rat) 200 mg/kg bodyweight 1000 mg/kg bo	LD50 dermal rabbit	> 3000 mg/kg	
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ethanol; ethyl alcohol (64-17-5) NOAEL (chronic, oral, animal/male, 2 years) 4250 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 4000 mg/kg bodyweight 1,2-ethanediol (107-21-1) NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight Reproductive toxicity Not classified STOT-single exposure 1000 mg/kg bodyweight NOAEL (oral, rat) 4 mg/kg bodyweight STOT-single exposure 1,2-ethanediol (107-21-1) NOAEL (oral, rat) NOAEL (oral, animal/female) 1000 mg/kg bodyweight NOAEL (acute, oral, animal/female) 1000 mg/kg bodyweight butanone; ethyl methyl ketone (78-93-3) STOT-single exposure May cause drowsiness or dizziness. Ethylhexylique (2-) Alcool (104-76-7)			
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1,2-ethanediol (107-21-1) NOAEL (chronic, oral, animal/male, 2 years) NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight Reproductive toxicity : Not classified STOT-single exposure : Not classified ethanol; ethyl alcohol (64-17-5) LOAEL (oral, rat) 4 mg/kg bodyweight STOT-single exposure Causes damage to organs. 1,2-ethanediol (107-21-1) NOAEL (oral, rat) 200 mg/kg bodyweight NOAEL (acute, oral, animal/female) 1000 mg/kg bodyweight butanone; ethyl methyl ketone (78-93-3) STOT-single exposure May cause drowsiness or dizziness. propan-2-ol; isopropyl alcohol; isopropanol (67-63-0) STOT-single exposure May cause drowsiness or dizziness. Ethylhexylique (2-) Alcool (104-76-7)	NOAEL (chronic, oral, animal/male, 2 years)	4250 mg/kg bodyweight	
NOAEL (chronic, oral, animal/male, 2 years) NOAEL (chronic, oral, animal/female, 2 years) 1000 mg/kg bodyweight Reproductive toxicity : Not classified STOT-single exposure : Not classified ethanol; ethyl alcohol (64-17-5) LOAEL (oral, rat) 4 mg/kg bodyweight STOT-single exposure Causes damage to organs. 1,2-ethanediol (107-21-1) NOAEL (oral, rat) 200 mg/kg bodyweight NOAEL (acute, oral, animal/female) 1000 mg/kg bodyweight butanone; ethyl methyl ketone (78-93-3) STOT-single exposure May cause drowsiness or dizziness. propan-2-ol; isopropyl alcohol; isopropanol (67-63-0) STOT-single exposure May cause drowsiness or dizziness. Ethylhexylique (2-) Alcool (104-76-7)	NOAEL (chronic, oral, animal/female, 2 years)	4000 mg/kg bodyweight	
NOAEL (chronic, oral, animal/female, 2 years) Reproductive toxicity : Not classified STOT-single exposure : Not classified ethanol; ethyl alcohol (64-17-5) LOAEL (oral, rat) 4 mg/kg bodyweight STOT-single exposure Causes damage to organs. 1,2-ethanediol (107-21-1) NOAEL (oral, rat) 200 mg/kg bodyweight NOAEL (acute, oral, animal/female) 1000 mg/kg bodyweight butanone; ethyl methyl ketone (78-93-3) STOT-single exposure May cause drowsiness or dizziness. propan-2-ol; isopropyl alcohol; isopropanol (67-63-0) STOT-single exposure May cause drowsiness or dizziness. Ethylhexylique (2-) Alcool (104-76-7)	1,2-ethanediol (107-21-1)		
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STOT-single exposure : Not classified ethanol; ethyl alcohol (64-17-5) LOAEL (oral, rat)	NOAEL (chronic, oral, animal/female, 2 years)	1000 mg/kg bodyweight	
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STOT-single exposure May cause drowsiness or dizziness. Ethylhexylique (2-) Alcool (104-76-7)	STOT-single exposure	May cause drowsiness or dizziness.	
Ethylhexylique (2-) Alcool (104-76-7)	propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)		
	STOT-single exposure	May cause drowsiness or dizziness.	
STOT-single exposure May cause respiratory irritation.	Ethylhexylique (2-) Alcool (104-76-7)		
	STOT-single exposure	May cause respiratory irritation.	

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: Not classified STOT-repeated exposure

1,2-ethanediol	(107-21-1)
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STOT-repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term

Hazardous to the aquatic environment, long-term

(chronic)

: Not classified : Not classified

9.6 mg/l

ethanol; ethyl alcohol (64-17-5)	
LC50 - Fish [1]	15300 mg/l (96h)
EC50 - Crustacea [1]	9300 mg/l 48h
EC50 72h - Algae [1]	275 mg/l
ErC50 algae	5000 mg/l IC50 72h

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NOEC chronic crustacea

LC50 - Fish [1]	72860 mg/l
EC50 - Crustacea [1]	> 100 mg/l (24h)
EC50 - Other aquatic organisms [1]	6500 – 13000 mg/l (Algen)
NOEC chronic fish	15380 mg/l

NOEC chronic algae 8590 mg/l

butanone; ethyl methyl ketone (78-93-3)

LC50 - Fish [1]	2990 mg/l
LC50 - Other aquatic organisms [1]	2993 mg/l (Pimephales promelas) (96h)
EC50 - Crustacea [2]	308 mg/l (48h)
EC50 - Other aquatic organisms [1]	1972 mg/l

propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)

LC50 - Fish [1]	9640 mg/l (Pimephales promelas)
LC50 - Other aquatic organisms [1]	> 10000 mg/l Daphnia magna
EC50 - Crustacea [1]	> 9700 mg/l (24h)
EC50 - Other aquatic organisms [1]	> 1000 mg/l (Algen 72h)

12.2. Persistence and degradability

ethanol; ethyl alcohol (64-17-5)	
Biodegradation	84 % (OECD 301D method)

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1,2-ethanediol (107-21-1)		
Persistence and degradability	Readily biodegradable.	
Biodegradation	90 % (OECD 301D method)	
butanone; ethyl methyl ketone (78-93-3)		
Biodegradation	98 % (OECD 301D methode)	
propan-2-ol; isopropyl alcohol; isopropanol (6	37-63-0)	
Persistence and degradability	Product is biodegradable.	
Biodegradation	98 %	

12.3. Bioaccumulative potential

ethanol; ethyl alcohol (64-17-5)				
Partition coefficient n-octanol/water (Log Kow)	-0.35			
1,2-ethanediol (107-21-1)				
Partition coefficient n-octanol/water (Log Kow)	-1.36			
Bioaccumulative potential	Low.			
butanone; ethyl methyl ketone (78-93-3)				
Partition coefficient n-octanol/water (Log Kow)	0.3			
propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)				
Partition coefficient n-octanol/water (Log Pow)	0.05			
Bioaccumulative potential	not bioaccumulable.			

12.4. Mobility in soil

1,2-ethanediol (107-21-1)	
Ecology - soil	High. Mobility in soil.

12.5. Results of PBT and vPvB assessment

Component				
1,2-ethanediol (107-21-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII			

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods

: Dispose of this material and its container at hazardous or special waste collection point.

Sewage disposal recommendations

: Do not discharge into drains or the environment.

Product/Packaging disposal recommendations

: Collect all waste in suitable and labelled containers and dispose according to local legislation.

Additional information : Empty the packaging completely prior to disposal. Do not re-use empty containers.

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Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID n	umber			
Not regulated for transport				
UN 1993	UN 1993	UN 1993	UN 1993	UN 1993
14.2. UN proper shippin	g name			
FLAMMABLE LIQUID, N.O.S.	FLAMMABLE LIQUID, N.O.S.	Flammable liquid, n.o.s.	FLAMMABLE LIQUID, N.O.S.	FLAMMABLE LIQUID, N.O.S.
14.3. Transport hazard	class(es)			
3	3	3	3	3
3	3	3	3	3
14.4. Packing group				
II	II	II	II	II
14.5. Environmental haz	ards			
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information				I

14.6. Special precautions for user

Overland transport

Classification code (ADR) : F1

Special provisions (ADR) : 274, 601, 640D

Limited quantities (ADR) : 11 Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02, R001

Mixed packing provisions (ADR) : MP19
Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions : TP1, TP8, TP28

(ADR)

Tank code (ADR) : LGBF
Vehicle for tank carriage : FL
Transport category (ADR) : 2
Special provisions for carriage - Operation (ADR) : S2, S20
Hazard identification number (Kemler No.) : 33

Orange plates :

33 1993

Tunnel restriction code (ADR) : D/E EAC code : •3YE

Transport by sea

Special provisions (IMDG) : 274 Limited quantities (IMDG) : 1 L

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Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP1, TP8, TP28

EmS-No. (Fire): F-EEmS-No. (Spillage): S-EStowage category (IMDG): B

Air transport

PCA Excepted quantities (IATA) : E2 : Y341 PCA Limited quantities (IATA) PCA limited quantity max net quantity (IATA) 1L PCA packing instructions (IATA) : 353 PCA max net quantity (IATA) : 5L CAO packing instructions (IATA) : 364 CAO max net quantity (IATA) : 60L Special provisions (IATA) : A3 ERG code (IATA) : 3H

Inland waterway transport

Classification code (ADN) : F1

Special provisions (ADN) : 274, 61, 64D

Limited quantities (ADN) : 1 L

Excepted quantities (ADN) : E2

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EX, A

Ventilation (ADN) : VE01 Number of blue cones/lights (ADN) : 1

Rail transport

Classification code (RID) : F1

Special provisions (RID) : 274, 601, 640D

Limited quantities (RID) : 1L Excepted quantities (RID) : E2

Packing instructions (RID) : P001, IBC02, R001

Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T7

Portable tank and bulk container special provisions : TP1, TP8, TP28

(RID)

Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : 33

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

15.1.1. 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

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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)

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)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes	ndication of changes				
Section	Changed item	Change	Comments		
2.2	Precautionary statements (CLP)	Added			
2.2	Hazard pictograms (CLP)	Added			
2.2	Hazard statements (CLP)	Added			
2.2	Signal word (CLP)	Added			
2.2	EUH-statements	Added			
3	Composition/information on ingredients	Modified			
4.1	First-aid measures after ingestion	Modified			
4.1	First-aid measures after eye contact	Modified			
4.1	First-aid measures after skin contact	Modified			
4.1	First-aid measures general	Added			
5.1	Suitable extinguishing media	Modified			
5.2	Hazardous decomposition products in case of fire	Added			
5.2	Fire hazard	Added			
6.1	General measures	Modified			
6.2	Environmental precautions	Modified			
6.4	Reference to other sections (8, 13)	Modified			
7.1	Hygiene measures	Modified			
7.2	Incompatible materials	Added			
7.2	Technical measures	Added			
7.2	Storage area	Added			
7.2	Special rules on packaging	Added			

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Indication of changes					
Section	Changed item	Change	Comments		
7.2	Storage conditions	Modified			
8.2	Personal protective equipment	Modified			
9.1	Density	Modified			
9.1	Boiling point	Added			
10.1	Reactivity	Added			
10.3	Possibility of hazardous reactions	Modified			
10.4	Conditions to avoid	Modified			
10.6	Hazardous decomposition products	Modified			
13.1	Waste treatment methods	Added			
13.1	Sewage disposal recommendations	Added			
13.1	Additional information	Added			
13.1	Ecology - waste materials	Added			
13.1	Waste disposal recommendations	Modified			

Abbreviations and acronyms:		
	Abbreviations and acronyms:	
	RID: Regulations Concerning the International Transport of Dangerous Goods by Rail ICAO: International Civil Aviation Organization ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association GHS: Globally Harmonized System of Classification and labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent	

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H370	Causes damage to organs.

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Full text of H- and EUH-statements:		
H373	May cause damage to organs through prolonged or repeated exposure.	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2	
STOT SE 1	Specific target organ toxicity – single exposure, Category 1	
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis	

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.