DELTA®-ALPINA QSM

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

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

1.1. Product identifier

Product form	:	Mixture
Trade name	:	DELTA®-ALPINA QSM
UFI	:	S220-A0AK-600V-QF2C
Type of product	:	Swelling welding agent
Product group	:	Trade product

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

Relevant identified uses

Main use category	:	Professional use
Industrial/Professional use spec	:	For professional use only
Use of the substance/mixture	:	Swelling welding agent
Function or use category	:	Adhesives, binding agents

1.3. Details of the supplier of the safety data sheet

Supplier
DÖRKEN GmbH & Co.KG
Wetterstraße 58
DE 58313 Herdecke
Deutschland
T 0049 (0)2330/ 63-0
msds@doerken.de, www.doerken.de

1.4. Emergency telephone number

Emergency number	:	ChemTrec: 0800-181-7059 24 hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 3	H226
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318

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

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. Causes skin irritation. Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS05

Signal word (CLP) : Danger

Contains : cyclohexanone

Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear eye protection, protective gloves, protective clothing.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a doctor.
P332+P313 - If skin irritation occurs: Get medical advice/attention.

Extra phrases : Restricted to professional users.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 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]
2-methoxy-1-methylethyl acetate substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, AL, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 108-65-6 EC-No.: 203-603-9 EC Index-No.: 607-195-00-7 REACH-no: 01-2119475791-29	25 - < 50	Flam. Liq. 3, H226
Dimethyl sulfoxide substance with national workplace exposure limit(s) (DE, SI, MK)	CAS-No.: 67-68-5 EC-No.: 200-664-3 REACH-no: 01-2119431362-50	25 - < 50	Not classified
cyclohexanone substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, AL, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 108-94-1 EC-No.: 203-631-1 EC Index-No.: 606-010-00-7 REACH-no: 01-2119453616-35	10 - < 25	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 (ATE=1890 mg/kg bodyweight) Acute Tox. 3 (Dermal), H311 (ATE=947 mg/kg bodyweight) Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-methoxypropyl acetate substance with national workplace exposure limit(s) (AT, CZ, DE, DK, ES, PL, SK, IS, NO, MK, CH)	CAS-No.: 70657-70-4 EC-No.: 274-724-2 EC Index-No.: 607-251-00-0	0.1 - < 0.3	Flam. Liq. 3, H226 Repr. 1B, H360D STOT SE 3, H335 Aquatic Chronic 2, H411

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 : If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation : None under normal conditions.

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : None under normal conditions.

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 : 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 : Flammable liquid and vapour.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. 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. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes.
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

Technical measures : Ground/bond container and receiving equipment.
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.
Packaging materials : Store always product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

2-methoxy-1-methylethyl acetate (108-65-6)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	2-Methoxy-1-methylethylacetate
IOEL TWA	275 mg/m³
	50 ppm
IOEL STEL	550 mg/m³

2-methoxy-1-methylethyl acetate (108-65-6)	
	100 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
United Kingdom - Occupational Exposure Limits	
Local name	1-Methoxypropyl acetate
WEL TWA (OEL TWA)	274 mg/m³
	50 ppm
WEL STEL (OEL STEL)	548 mg/m³
	100 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

cyclohexanone (108-94-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Cyclohexanone
IOEL TWA	40.8 mg/m³
	10 ppm
IOEL STEL	81.6 mg/m³
	20 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
United Kingdom - Occupational Exposure Limits	
Local name	Cyclohexanone
WEL TWA (OEL TWA)	41 mg/m³
	10 ppm
WEL STEL (OEL STEL)	82 mg/m³
	20 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	Cyclohexanone
BMGV	2 mmol/mol Creatinine Parameter: cyclohexanol - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:
Wear recommended personal protective equipment. Use eye protection according to EN 166. Butyl-rubber protective gloves. Impermeable clothing.

Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Safety glasses

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety goggles	Droplet	With side shields, Plastic	EN 166

Skin protection

Skin and body protection:
Wear suitable protective clothing

Skin and body protection	
Type	**Standard**
Chemically resistant protective gloves	EN 174
Impermeable clothing	EN 13034
Apply emollient cream	

Hand protection:
Protective gloves

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Disposable gloves	Butyl rubber	6 (> 480 minutes)	0,7 mm		EN 374-2, EN 374-3

Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
Full face mask	ABEK	If conc. in air > exposure limit	EN 14387

Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Colourless.
Appearance	:	Liquid.

Odour	:	characteristic.
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	145 °C ISO 2791
Flammability	:	Not self-igniting,Flammable liquid and vapour.
Lower explosion limit	:	1.3 vol %
Upper explosion limit	:	10.8 vol %
Flash point	:	> 48 °C ISO 2791
Auto-ignition temperature	:	270 °C
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	10000000 mm²/s
Viscosity, dynamic	:	10 mPa·s @20°C
Solubility	:	In water, material is partially soluble.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	5 hPa @20°C
Vapour pressure at 50°C	:	Not available
Density	:	1 g/m³ @20°C
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

Other safety characteristics

VOC content	:	998.5 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

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

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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)

2-methoxy-1-methylethyl acetate (108-65-6)	
LD50 oral rat	8532 mg/kg Source: International Uniform ChemicaL Information Database

2-methoxy-1-methylethyl acetate (108-65-6)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 5000 mg/kg Source: International Uniform ChemicaL Information Database

Dimethyl sulfoxide (67-68-5)	
LD50 oral rat	28300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	≈ 40000 mg/kg bodyweight Animal: rat

cyclohexanone (108-94-1)	
LD50 oral rat	1890 mg/kg Source: ECHA
LD50 dermal rabbit	947 mg/kg Source: IFA GESTIS
LC50 Inhalation - Rat	> 6.2 mg/l air Animal: rat

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye damage.

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)

cyclohexanone (108-94-1)	
IARC group	3 - Not classifiable

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

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

2-methoxypropyl acetate (70657-70-4)	
STOT-single exposure	May cause respiratory irritation.

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

2-methoxy-1-methylethyl acetate (108-65-6)	
NOAEL (dermal, rat/rabbit, 90 days)	> 1000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

Dimethyl sulfoxide (67-68-5)	
LOAEC (inhalation, rat, dust/mist/fume, 90 days)	2.783 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study), Guideline: EPA OPPTS 870.3465 (90-Day Inhalation Toxicity)
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: other:

cyclohexanone (108-94-1)	
NOAEL (oral, rat, 90 days)	143 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

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

DELTA®-ALPINA QSM	
Viscosity, kinematic	10000000 mm²/s

cyclohexanone (108-94-1)	
Viscosity, kinematic	2.324 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

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

2-methoxy-1-methylethyl acetate (108-65-6)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	> 500 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	47.5 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'

Dimethyl sulfoxide (67-68-5)	
LC50 - Fish [1]	> 25 g/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	24.6 g/l Test organisms (species): Daphnia magna

cyclohexanone (108-94-1)	
LC50 - Fish [1]	527 – 732 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
NOEC (chronic)	26.6 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

2-methoxypropyl acetate (70657-70-4)	
LC50 - Fish [1]	123.852 mg/l Source: Ecological Structure Activity Relationships
EC50 96h - Algae [1]	9.337 mg/l Source: Ecological Structure Activity Relationships

12.2. Persistence and degradability

DELTA®-ALPINA QSM	
Persistence and degradability	Not rapidly degradable

2-methoxy-1-methylethyl acetate (108-65-6)	
Persistence and degradability	Not rapidly degradable

Dimethyl sulfoxide (67-68-5)	
Persistence and degradability	Not rapidly degradable

cyclohexanone (108-94-1)	
Persistence and degradability	Not rapidly degradable

2-methoxypropyl acetate (70657-70-4)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

2-methoxy-1-methylethyl acetate (108-65-6)	
Partition coefficient n-octanol/water (Log Pow)	0.43 Source: International Uniform ChemicaL Information Database

cyclohexanone (108-94-1)	
Partition coefficient n-octanol/water (Log Pow)	0.81 Source: ICSC

12.4. Mobility in soil

2-methoxypropyl acetate (70657-70-4)	
Mobility in soil	1.838 Source: Quantitative Structure Activity Relation

12.5. Results of PBT and vPvB assessment

No additional information available

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

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Flammable vapours may accumulate in the container. Do not re-use empty containers.
HP Code : HP3 - "Flammable:"
– flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C;
– flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air;
– flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction;
– flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa;
– water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities;
– other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste.
HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.
HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.

SECTION 14: Transport information

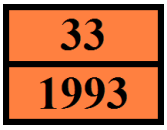
In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1993	UN 1993	UN 1993	UN 1993	UN 1993

ADR	IMDG	IATA	ADN	RID
14.2. UN proper shipping name				
FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON)	FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON)	Flammable liquid, n.o.s. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON)	FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON)	FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON)
Transport document description				
UN 1993 FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON), 3, I, (D/E)	UN 1993 FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON), 3, I	UN 1993 Flammable liquid, n.o.s. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON), 3, I	UN 1993 FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON), 3, I	UN 1993 FLAMMABLE LIQUID, N.O.S. (2-METHOXY-1-METHYLETHYLACETAT, CYCLOHEXANON), 3, I
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
I	I	I	I	I
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-E EmS-No. (Spillage): S-E	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)	:	F1
Special provisions (ADR)	:	274
Limited quantities (ADR)	:	0
Excepted quantities (ADR)	:	E3
Packing instructions (ADR)	:	P001
Mixed packing provisions (ADR)	:	MP7, MP17
Portable tank and bulk container instructions (ADR)	:	T11
Portable tank and bulk container special provisions (ADR)	:	TP1, TP27
Tank code (ADR)	:	L4BN
Vehicle for tank carriage	:	FL
Transport category (ADR)	:	1
Special provisions for carriage - Operation (ADR)	:	S2, S20
Hazard identification number (Kemler No.)	:	33
Orange plates	:	
Tunnel restriction code (ADR)	:	D/E
EAC code	:	•3YE

Transport by sea

Special provisions (IMDG)	:	274

Limited quantities (IMDG)	:	0
Excepted quantities (IMDG)	:	E3
Packing instructions (IMDG)	:	P001
Tank instructions (IMDG)	:	T11
Tank special provisions (IMDG)	:	TP1, TP27
Stowage category (IMDG)	:	E

Air transport

PCA Excepted quantities (IATA)	:	E3
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	351
PCA max net quantity (IATA)	:	1L
CAO packing instructions (IATA)	:	361
CAO max net quantity (IATA)	:	30L
Special provisions (IATA)	:	A3
ERG code (IATA)	:	3H

Inland waterway transport

Classification code (ADN)	:	F1
Special provisions (ADN)	:	274
Limited quantities (ADN)	:	0
Excepted quantities (ADN)	:	E3
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
Limited quantities (RID)	:	0
Excepted quantities (RID)	:	E3
Packing instructions (RID)	:	P001
Mixed packing provisions (RID)	:	MP7, MP17
Portable tank and bulk container instructions (RID)	:	T11
Portable tank and bulk container special provisions (RID)	:	TP1, TP27
Tank codes for RID tanks (RID)	:	L4BN
Transport category (RID)	:	1
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

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 (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

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 : 998.5 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

A chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ACGIH	American Conference of Government Industrial Hygienists
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)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
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

Abbreviations and acronyms:	
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety & Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.

Full text of H- and EUH-statements:	
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360D	May damage the unborn child.
H411	Toxic to aquatic life with long lasting effects.

The classification complies with : ATP 12

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.