

**Safety Data Sheet**

according to UK REACH Regulation

**938 Injector Intensive Cleaner MF93800500AB**

Revision date: 12.01.2022

Product code: 1102349

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

938 Injector Intensive Cleaner MF93800500AB

UFI: 96S3-10WX-800Y-S39V

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

Cleaner

**1.3. Details of the supplier of the safety data sheet**

Company name:	TUNAP GmbH & Co. KG	
Street:	Buergermeister-Seidl-Strasse 2	
Place:	D-82515 Wolfratshausen	
Telephone:	+49 (0) 8171/1600-0	Telefax: +49 (0) 8171/1600-40
e-mail:	sdb@tunap.com	
Internet:	www.tunap.com	

**1.4. Emergency telephone number:** 111 NHS (National Health Service)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Hazard categories:

Aerosol: Aerosol 1

Aspiration hazard: Asp. Tox. 1

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Extremely flammable aerosol.

Pressurised container: May burst if heated.

May be fatal if swallowed and enters airways.

Causes serious eye damage.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

Toxic to aquatic life with long lasting effects.

**2.2. Label elements****GB CLP Regulation****Hazard components for labelling**

n-propanol

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics

(R)-p-mentha-1,8-diene, d-limonene

Hydrocarbons, C10, aromatics, &lt;1% naphthalene

**Signal word:** Danger**Pictograms:**

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**Hazard statements**

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

**Precautionary statements**

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 and eye/face protection.
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 POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P304+P312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

**Special labelling of certain mixtures**

EUH066	Repeated exposure may cause skin dryness or cracking.
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**2.3. Other hazards**

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.  
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

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**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
64742-48-9	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics			25 - < 50 %
	918-481-9		01-2119457273-39	
	Asp. Tox. 1; H304 EUH066			
71-23-8	n-propanol			10 - < 20 %
	200-746-9	603-003-00-0	01-2119486761-29	
	Flam. Liq. 2, Eye Dam. 1, STOT SE 3; H225 H318 H336			
1174921-73-3	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics			10 - < 20 %
	927-241-2		01-2119471843-32	
	Flam. Liq. 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 3; H226 H336 H304 H412 EUH066			
34590-94-8	(2-methoxymethylethoxy)propanol			5 - < 10 %
	252-104-2			
27247-96-7	2-Ethylhexyl nitrate			3 - < 5 %
	248-363-6		01-2119539586-27	
	Acute Tox. 4, Acute Tox. 4, Acute Tox. 4, Aquatic Chronic 2; H332 H312 H302 H411 EUH044 EUH066			
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene			1 - < 3 %
	227-813-5			
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H226 H315 H317 H304 H400 H410			
104-76-7	2-Ethylhexan-1-ol			1 - < 3 %
	203-234-3		01-2119487289-20	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H332 H315 H319 H335			
64742-94-5	Hydrocarbons, C10, aromatics, <1% naphthalene			0.1 - < 1 %
	918-811-1		01-2119463583-34	
	STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H336 H304 H411 EUH066			
110-91-8	morpholine			0.1 - < 1 %
	203-815-1		01-2119496057-30	
	Flam. Liq. 3, Repr. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H226 H361fd H331 H311 H302 H314 H318			

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

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### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
64742-48-9	918-481-9	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	25 - < 50 %
		inhalation: LC50 = 4951 mg/l (vapours); dermal: LD50 = >3160 mg/kg; oral: LD50 = >8000 mg/kg	
71-23-8	200-746-9	n-propanol	10 - < 20 %
		inhalation: LC50 = > 33,8 mg/l (vapours); dermal: LD50 = 4032 mg/kg; oral: LD50 = 8000 mg/kg	
1174921-73-3	927-241-2	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	10 - < 20 %
		inhalation: LC50 = > 4951 mg/l (vapours); dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 15000 mg/kg	
34590-94-8	252-104-2	(2-methoxymethylethoxy)propanol	5 - < 10 %
		inhalation: LC50 = 500 mg/l (vapours); inhalation: LC50 = 500 ppm (gases); dermal: LD50 = 13000 mg/kg; oral: LD50 = 5135 mg/kg	
27247-96-7	248-363-6	2-Ethylhexyl nitrate	3 - < 5 %
		inhalation: LC50 = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = >4820 mg/kg; oral: LD50 = >9640 mg/kg	
5989-27-5	227-813-5	(R)-p-mentha-1,8-diene, d-limonene	1 - < 3 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg	
104-76-7	203-234-3	2-Ethylhexan-1-ol	1 - < 3 %
		inhalation: LC50 = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 3000 mg/kg; oral: LD50 = 2047 mg/kg	
64742-94-5	918-811-1	Hydrocarbons, C10, aromatics, <1% naphthalene	0.1 - < 1 %
		inhalation: LC50 = > 5 mg/l (dusts or mists); dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg	
110-91-8	203-815-1	morpholine	0.1 - < 1 %
		inhalation: LC50 = 8 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = ca. 500 mg/kg; oral: LD50 = ca. 1900 mg/kg	

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

First aider: Pay attention to self-protection! Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.

#### After inhalation

Remove person to fresh air and keep comfortable for breathing. In all cases of doubt, or when symptoms persist, seek medical advice.

#### After contact with skin

Wash with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

#### After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

#### After ingestion

Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

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

Headache, nausea, dizziness, fatigue, skin irritation

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

Treat symptomatically. Call a POISON CENTER. Symptoms can occur only after several hours.

## SECTION 5: Firefighting measures

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### 5.1. Extinguishing media

#### **Suitable extinguishing media**

Water fog. Foam. Carbon dioxide (CO<sub>2</sub>). Extinguishing powder.

#### **Unsuitable extinguishing media**

Full water jet

### 5.2. Special hazards arising from the substance or mixture

Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO<sub>2</sub>, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.

### 5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Move undamaged containers from immediate hazard area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.

#### **Additional information**

Danger of bursting container.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### **General advice**

Wear breathing apparatus if exposed to vapours/dusts/aerosols. Remove all sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Wear personal protection equipment.

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Ensure all waste water is collected and treated via a waste water treatment plant.

### 6.3. Methods and material for containment and cleaning up

#### **Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated articles and floor according to the environmental legislation.

### 6.4. Reference to other sections

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### **Advice on safe handling**

Observe instructions for use.  
Dust must be exhausted directly at the point of origin. Vapours/aerosols must be exhausted directly at the point of origin. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.  
When using do not eat, drink, smoke, sniff.  
Wear personal protection equipment (refer to section 8).  
In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

#### **Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Heating causes rise in pressure with risk of bursting.

#### **Advice on general occupational hygiene**

Avoid exposure. Wear suitable protective clothing. Draw up and observe skin protection programme.

#### **Further information on handling**

Avoid contact with skin and eyes.

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**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed. Observe legal regulations and provisions.

**Hints on joint storage**

Do not store together with: Oxidizing agents. Pyrophoric or self-heating substances. Food and feedingstuffs.

**Further information on storage conditions**

Protect from frost. Protect from direct sunlight. Store in a cool dry place. Observe legal regulations and provisions.

**7.3. Specific end use(s)**

No information available.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
34590-94-8	(2-methoxymethylethoxy) propanol	50	308		TWA (8 h)	WEL
104-76-7	2-ethylhexan-1-ol	1	5.4		TWA (8 h)	WEL
110-91-8	Morpholine	10	36		TWA (8 h)	WEL
		20	72		STEL (15 min)	WEL
71-23-8	Propan-1-ol	200	500		TWA (8 h)	WEL
		250	625		STEL (15 min)	WEL

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#### DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
1174921-73-3	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics		
Worker DNEL, long-term	inhalation	systemic	871 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	77 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	185 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	46 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	46 mg/kg bw/day
27247-96-7	2-Ethylhexyl nitrate		
Worker DNEL, long-term	inhalation	systemic	0,35 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term	dermal	systemic	0,52 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,025 mg/kg bw/day
110-91-8	morpholine		
Worker DNEL, long-term	inhalation	systemic	91 mg/m <sup>3</sup>
Worker DNEL, long-term	inhalation	local	36 mg/m <sup>3</sup>
Worker DNEL, acute	inhalation	local	72 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	1,04 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	6,3 mg/kg bw/day

#### PNEC values

CAS No	Substance	
Environmental compartment	Value	
27247-96-7	2-Ethylhexyl nitrate	
Freshwater	0,0008 mg/l	
Marine water	0,00008 mg/l	
Freshwater sediment	0,00074 mg/kg	
Marine sediment	0,00074 mg/kg	
Micro-organisms in sewage treatment plants (STP)	10 mg/l	
Soil	0,000191 mg/kg	
110-91-8	morpholine	
Freshwater	0,163 mg/l	
Freshwater (intermittent releases)	0,09 mg/l	
Marine water	0,016 mg/l	
Freshwater sediment	1,83 mg/kg	
Marine sediment	0,183 mg/kg	
Micro-organisms in sewage treatment plants (STP)	10 mg/l	
Soil	0,269 mg/kg	

#### Additional advice on limit values

a no restriction

b End of exposure or end of shift

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c at long-term exposure:  
d before next shift

blood (B)  
Urine (U)

**8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: Tightly sealed safety glasses.  
DIN EN 166

**Hand protection**

Protect skin by using skin protective cream. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Suitable material: NBR (Nitrile rubber) Breakthrough time: 480min

Thickness of the glove material 0,45 mm

EN ISO 374

**Skin protection**

Wear suitable protective clothing. Take off immediately all contaminated clothing and wash it before reuse.

**Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

When exceeding the relevant workplace exposure limits, note the following:

Suitable respiratory protective equipment: Combination filter device (DIN EN 141)..

Filtering device with filter or ventilator filtering device of type: A

Observe the wear time limits as specified by the manufacturer.

Observe legal regulations and provisions.

**Environmental exposure controls**

Observe legal regulations and provisions.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	Aerosol
Colour:	yellow-brown
Odour:	characteristic

**Test method****Changes in the physical state**

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	97 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not determined
Flash point:	26 °C

**Flammability**

Solid/liquid:	not applicable
Gas:	not applicable



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Lower explosion limits:	0,5
Upper explosion limits:	13,5
Auto-ignition temperature:	> 200 °C
<b>Self-ignition temperature</b>	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined
pH-Value (at 20 °C):	not determined DIN 19268
Viscosity / kinematic:	< 20,5 mm <sup>2</sup> /s
Water solubility:	insoluble
<b>Solubility in other solvents</b>	
not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density (at 20 °C):	0,815 g/cm <sup>3</sup> DIN 51757
Relative vapour density:	not determined

**9.2. Other information****Information with regard to physical hazard classes**

Sustaining combustion: No data available

Oxidizing properties  
Not oxidising.**Other safety characteristics**Solid content: not determined  
Evaporation rate: not determined**Further Information**

Data apply to technical substance: Relative density, Colour, Odour, Viscosity, pH.

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Extremely flammable aerosol.

**10.2. Chemical stability**

The product is stable under normal conditions.

**10.3. Possibility of hazardous reactions**

Do not expose to temperatures above 50 °C. Heating causes rise in pressure with risk of bursting.

**10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air. Take precautionary measures against static discharges.

**10.5. Incompatible materials**

Oxidizing agents. Pyrophoric or self-heating substances.

**10.6. Hazardous decomposition products**Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO<sub>2</sub>, aldehydes and soot. These can be very dangerous if they are inhaled in high concentrations or in enclosed spaces.**Further information**

Do not mix with other chemicals.

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**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

**Acute toxicity**

Based on available data, the classification criteria are not met.

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64742-48-9	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics				
	oral	LD50 >8000 mg/kg	Rat		
	dermal	LD50 >3160 mg/kg	Rabbit		
	inhalation (4 h) vapour	LC50 4951 mg/l	Rat		
71-23-8	n-propanol				
	oral	LD50 8000 mg/kg	Rat		
	dermal	LD50 4032 mg/kg	Rabbit		
	inhalation (4 h) vapour	LC50 > 33,8 mg/l	Rat		
1174921-73-3	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics				
	oral	LD50 > 15000 mg/kg	Rat	Study report (1977)	OECD Guideline 423
	dermal	LD50 > 5000 mg/kg	Rabbit	Study report (1993)	OECD Guideline 402
	inhalation (4 h) vapour	LC50 > 4951 mg/l	Rat		
34590-94-8	(2-methoxymethylethoxy)propanol				
	oral	LD50 5135 mg/kg	Rat		
	dermal	LD50 13000 mg/kg	Rabbit		
	inhalation vapour	LC50 500 mg/l	Rat		
	inhalation gas	LC50 500 ppm	Rat		
27247-96-7	2-Ethylhexyl nitrate				
	oral	LD50 >9640 mg/kg	Rat		
	dermal	LD50 >4820 mg/kg	Rabbit		
	inhalation (4 h) vapour	LC50 11 mg/l	Rat		
	inhalation aerosol	ATE 1,5 mg/l			
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2010)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Kaninchen	IUCLID	
104-76-7	2-Ethylhexan-1-ol				
	oral	LD50 2047 mg/kg	Rat		
	dermal	LD50 > 3000 mg/kg	Rat		
	inhalation (4 h) vapour	LC50 11 mg/l	Rat		
	inhalation aerosol	ATE 1,5 mg/l			
64742-94-5	Hydrocarbons, C10, aromatics, <1% naphthalene				

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	oral	LD50 mg/kg	>5000	Rat		
	dermal	LD50 mg/kg	>2000	Rabbit		
	inhalation (4 h) aerosol	LC50	> 5 mg/l	Rat		
110-91-8	morpholine					
	oral	LD50 mg/kg	ca. 1900	Rat	Study report (1967)	OECD Guideline 401
	dermal	LD50 mg/kg	ca. 500	Rabbit	Arch. Ind. Hyg Occup. Med. 10 61–68 (195)	OECD Guideline 402
	inhalation (4 h) vapour	LC50	8 mg/l	Rat		
	inhalation aerosol	ATE	0,5 mg/l			

**Irritation and corrosivity**

Causes serious eye damage.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

May cause an allergic skin reaction. ((R)-p-mentha-1,8-diene, d-limonene)

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

No indication of human carcinogenicity.

No indications of human germ cell mutagenicity exist.

No indications of human reproductive toxicity exist.

**STOT-single exposure**

May cause drowsiness or dizziness.

**STOT-repeated exposure**

Repeated exposure may cause skin dryness or cracking.

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Specific effects in experiment on an animal**

No information available.

**Additional information on tests**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**SECTION 12: Ecological information****12.1. Toxicity**

Toxic to aquatic life with long lasting effects.

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
64742-48-9	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics					
	Acute fish toxicity	LC50 >1000 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute algae toxicity	ErC50 >1000 mg/l	96 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50 >1000 mg/l	48 h	Daphnia magna		
71-23-8	n-propanol					
	Acute fish toxicity	LC50 4480 mg/l	96 h	Pimephales promelas		
1174921-73-3	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics					
	Acute fish toxicity	LC50 >1000 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute algae toxicity	ErC50 >1000 mg/l	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 >1000 mg/l	48 h	Daphnia magna		
	Fish toxicity	NOEC 0,182 mg/l	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2010)	The aquatic toxicity was estimated by a
	Crustacea toxicity	NOEC 0,317 mg/l	21 d	Daphnia magna	Company report (2010)	The aquatic toxicity was estimated by a
34590-94-8	(2-methoxymethylethoxy)propanol					
	Acute fish toxicity	LC50 10000 mg/l	96 h	Pimephales promelas		
	Acute algae toxicity	ErC50 969 mg/l	96 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 1919 mg/l	48 h	Daphnia magna		
27247-96-7	2-Ethylhexyl nitrate					
	Acute fish toxicity	LC50 2 mg/l	96 h	Danio rerio	Study report (2010)	OECD Guideline 203
	Acute algae toxicity	ErC50 > 12,6 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (1998)	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 12,6 mg/l	48 h	Daphnia magna	Study report (1998)	OECD Guideline 202
	Acute bacteria toxicity	(> 1000 mg/l)	3 h	activated sludge of a predominantly domestic sewage	Study report (2010)	OECD Guideline 209
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene					
	Acute fish toxicity	LC50 0,72 mg/l	96 h	Pimephales promelas	Study report (1990)	OECD Guideline 203
	Acute algae toxicity	ErC50 0,32 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2013)	OECD Guideline 201
	Acute crustacea toxicity	EC50 0,307 mg/l	48 h	Daphnia magna	Study report (2013)	OECD Guideline 202
	Fish toxicity	NOEC 0,37 mg/l	8 d	Pimephales promelas	Study report (2015)	OECD Guideline 212

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	Crustacea toxicity	NOEC mg/l	0,08	21 d	Daphnia magna	Study report (2016)	OECD Guideline 211
	Acute bacteria toxicity	(209 mg/l)		3 h	activated sludge of a predominantly domestic sewage	Study report (2010)	OECD Guideline 209
104-76-7	2-Ethylhexan-1-ol						
	Acute fish toxicity	LC50 mg/l	17,1	96 h	Leuciscus idus (golden orfe)		
	Acute algae toxicity	ErC50 mg/l	11,5	72 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50	39 mg/l	48 h	Daphnia magna		
64742-94-5	Hydrocarbons, C10, aromatics, <1% naphthalene						
	Acute fish toxicity	LC50 mg/l	>1-<=10	96 h	Pimephales promelas (fathead minnow)		
	Acute algae toxicity	ErC50 mg/l	>1-<=10	96 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50 mg/l	>1-<=10	48 h	Daphnia magna		
110-91-8	morpholine						
	Acute fish toxicity	LC50	380 mg/l	96 h	Oncorhynchus mykiss	Chemosphere 9: 753-762 (1980)	other: IRSA
	Acute algae toxicity	ErC50	28 mg/l	96 h	Pseudokirchneriella subcapitata	Chemosphere 9: 753-762 (1980)	other: EPA, National Eutrophication Rese
	Acute crustacea toxicity	EC50 mg/l	44,5	48 h	Daphnia magna	Study report (1997)	OECD Guideline 202
	Algae toxicity	NOEC	10 mg/l	4 d	Desmodesmus subspicatus		
	Crustacea toxicity	NOEC	5 mg/l	21 d	Daphnia magna	Study report (1997)	OECD Guideline 211

#### 12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
110-91-8	morpholine			
	OECD 301E	93%	25	
	Easily biodegradable (concerning to the criteria of the OECD)			

#### 12.3. Bioaccumulative potential

The product has not been tested.

##### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
71-23-8	n-propanol	0,29
27247-96-7	2-Ethylhexyl nitrate	5,24
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	4,38
104-76-7	2-Ethylhexan-1-ol	2,9
110-91-8	morpholine	-2,55

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**BCF**

CAS No	Chemical name	BCF	Species	Source
1174921-73-3	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	144,3	calculated	Other company data (
5989-27-5	(R)-p-mentha-1,8-diene, d-limonene	908,5		Other company data (
110-91-8	morpholine	0	Cyprinus carpio	Review article or ha

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

The product has not been tested.

**12.7. Other adverse effects**

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

**List of Wastes Code - used product**

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

**List of Wastes Code - contaminated packaging**

150104 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 1950
<b>14.2. UN proper shipping name:</b>	AEROSOLS
<b>14.3. Transport hazard class(es):</b>	2
<b>14.4. Packing group:</b>	-
Hazard label:	2.1
Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Excepted quantity:	E0
Transport category:	2
Tunnel restriction code:	D

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 1950
<b>14.2. UN proper shipping name:</b>	AEROSOLS

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<b>14.3. Transport hazard class(es):</b>	2
<b>14.4. Packing group:</b>	-
Hazard label:	2.1
Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Excepted quantity:	E0

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 1950
<b>14.2. UN proper shipping name:</b>	AEROSOLS (2-Ethylhexyl nitrate)
<b>14.3. Transport hazard class(es):</b>	2.1
<b>14.4. Packing group:</b>	-
Hazard label:	2.1
Marine pollutant:	yes
Special Provisions:	63, 190, 277, 327, 344, 381,959
Limited quantity:	1000 mL
Excepted quantity:	E0
EmS:	F-D, S-U

**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number or ID number:</b>	UN 1950
<b>14.2. UN proper shipping name:</b>	AEROSOLS, flammable
<b>14.3. Transport hazard class(es):</b>	2.1
<b>14.4. Packing group:</b>	-
Hazard label:	2.1
Special Provisions:	A145 A167 A802
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y203
Excepted quantity:	E0
IATA-packing instructions - Passenger:	203
IATA-max. quantity - Passenger:	75 kg
IATA-packing instructions - Cargo:	203
IATA-max. quantity - Cargo:	150 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	2-ethylhexyl nitrate

**14.6. Special precautions for user**

No information available.

**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 regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 28

2010/75/EU (VOC): No information available.

2004/42/EC (VOC): No information available.

**Additional information**



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Aerosol directive (75/324/EEC)

**National regulatory information**

Water hazard class (D): 2 - obviously hazardous to water

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2.

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA: International Air Transport Association

IMDG: International Maritime Code for Dangerous Goods

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)

DNEL/DMEL: Derived No Effect Level / Derived Minimal Effect Level

WEL (UK): Workplace Exposure Limits

TWA (EC): Time-Weighted Average

ATE: Acute Toxicity Estimate

STEL (EC) Short Term Exposure Limit

LC50: Lethal Concentration

EC50: half maximal Effective Concentration

ErC50: means EC50 in terms of reduction of growth rate

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Aerosol 1; H222-H229	On basis of test data
Asp. Tox. 1; H304	Calculation method
Eye Dam. 1; H318	Bridging principle "Aerosols"
Skin Sens. 1; H317	Bridging principle "Aerosols"
STOT SE 3; H336	Bridging principle "Aerosols"
Aquatic Chronic 2; H411	Calculation method

**Relevant H and EUH statements (number and full text)**

H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

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H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
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.
EUH044	Risk of explosion if heated under confinement.
EUH066	Repeated exposure may cause skin dryness or cracking.

**Further Information**

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

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*