

**Safety Data Sheet**

according to UK REACH Regulation

938 Injector Intensive Cleaner 5 Ltr. AB

Revision date: 25.03.2025

Product code: 1103400

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

938 Injector Intensive Cleaner 5 Ltr. AB

UFI: MG55-40T0-N00D-550D

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**

Flam. Liq. 3; H226
Asp. Tox. 1; H304
Eye Dam. 1; H318
Skin Sens. 1; H317
STOT SE 3; H336
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

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

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics
n-propanol
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics
(R)-p-mentha-1,8-diene

Signal word: Danger

Pictograms:**Hazard statements**

H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

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Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P273 Avoid release to the environment.
- P280 Wear eye protection.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
- P331 Do NOT induce vomiting.
- 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.
- P302+P352 IF ON SKIN: Wash with plenty of water and soap.
- 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.

Special labelling of certain mixtures

- EUH066 Repeated exposure may cause skin dryness or cracking.

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

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Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
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			
	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			
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			
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			1 - < 3 %
	227-813-5	601-096-00-2	01-2119529223-47	
	Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1B, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 3; H226 H315 H317 H304 H400 H412			
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			
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	
	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 = > 5000 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	
34590-94-8	252-104-2	(2-methoxymethylethoxy)propanol	5 - < 10 %
		inhalation: LC50 = 500 mg/l (vapours); 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	1 - < 3 %
		dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 5000 mg/kg Aquatic Acute 1; H400: M=1	
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	
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**5.1. Extinguishing media****Suitable extinguishing media**

Water fog. Foam. Carbon dioxide (CO₂). Extinguishing powder.



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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, CO₂, 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.

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.

For non-emergency personnel

First aider: Pay attention to self-protection!

For emergency responders

Fight fire with normal precautions from a reasonable distance.

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

For containment

Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

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).

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Advice on general occupational hygiene

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

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Further information on handling

Avoid contact with skin and eyes.

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

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 ³	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	Exposure route	Effect	Value
27247-96-7	2-Ethylhexyl nitrate			
Worker DNEL, long-term		inhalation	systemic	0,35 mg/m ³
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
5989-27-5	(R)-p-mentha-1,8-diene			
Worker DNEL, long-term		inhalation	systemic	66,7 mg/m ³
Worker DNEL, long-term		dermal	systemic	9,5 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	16,6 mg/m ³
Consumer DNEL, long-term		dermal	systemic	4,8 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	4,8 mg/kg bw/day
110-91-8	Morpholine			
Worker DNEL, long-term		inhalation	systemic	91 mg/m ³
Worker DNEL, long-term		inhalation	local	36 mg/m ³
Worker DNEL, acute		inhalation	local	72 mg/m ³
Worker DNEL, long-term		dermal	systemic	1,04 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	6,3 mg/kg bw/day

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PNEC values

CAS No	Substance	Value
Environmental compartment		
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
5989-27-5	(R)-p-mentha-1,8-diene	
Freshwater		0,014 mg/l
Marine water		0,0014 mg/l
Freshwater sediment		3,85 mg/kg
Marine sediment		0,385 mg/kg
Secondary poisoning		133 mg/kg
Micro-organisms in sewage treatment plants (STP)		1,8 mg/l
Soil		0,763 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
- 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.
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.



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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:	Liquid
Colour:	yellow-brown
Odour:	characteristic

	Test method
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	97 °C
Flammability:	not applicable
Lower explosion limits:	0,5 vol. %
Upper explosion limits:	13,5 vol. %
Flash point:	26 °C ISO 3679
Auto-ignition temperature:	> 200 °C
Decomposition temperature:	not determined
pH-Value (at 20 °C):	not determined DIN 19268
Viscosity / kinematic: (at 40 °C)	DIN EN ISO 3104
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	not determined
Vapour pressure:	not determined
Density (at 20 °C):	0,815 g/cm ³ DIN 51757
Relative vapour density:	not determined

9.2. Other information

Information with regard to physical hazard classes

Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

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Evaporation rate:	not determined
Solid content:	not determined
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not determined
Viscosity / dynamic:	DIN 53019-1
Flow time: (at 20 °C)	DIN EN ISO 2431

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

Flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take precautionary measures against static discharges.

10.5. Incompatible materials

Oxidizing agents. Pyrophoric or self-heating substances.

10.6. Hazardous decomposition productsIncomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, CO₂, 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.

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.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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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		
	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics				
	oral	LD50 > 5000 mg/kg	Rat		
	dermal	LD50 > 5000 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		
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		
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 dust/mist	ATE 1,5 mg/l			
5989-27-5	(R)-p-mentha-1,8-diene				
	oral	LD50 > 5000 mg/kg	Rat	GESTIS	
	dermal	LD50 > 5000 mg/kg	Rabbit	GESTIS	
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 dust/mist	ATE 1,5 mg/l			
110-91-8	Morpholine				
	oral	LD50 ca. 1900 mg/kg	Rat	Study report (1967)	OECD Guideline 401

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	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 dust/mist	ATE	0,5 mg/l			

Irritation and corrosivity

Serious eye damage/eye irritation: Causes serious eye damage.

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

Repeated exposure may cause skin dryness or cracking.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

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

No indications of human carcinogenicity exist.

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

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

Aspiration hazard

May be fatal if swallowed and enters airways.

Information on likely routes of exposure

Ingestion, Inhalation, Skin contact, Eye contact.

Reference to other sections: 2.1, 4.2.

Specific effects in experiment on an animal

No information available.

11.2. Information on other hazards**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

No information available.

Further information

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

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

The product is not: Ecotoxic.



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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		
	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		
71-23-8	n-propanol					
	Acute fish toxicity	LC50 4480 mg/l	96 h	Pimephales promelas		
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	EC50 > 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					
	Acute fish toxicity	LC50 0,7 mg/l	96 h	Pimephales promelas		
	Acute crustacea toxicity	EC50 0,42 mg/l	48 h	Daphnia magna		
104-76-7	2-Ethylhexan-1-ol					
	Acute fish toxicity	LC50 17,1 mg/l	96 h	Leuciscus idus (golden orfe)		
	Acute algae toxicity	ErC50 11,5 mg/l	72 h	Scenedesmus subspicatus		
	Acute crustacea toxicity	EC50 39 mg/l	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

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	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			
64742-48-9	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	OECD Guideline 301 F	89,8	28	ECHA
	Readily biodegradable (according to OECD criteria).				
	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	OECD Guideline 301 F	89 %	28	ECHA
71-23-8	n-propanol	OECD Prüfrichtlinie 301F	83 - 92 %	28	
34590-94-8	(2-methoxymethylethoxy)propanol	OECD 301 F	75%	10	
	leicht abbaubar				
104-76-7	2-Ethylhexan-1-ol	OECD Guideline 301 C	79 – 99,9 %	14	
110-91-8	Morpholine	OECD 301E	93%	25	
	Easily biodegradable (concerning to the criteria of the OECD)				
		OECD 302B	92%	28	

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	4,23
104-76-7	2-Ethylhexan-1-ol	2,9
110-91-8	Morpholine	-2,55

BCF

CAS No	Chemical name	BCF	Species	Source
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 substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

The product has not been tested.



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12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

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. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

070704 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fine chemicals and chemical products not otherwise specified; other organic solvents, washing liquids and mother liquors; hazardous waste

List of Wastes Code - used product

070704 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fine chemicals and chemical products not otherwise specified; other organic solvents, washing liquids and mother liquors; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

<u>14.1. UN number or ID number:</u>	UN 1993
<u>14.2. UN proper shipping name:</u>	FLAMMABLE LIQUID, N.O.S. (n-propanol; Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics)
<u>14.3. Transport hazard class(es):</u>	3
<u>14.4. Packing group:</u>	III
Hazard label:	3
Classification code:	F1
Special Provisions:	274 601
Excepted quantity:	E1
Transport category:	3
Hazard No:	30
Tunnel restriction code:	D/E

Other applicable information (land transport)

Limited quantity (LQ): 5 L

Inland waterways transport (ADN)

<u>14.1. UN number or ID number:</u>	UN 1993
<u>14.2. UN proper shipping name:</u>	FLAMMABLE LIQUID, N.O.S. (n-propanol; Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics)
<u>14.3. Transport hazard class(es):</u>	3

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14.4. Packing group: III
Hazard label: 3
Classification code: F1
Special Provisions: 274 601
Excepted quantity: E1

Other applicable information (inland waterways transport)

Limited quantity (LQ): 5 L

Marine transport (IMDG)

14.1. UN number or ID number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S.(n-propanol; Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclenes, <2% aromatics)
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3
Marine pollutant: no
Special Provisions: 223, 274, 955
Excepted quantity: E1
EmS: F-E, S-E

Other applicable information (marine transport)

Limited quantity (LQ): 5 L

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (n-propanol; Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclenes, <2% aromatics)
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3
Special Provisions: A3
Limited quantity Passenger: 10 L
Passenger LQ: Y344
Excepted quantity: E1
IATA-packing instructions - Passenger: 355
IATA-max. quantity - Passenger: 60 L
IATA-packing instructions - Cargo: 366
IATA-max. quantity - Cargo: 220 L

Other applicable information (air transport)

Limited quantity (LQ): 10 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

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, Entry 40, Entry 75

Directive 2010/75/EU on industrial emissions: No information available.

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Directive 2004/42/EC on VOC in
paints and varnishes:

No information available.

Additional information

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National regulatory information

Water hazard class (D):

2 - obviously hazardous to water

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,5,6,9,11,14.

Abbreviations and acronyms

Flam. Liq: Flammable liquids

Acute Tox: Acute toxicity

Asp. Tox: Aspiration hazard

Skin Corr: Skin corrosion

Skin Irrit: Skin irritation

Eye Dam: Eye damage

Eye Irrit: Eye irritation

Skin Sens: Skin sensitisation

Repr: Reproductive toxicity

STOT SE: Specific target organ toxicity - single exposure

Aquatic Acute: Acute aquatic hazard

Aquatic Chronic: Chronic aquatic hazard

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: Workplace Exposure Limits

TWA (EC): Time-Weighted Average

ATE: Acute Toxicity Estimate

ATEL (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
Flam. Liq. 3; H226	On basis of test data
Asp. Tox. 1; H304	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H336	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H225

Highly flammable liquid and vapour.

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H226	Flammable liquid and vapour.
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.
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.
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.

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