



**Flume Technik R Uhren-Reiniger**

Print date 22.01.2024  
Revision date 22.01.2024  
Version 4.2 (en)  
replaces version of 10.10.2022 (4.1)

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

**1.1 Product identifier**

**Trade name/designation** Flume Technik R Uhren-Reiniger  
**Unique Formula Identifier** UFI: WU50-K0Q2-T001-TVT8  
**Product category** PC-CLN-OTH Other cleaning, care and maintenance products (excludes biocidal products)

**Hazard components**

Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)], n-butanol, 3-Methylbut-2-en-1-ol

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

**Sector of uses [SU]**

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
SU3 Industrial uses

**Use of the substance/mixture**

Ready for use water-free cleaning solution for disassembled and assembled clockwork and for metallic precision parts.

**Uses advised against**

Do not use for injecting or spraying.

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

**Supplier**

Rudolf Flume Technik GmbH  
Hachestraße 66  
D-45127 Essen  
Telephone +49 (0)201 1899-0  
Telefax +49 (0)201 1899-100  
E-mail info@flume.de  
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Department responsible for information:

Herr Rolandus: f.rolandus@flume.de  
Telephone +49 (0)201 1899-0  
Telefax +49 (0)201 1899-100

**Manufacturer**

Elma Schmidbauer GmbH  
Gottlieb-Daimler-Str. 17  
D-78224 Singen (Htwl.)  
Telephone +49 7731 882-0  
Telefax +49 7731 882-266  
E-mail info@elma-ultrasonic.com  
Website www.elma-ultrasonic.com

Department responsible for information:

Chemie/Labor: Email: chemlab@elma-ultrasonic.com

**1.4 Emergency telephone number**

Vergiftungs-Informations-Zentrale Freiburg (Sprache/Language: DE, +49 761 19240  
EN)

**\* SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 [CLP]	Classification procedure
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Flam. Liq. 3, H226	On basis of test data.
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Skin Irrit. 2, H315	Calculation method.
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Classification according to Regulation (EC) No 1272/2008 [CLP]

Classification procedure

Eye Dam. 1, H318	Calculation method.
STOT SE 3, H336	Calculation method.
STOT RE 1, H372	Calculation method.
Asp. Tox. 1, H304	Expert judgement and weight of evidence determination.
Aquatic Chronic 2, H411	Calculation method.

**Hazard statements for physical hazards**

H226 Flammable liquid and vapour.

**Hazard statements for health hazards**

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

H372 Causes damage to central nervous system through prolonged or repeated exposure.

**Hazard statements for environmental hazards**

H411 Toxic to aquatic life with long lasting effects.

**2.2 Label elements**

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

**Hazard components**

Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)], n-butanol, 3-Methylbut-2-en-1-ol

**Hazard pictograms**



GHS02



GHS05



GHS07



GHS08



GHS09

**Signal word**

Danger

**Hazard statements**

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

H372 Causes damage to central nervous system through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

P405 Store locked up.

P102 Keep out of reach of children.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/eye protection.

P314 Get medical advice/attention if you feel unwell.

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.

P310 Immediately call a doctor.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

**Other labelling**

Labelling for contents according to regulation (EC) No. 648/2004:

≥ 30% aliphatic hydrocarbons

15 - 30% aromatic hydrocarbons

< 5% soap



Safety Data Sheet according to Regulation (EC) No 1907/2006 (REACH)

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\* **2.3 Other hazards**

\* **Adverse environmental effects**  
Aquatic Acute 2 H401: Toxic to aquatic life.

**Results of PBT and vPvB assessment**

The product does not contain any PBT-/vPvB-substances according to the recipe.

**Endocrine disrupting properties**

Effective dose	Method, Evaluation	Source, Remark
		This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.
		This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**SECTION 3: Composition / information on ingredients**

**3.1 Substances**

not applicable

**3.2 Mixtures**

**Hazardous ingredients**

CAS No	EC No	Index No	Substance name	Concentration	Classification according to Regulation (EC) No 1272/2008 [CLP]	SCL/ M/ ATE
64742-82-1	919-446-0		Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)]	90 - 100 weight-%	Flam. Liq. 3; H226 STOT SE 3; H336 STOT RE 1; H372 Asp. Tox. 1; H304 Aquatic Chronic 2; H411; EUH066	
71-36-3	200-751-6	603-004-00-6	n-butanol	< 5 weight-%	Flam. Liq. 3; H226 Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 STOT SE 3; H336	
556-82-1	209-141-4		3-Methylbut-2-en-1-ol	< 5 weight-%	Flam. Liq. 3; H226 Acute Tox. 4; H302 Skin Corr. 1C; H314 Eye Dam. 1; H318	
68604-33-1	271-685-3		Fatty acids, C14-18 and C16-18-unsatd., ammonium salts	< 5 weight-%	Aquatic Chronic 3; H412	
1336-21-6	215-647-6	007-001-01-2	ammonia ...%	< 1 weight-%	Met. Corr. 1; H290 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	STOT SE 3; H335: C>=5% M=1 (Aquatic Acute 1)

REACH No.	Substance name
01-2119458049-33	Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)]
01-2119484630-38	n-butanol



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REACH No.	Substance name
01-2119438442-43	3-Methylbut-2-en-1-ol
01-2120770276-50	Fatty acids, C14-18 and C16-18-unsatd., ammonium salts
01-2119488876-14	ammonia ...%

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**Additional information**

Mixture of aliphatic, isoaliphatic and aromatic hydrocarbons (C9-C12) with additives of soap, ammonia and alkoxy.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General information**

Remove contaminated, saturated clothing immediately.  
Remove casualty to fresh air and keep warm and at rest.

**Following inhalation**

Remove casualty to fresh air and keep warm and at rest.  
In the event of symptoms refer for medical treatment.

**Following skin contact**

After contact with skin, wash immediately with plenty of water and soap.  
In case of skin irritation, consult a physician.

**After eye contact**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

**Following ingestion**

Do NOT induce vomiting.  
Call a physician immediately.  
If swallowed seek medical advice immediately and show the doctor packing or label.

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

**Symptoms**

Headache  
Dizziness  
Dizziness

**Effects**

Risk of the aspiration of the lung.  
In case of ingestion risk of pulmonary oedema and pneumonia.

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

**Notes for the doctor**

Subsequent observance for pneumonia and lung oedema.  
If swallowed or in the event of vomiting, risk of entering the lungs.  
If swallowed, flush stomach adding activated charcoal.  
Keep under medical supervision for at least 48 hours.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**

alcohol resistant foam  
Extinguishing powder  
Carbon dioxide (CO<sub>2</sub>)  
Water spray jet

**Unsuitable extinguishing media**

Full water jet



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**5.2 Special hazards arising from the substance or mixture**

**Hazardous combustion products**

In the event of fire the following can be released:

Carbon monoxide

Flammable vapor-air-mixture are more heavy than air. Inflammation over far distance is possible.

**5.3 Advice for firefighters**

**Special protective equipment for firefighters**

Do not inhale explosion and combustion gases.

**Additional information**

Fire class

B (Fires of liquids or liquid turning substances).

Use water spray jet to protect personnel and to cool endangered containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

Provide adequate ventilation.

Use personal protection equipment.

Remove all sources of ignition.

**For emergency responders**

Ensure adequate ventilation.

Remove persons to safety.

Personal protection equipment

Use personal protection.

Remove all sources of ignition.

Use breathing apparatus if exposed to vapours/dust/aerosol.

Pay attention to extension of gas especially at ground (heavier than air) and in direction of the wind.

**6.2 Environmental precautions**

Do not allow to enter into surface water or drains.

Do not allow to enter into soil/subsoil.

**6.3 Methods and material for containment and cleaning up**

**For containment**

Send in suitable containers for recovery or disposal.

Suitable material for taking up:

Kieselguhr

**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**



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**7.1 Precautions for safe handling**

**Protective measures**

Keep away from sources of ignition - No smoking.  
Handle and open container with care.  
Avoid:  
generation/formation of aerosols  
Do not inhale gases/vapours/aerosols.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Avoid contact with eyes and skin.  
Keep limited supplies at workplace.  
Vapours are heavier than air.  
Provide room air exhaust at ground level.  
Suitable container/equipment material:  
Material, solvent-resistant  
Vapours can form explosive mixtures with air.  
Ignitable mixtures can be formed in the empty container.  
Take precautionary measures against static discharges.  
Keep the packing dry and well sealed to prevent contamination and absorption of humidity.  
Keep in a cool, well-ventilated place.

**Advices on general occupational hygiene**

Make available sufficient washing facilities  
Keep away from food and drink.

**7.2 Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Ensure adequate ventilation of the storage area.  
Keep only in unopened original container.

**Materials to avoid**

Do not store together with:  
Oxidising agent

**Further information on storage conditions**

Keep locked up and out of reach of children.  
Keep locked up.  
Store in a place accessible by authorized persons only.  
Protect from heat and direct solar radiation.  
Do not store at temperature above 25°C (=77°F).  
Storage time: 24 months.

**7.3 Specific end use(s)**

**Recommendation**

no further

**\* SECTION 8: Exposure controls/personal protection**

**\* 8.1 Control parameters**

**\* Occupational exposure limit values**

CAS No	EC No	Substance name	occupational exposure limit value
71-36-3	200-751-6	Butan-1-ol	20 [ml/m <sup>3</sup> (ppm)] (IE)
71-36-3	200-751-6	Butan-1-ol	Short-term(ml/m <sup>3</sup> ) 50 Short-term(mg/m <sup>3</sup> ) 154 (UK)

**DNEL worker**

CAS No	Substance name	DNEL value	DNEL type	Remark
64742-82-1	Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2- 25%)]	21 mg/kg bw/day	long-term dermal (systemic)	Assessment factor 24



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CAS No	Substance name	DNEL value	DNEL type	Remark
64742-82-1	Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2- 25%)]	330 mg/m <sup>3</sup>	long-term inhalative (systemic)	Assessment factor 6

## 8.2 Exposure controls

### Appropriate engineering controls

#### Technical measures to prevent exposure

Technical exhaustion if there is a long-term exposition

### Personal protection equipment

#### Eye/face protection

safety goggles

#### Hand protection

Gloves (solvent-resistant)

Glove material specification [make/type, thickness, permeation time/life]: NBR, 0,35mm, >=8h.

Glove material specification [make/type, thickness, permeation time/life]: FKM, 0,4mm, >=8h.

#### Respiratory protection

Respiratory protection necessary at:

insufficient exhaust

prolonged exposure

Suitable respiratory protection apparatus:

Multi-purpose filter ABEK

### Environmental exposure controls

#### Technical measures to prevent exposure

Avoid penetration into the subsoil/soil.

Do not discharge into the drains/surface waters/groundwater.

### Additional information

Occupational exposure limits for mixtures of hydrocarbons.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Physical state

liquid

#### Colour

light beige up to light brown

#### Odour

of ammonia and solvent-like

#### Safety relevant basis data

	Value	Method	Source, Remark
Odour threshold:			n-butanol: 0.012 - 150 mg/m <sup>3</sup> (0.0039 - 48.7 ppm).
Odour threshold:			3-methylbut-2-en-1-ol: < 100 ppm (< 358 mg/m <sup>3</sup> ).
Odour threshold:			ammonia: 5ppm (3.5mg/m <sup>3</sup> ).
Melting point/freezing point	solidifying range < -15 °C		
Boiling point or initial boiling point and boiling range	116- 200 °C		



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	Value	Method	Source, Remark
flammability	solid		not applicable
flammability	gaseous		not applicable
Lower and upper explosion limit	Upper explosion limit approx. 7 %		
Lower and upper explosion limit	Lower explosion limit 0.6 %		
Flash point	30- 34 °C		
Auto-ignition temperature	> 200 °C		
Decomposition temperature			not determined
pH	in delivery state		not applicable
Viscosity	approx. 1.2 mm <sup>2</sup> /s (20°C)		
Solubility(ies)	Water solubility		~6% are water-soluble.
Partition coefficient n-octanol/water (log value)	approx.3.2- 7		Value of hydrocarbon components.
Vapour pressure	≤ 7 hPa (20°C)		
Density and/or relative density	0.78- 0.8 g/cm <sup>3</sup> (20°C)		
Relative vapour density	> 1		
particle characteristics			not applicable (liquid).

## 9.2 Other information

### Information with regard to physical hazard classes

#### Explosives

**Assessment/classification**

The mixture does not contain any explosive substances (CLP I 2.1.4.3 a).

CLP I 2.1.4.3 a: The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with explosive properties.

#### flammable gases

**Assessment/classification**

not applicable (liquid).

#### Aerosols

**Assessment/classification**

not relevant - no aerosol.

The classification criteria for this hazard class are not met by definition.

#### Oxidising gas

**Assessment/classification**

not applicable (liquid).

#### Gases under pressure

**Assessment/classification**

not applicable (liquid, no dissolved gas under pressure).

#### flammable liquids

**Assessment/classification**

Flam. Liq. 3 H226: Flash point ≥ 23 °C and ≤ 60 °C.

Flammable liquid and vapour.





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**flammable solids**

**Assessment/classification**  
not applicable (liquid).

**Self-reactive substances and mixtures**

**Assessment/classification**  
The mixture does not contain any self-reactive substances (CLP I 2.8.4.2 a).  
CLP I 2.8.4.2 a: There are no chemical groups present in the molecule associated with explosive or self reactive properties.

**Pyrophoric liquids**

**Assessment/classification**  
The mixture does not contain any pyrophoric substances - not spontaneously flammable (CLP I 2.9.4.1).  
CLP I 2.9.4.1: The classification procedure for pyrophoric liquids need not be applied when experience in manufacture or handling shows that the substance or mixture does not ignite spontaneously on coming into contact with air at normal temperatures (i.e. the substance is known to be stable at room temperature for prolonged periods of time (days)).

**Pyrophoric solids**

**Assessment/classification**  
not applicable (liquid).

**self-heating substances and mixtures**

**Assessment/classification**  
The mixture does not contain any self-heating substances.

**Substances or mixtures which, in contact with water, emit flammable gases**

**Assessment/classification**  
not relevant - in contact with water releases no flammable gases (CLP I 2.12.4.1).  
CLP I 2.12.4.1: The classification procedure for this class need not be applied if: (a) the chemical structure of the substance or mixture does not contain metals or metalloids; or (b) experience in production or handling shows that the substance or mixture does not react with water, e.g. the substance is manufactured with water or washed with water; or (c) the substance or mixture is known to be soluble in water to form a stable mixture.

**Oxidising liquids**

**Assessment/classification**  
The mixture does not contain any oxidising substances.

**Oxidising solids**

**Assessment/classification**  
not applicable (liquid).

**Organic peroxides**

**Assessment/classification**  
The mixture does not contain any organic peroxides.

**Corrosive to metals**

**Safety characteristics**

	Value	Method, Result	Source, Remark
Corrosion rate (mm aluminium/year)	< 6.25 mm/a	Expert judgement and weight of evidence determination.	
Corrosion rate (mm steel/year)	< 6.25 mm/a	Expert judgement and weight of evidence determination.	

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



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**Desensitised explosives**

**Assessment/classification**

The mixture does not contain any desensitised explosive substances.

**Other safety characteristics**

	Value	Method	Source, Remark
Evaporation rate			Mixture of hydrocarbons: 0.16 (ASTM D3539).
Evaporation rate			n-butanol: 0.44 (ASTM D3539) / 33 (DIN 53170) .
Solvent content	96 %		
Explosive properties			Not classified as explosive. Vapours can form an explosive mixture with air.
Oxidising properties			none

**Other information**

Vapours are heavier than air.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

Vapours can form an explosive mixture with air.  
No further hazardous reactions known if used as directed.

**10.2 Chemical stability**

Stable at ambient temperature.

**10.3 Possibility of hazardous reactions**

Reactions with oxidising agents.

**10.4 Conditions to avoid**

Heat and direct solar radiation.  
Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.

**10.5 Incompatible materials**

Oxidising agent

**10.6 Hazardous decomposition products**

No decomposition if used as directed.

**SECTION 11: Toxicological information**

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

**Acute toxicity**

**Animal data**

	Effective dose	Method, Evaluation	Source, Remark
Acute oral toxicity	> 5000 mg/kg	ATE: Acute Toxicity Estimate	
	CAS No71-36-3 n-butanol LD50: 790 mg/kg Species Rat		



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	Effective dose	Method, Evaluation	Source, Remark
	CAS No556-82-1 3-Methylbut-2-en-1-ol LD50: 1591 mg/kg Species Rat		
	CAS No1336-21-6 ammonia ...% LD50: 350 mg/kg Species Rat		
Acute dermal toxicity	> 5000 mg/kg	ATE: Acute Toxicity Estimate	
Acute inhalation toxicity	Acute inhalation toxicity (vapour) > 50 mg/L	ATE: Acute Toxicity Estimate	
	CAS No1336-21-6 ammonia ...% Acute inhalation toxicity (vapour) LC50: 11.59 mg/L Species Rat Exposure time 1 h		

**Assessment/classification**

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

**Skin corrosion/irritation**

**Animal data**

Result / Evaluation	Method	Source, Remark
Irritant.	Calculation method.	

**Serious eye damage/irritation**

**Animal data**

Result / Evaluation	Method	Source, Remark
Risk of serious damage to eyes.	Calculation method.	

**Sensitisation to the respiratory tract**

**Assessment/classification**

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

**Skin sensitisation**

**Animal data**

Result / Evaluation	Dose / Concentration	Method	Source, Remark
not sensitising.		Calculation method.	

**Germ cell mutagenicity**

**Assessment/classification**

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

**Carcinogenicity**

**Assessment/classification**

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

**Reproductive toxicity**

**Assessment/classification**

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



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**Overall Assessment on CMR properties**

The mixture is not classified as mutagen / not classified as carcinogen / not classified as reproductive toxicant.

**STOT-single exposure**

**STOT SE 1 and 2**

**Assessment/classification**

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

**STOT SE 3**

**Irritation to respiratory tract**

**Assessment/classification**

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

**Narcotic effects**

**Assessment/classification**

Narcotic effect: STOT SE 3 H336: May cause drowsiness or dizziness.

**STOT-repeated exposure**

**Assessment/classification**

STOT RE 1 H372: Causes damage to central nervous system through prolonged or repeated exposure.

**Aspiration hazard**

**Experimental data**

	Value	Method	Source, Remark
Cinematic viscosity (40°C):	< 20.5 mm <sup>2</sup> /s		
Hydrocarbon content (%):	90- 100		

**Assessment/classification**

Aspiration hazard: Asp. Tox. 1 H304: May be fatal if swallowed and enters airways.

**11.2 Information on other hazards**

**Information on other hazards**

	Effective dose	Method,Evaluation	Source, Remark
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**

benzene: < 100 ppm.  
Has degreasing effect on the skin.

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Aquatic toxicity**

	Effective dose	Method,Evaluation	Source, Remark
Acute (short-term) fish toxicity	LC50: 10.1 mg/L  CAS No68604-33-1 Fatty acids, C14-18 and C16-18-unsatd., ammonium salts LC50: ≥ 21 mg/L Test duration 96 h	calculated.	



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	Effective dose	Method, Evaluation	Source, Remark
	CAS No1336-21-6 ammonia ...% LC50: 0.16- 1.1 mg/L Species Oncorhynchus mykiss (Rainbow trout) Test duration 96 h		
	CAS No64742-82-1 Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)] LL50 10- 30 mg/L Species Oncorhynchus mykiss (Rainbow trout) Test duration 96 h	OECD 203	
Chronic (long-term) fish toxicity	CAS No1336-21-6 ammonia ...% LOEC: 0.022 mg/L Species Oncorhynchus mykiss (Rainbow trout) Test duration 73 d		
	CAS No64742-82-1 Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)] NOELR 0.13 mg/L Test duration 28 h	QSAR	
Acute (short-term) toxicity to crustacea	NOELR 0.1- 0.2 mg/L EC50 10.5 mg/L	calculated. calculated.	
	CAS No68604-33-1 Fatty acids, C14-18 and C16-18-unsatd., ammonium salts EC50 $\geq$ 4.2 mg/L		
	CAS No1336-21-6 ammonia ...% EC50 2.94 mg/L Species Daphnia magna (Big water flea) Test duration 48 h		
	CAS No64742-82-1 Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)] EL50 10- 22 mg/L Species Daphnia magna (Big water flea) Test duration 48 h	OECD 202	
Chronic (long-term) toxicity to aquatic invertebrate	CAS No68604-33-1 Fatty acids, C14-18 and C16-18-unsatd., ammonium salts NOEC 0.11 mg/L Test duration 21 d		
	CAS No1336-21-6 ammonia ...% NOEC 0.79 mg/L Species Daphnia magna (Big water flea) Test duration 96 h		



Safety Data Sheet according to Regulation (EC) No 1907/2006 (REACH)

**Flume Technik R Uhren-Reiniger**

Print date 22.01.2024  
Revision date 22.01.2024  
Version 4.2 (en)  
replaces version of 10.10.2022 (4.1)

	Effective dose	Method, Evaluation	Source, Remark
Acute (short-term) toxicity to algae and cyanobacteria	CAS No64742-82-1 Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)] NOELR 0.28 mg/L Species <i>Daphnia magna</i> (Big water flea) Test duration 21 d	OECD 211	
	NOELR 0.1- 0.2 mg/L	calculated.	
	EC50 2.5 mg/L	calculated.	
Chronic (long-term) toxicity to aquatic algae and cyanobacteria	CAS No68604-33-1 Fatty acids, C14-18 and C16-18-unsatd., ammonium salts EC50 > 44 mg/L Test duration 72 h		
	CAS No1336-21-6 ammonia ...% EC50 330 mg/L Species <i>Chlorella vulgaris</i> Test duration 5 d		
	CAS No64742-82-1 Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)] EL50 4.1 mg/L Species <i>Pseudokirchneriella subcapitata</i> Test duration 72 h	OECD 201	
Toxicity to other aquatic plants/organisms	CAS No68604-33-1 Fatty acids, C14-18 and C16-18-unsatd., ammonium salts NOEC: 20 mg/L Test duration 72 h		
	CAS No64742-82-1 Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)] NOELR: 0.76 mg/L Species <i>Pseudokirchneriella subcapitata</i> Test duration 72 h	OECD 201	
	NOELR: 0.1- 0.2 mg/L	calculated. calculated.	
Toxicity to microorganisms	not determined		

**Assessment/classification**

Toxic to aquatic life.  
Toxic to aquatic life with long lasting effects.

**12.2 Persistence and degradability**

	Value	Method	Source, Remark
Biodegradation			Readily biodegradable (according to OECD criteria).
Biodegradation	Degradation rate 90 %	Activated charcoal adsorption	



Safety Data Sheet according to Regulation (EC) No 1907/2006 (REACH)

**Flume Technik R Uhren-Reiniger**

Print date 22.01.2024  
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replaces version of 10.10.2022 (4.1)

	Value	Method	Source, Remark
Biodegradation	Degradation rate 93 % Test duration 28 d	OECD 301B/ ISO 9439/ EEC 92/69/V, C.4-C	CAS No68604-33-1 Fatty acids, C14-18 and C16-18-unsatd., ammonium salts
Biodegradation			CAS No1336-21-6 ammonia ...%  The methods for determining the biological degradability are not applicable to inorganic substances.
Biodegradation	Degradation rate 74.7 % Test duration 28 d	OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D	CAS No64742-82-1 Mixture of hydrocarbons [Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)]
Biodegradation	Degradation rate 98 % Test duration 28 d	OECD 301E/ EEC 92/69/V, C.4-B	CAS No71-36-3 n-butanol
Biodegradation	Degradation rate 80- 90 % Test duration 28 d	OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D	CAS No556-82-1 3-Methylbut-2-en-1-ol

### 12.3 Bioaccumulative potential

#### Assessment/classification

Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%): Has the potential to bioaccumulate.

n-butanol: Significant accumulation in organisms is not expected (log Pow: 0.88).

3-methylbut-2-en-1-ol: Significant accumulation in organisms is not expected (log Pow: 0.91).

Fatty acids, C14-18 and C16-18-unsatd., ammonium salts: Because of the n-octanol/water partition coefficient accumulation in organisms is possible (log Pow >3).

ammonia: Accumulation in organisms is not expected.

### 12.4 Mobility in soil

#### Assessment/classification

Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%): Floats on water surface. Is adsorbed by soil and is of low mobility.

n-butanol: Moderately to highly mobile in soil.

3-methylbut-2-en-1-ol: From the water surface the substance is gradually evaporated in the atmosphere. Adsorption on soil is not expected.

Fatty acids, C14-18 and C16-18-unsatd., ammonium salts: strong adsorption on soil, immobile.

ammonia ...%: The ammonium ion will be adsorbed by the soil; very soluble in water.

### 12.5 Results of PBT and vPvB assessment

The product does not contain any PBT-/vPvB-substances according to the recipe.

### 12.6 Endocrine disrupting properties

	Effective dose	Method,Evaluation	Source, Remark
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

	Value	Method	Source, Remark
Ozone depletion potential (ODP):			Based on available data, the classification criteria are not met.



Safety Data Sheet according to Regulation (EC) No 1907/2006 (REACH)

**Flume Technik R Uhren-Reiniger**

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Revision date 22.01.2024  
Version 4.2 (en)  
replaces version of 10.10.2022 (4.1)

**Additional ecotoxicological information**

	Value	Method	Source, Remark
AOX			The product does not contain any organically bound halogens according to the recipe.

**Additional information**

The surfactants in our product meet the criteria for biodegradation as laid down in Annex III of the Regulation (EC) No 648/2004 on detergents.

Acute aquatic environmental hazards: Aquatic Acute 2 H401: Toxic to aquatic life.

Chronic aquatic environmental hazards: Aquatic Chronic 2 H411: Toxic to aquatic life with long lasting effects.

Do not allow uncontrolled discharge of product into the environment.

Product is not allowed to be discharged into the ground water or aquatic environment.

No further relevant informations available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Waste codes/waste designations according to EWC/AVV**

Waste code product	Waste name
140603 *	other solvents and solvent mixtures

Waste code packaging	Waste name
150110 *	packaging containing residues of or contaminated by hazardous substances

**Appropriate disposal / Product**

Do not dispose with household waste. Do not discharge into the drains.

Dispose of waste according to applicable legislation.

**Appropriate disposal / Package**

Completely emptied packages can be recycled.

Non-contaminated packages may be recycled.

Handle contaminated packages in the same way as the substance itself.

**Remark**

Send to a hazardous waste incinerator facility under observation of official regulations.

**SECTION 14: Transport information**

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.1 UN number or ID number</b>	UN 3295	UN 3295	UN 3295
<b>14.2 UN proper shipping name</b>	HYDROCARBONS, LIQUID, N.O.S.	HYDROCARBONS, LIQUID, N.O.S.	Hydrocarbons, liquid, n.o.s.
<b>14.3 Transport hazard class(es)</b>	3	3	3
<b>14.4 Packing group</b>	III	III	III
<b>14.5 Environmental hazards</b>	ENVIRONMENTALLY HAZARDOUS	ENVIRONMENTALLY HAZARDOUS Marine pollutant	ENVIRONMENTALLY HAZARDOUS

**14.6 Special precautions for user**

none

**14.7 Maritime transport in bulk according to IMO instruments**

not relevant





Safety Data Sheet according to Regulation (EC) No 1907/2006 (REACH)

**Flume Technik R Uhren-Reiniger**

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Version 4.2 (en)  
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**Land transport (ADR/RID)**

UN number or ID number UN 3295  
UN proper shipping name HYDROCARBONS, LIQUID, N.O.S.  
Transport hazard class(es) 3  
Hazard label(s) 3  
Classification code F1  
Packing group III  
Environmental hazards ENVIRONMENTALLY HAZARDOUS  
Limited quantity (LQ) 5 L  
Special provisions -  
Tunnel restriction code D/E

**Remark**

Environmentally Hazardous: not require labeling according to ADR 3.3 SP 375 for containers up to 5 litre.

**Sea transport (IMDG)**

UN number or ID number UN 3295  
UN proper shipping name HYDROCARBONS, LIQUID, N.O.S.  
Transport hazard class(es) 3  
Packing group III  
Environmental hazards ENVIRONMENTALLY HAZARDOUS  
Limited quantity (LQ) 5 L  
Marine pollutant Yes.  
EmS F-E, S-D

**Remark**

Marine pollutant (Environmentally Hazardous): not require labeling according to IMDG-Code, 2.10.2.7 for containers up to 5 litre.

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

UN number or ID number UN 3295  
UN proper shipping name Hydrocarbons, liquid, n.o.s.  
Transport hazard class(es) 3  
Packing group III  
Environmental hazards ENVIRONMENTALLY HAZARDOUS

**Remark**

Environmentally Hazardous: not require labeling according to IATA, A197 for containers up to 5 litre.

**SECTION 15: Regulatory information**

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

**EU legislation**

**Authorisations**  
not relevant

**Restrictions on use**

Regulation (EC) No 1907/2006 (REACH), Annex XVII No 3 + 40 - not relevant if used as directed.  
Regulation (EC) No 1907/2006 (REACH), Annex XVII No 75 - not relevant if used as directed.



**Flume Technik R Uhren-Reiniger**

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**Restrictions of occupation**

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.  
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

**Other regulations (EU)**

**To follow:**

Regulation (EC) No. 648/2004 (Detergents regulation)  
Directive 2012/18/EU, Annex I: P5c + E2.

**Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive] VOC**

VOC content, ready-to-use condition 96 %  
VOC content, delivery state 96 %

**15.2 Chemical Safety Assessment**

**National regulations**

For this mixture a chemical safety assessment were not carried out.

**SECTION 16: Other information**

**Abbreviations and acronyms**

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

ASTM: American Society for Testing and Materials

ATE: Acute Toxicity Estimate

AVV: Waste Shipment Ordinance (DE)

DGR: Dangerous Goods Regulations (IATA)

DIN: German Institute for Standardization / German Industrial Standard

DNEL: derived no-effect level

EL50: Effective Loading 50 %

EmS: emergency procedures

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organization

JArbSchG: Youth Labor Protection Act (DE)

LL50: Lethal Loading 50 %

MuSchRiv: Maternity Protection Guideline Ordinance (DE)

NOELR: No Observed Effect Level

OECD: Organisation for Economic Cooperation and Development

PBT: persistent and bioaccumulative and toxic

QSAR: Quantitative Structure-Activity Relationship

RID: Dangerous goods regulations for transport by rail

SCL: Specific concentration limit

TI: Technical Instruction

TRGS: Technical Rules for Hazardous Substances

VOC: Volatile organic compounds

vPvB: very persistent, very bioaccumulative

**Key literature references and sources for data**

Own measurements.

European Chemicals Agency, <http://echa.europa.eu/>.

Informations from our suppliers.

**Additional information**

National and local regulations concerning chemicals shall be observed.

These data are given according to our actual knowledge about this product. This data sheet does not correspond to an assurance by virtue of a contract for properties of the product.

**Relevant H- and EUH-phrases (Number and full text)**

H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.



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- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

**Indication of changes**

\* Data changed compared with the previous version