Safety data sheet
according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

Seilfett 500 mL
Art.: 6135

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture:
Lubricant
Sector of use [SU]:
SU 3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
SU21 - Consumer uses: Private households (=general public = consumers)
SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category [PC]:
PC17 - Hydraulic fluids
PC24 - Lubricants, greases, release products
Process category [PROC]:
PROC 7 - Industrial spraying
PROC 8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC 8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC 9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10 - Roller application or brushing
PROC11 - Non industrial spraying
PROC13 - Treatment of articles by dipping and pouring
PROC17 - Lubrication at high energy conditions and in partly open process
PROC18 - Greasing at high energy conditions
PROC19 - Hand-mixing with intimate contact and only PPE available
PROC20 - Heat and pressure transfer fluids in dispersive, professional use but closed systems
Article Categories [AC]:
AC99 - Not required.
Environmental Release Category [ERC]:
ERC 2 - Formulation of preparations
ERC 4 - Industrial use of processing aids in processes and products, not becoming part of articles
ERC 7 - Industrial use of substances in closed systems
ERC 8a - Wide dispersive indoor use of processing aids in open systems
ERC 8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC 8d - Wide dispersive outdoor use of processing aids in open systems
ERC 8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
ERC 9a - Wide dispersive indoor use of substances in closed systems
ERC 9b - Wide dispersive outdoor use of substances in closed systems

Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet
GB

LIQUI MOLY GmbH, Jerg-Wieland-Str. 4, 89081 Ulm-Lehr, Germany
Phone: (+49) 0731-1420-0, Fax: (+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number
Emergency information services / official advisory body:

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revision date / version: 21.08.2015 / 0009
Replacing version dated / version: 27.01.2014 / 0008
Valid from: 21.08.2015
PDF print date: 28.08.2015
Seilfett 500 mL
Art.: 6135

Telephone number of the company in case of emergencies:
+49 (0) 700 / 24 112 112 (LMR)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Asp. Tox.	1	H304-May be fatal if swallowed and enters airways.
Aquatic Chronic	3	H412-Harmful to aquatic life with long lasting effects.
Aerosol	1	H222-Extremely flammable aerosol.
Aerosol	1	H229-Pressurised container: May burst if heated.

2.2 Label elements
Labeling according to Regulation (EC) 1272/2008 (CLP)

Danger

H412-Harmful to aquatic life with long lasting effects. H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.
P210-Keep away from heat, hot surfaces, 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.
P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
P501-Dispose of contents/container to special waste collection point.

Without adequate ventilation, formation of explosive mixtures may be possible.

2.3 Other hazards
The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006.
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006.
Possible build up of explosive/highly flammable vapour/air mixture.
Danger of bursting (explosion) when heated

SECTION 3: Composition/information on ingredients

Aerosol

3.1 Substance
n.a.

3.2 Mixture

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	

Registration number (REACH)	--
Index	---
EINECS, ELINCS, NLP	919-164-8 (REACH-IT List-No.)
CAS	(64742-82-1)
content %	10-20
Classification according to Regulation (EC) 1272/2008 (CLP)	Asp. Tox. 1, H304 Aquatic Chronic 3, H412

Pentane	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	--
Index	601-006-00-1
EINECS, ELINCS, NLP	203-692-4
CAS	109-66-0
content %	1-10
Classification according to Regulation (EC) 1272/2008 (CLP)	Aquatic Chronic 2, H411 Asp. Tox. 1, H304 STOT SE 3, H336 Flam. Liq. 2, H225

Dimethyl ether	**Substance for which an EU exposure limit value applies.**
Registration number (REACH)	01-2119472128-37-XXXX
Index	603-019-00-8
EINECS, ELINCS, NLP	204-065-8
CAS	115-10-6
content %	1-10
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Gas 1, H220

Isoalkanes (C9 - C12)	
Registration number (REACH)	--
Index	---
EINECS, ELINCS, NLP	292-459-0
CAS	90622-57-4
content %	1-10
Classification according to Regulation (EC) 1272/2008 (CLP)	Aquatic Chronic 4, H413 Asp. Tox. 1, H304 Flam. Liq. 3, H226

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane	
Registration number (REACH)	--
Index	---
EINECS, ELINCS, NLP	921-024-6 (REACH-IT List-No.)
CAS	---
content %	1-<10
Classification according to Regulation (EC) 1272/2008 (CLP)	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1/3.2 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation

Remove person from danger area.
Assure the safety of the rescuer.
Supply person with fresh air and consult doctor according to symptoms.
If the person is unconscious, place in a stable side position and consult a doctor.

Respiratory arrest - Artificial respiration apparatus necessary.

Skin contact
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact
Remove contact lenses.
Wash thoroughly for several minutes using copious water.
Consult medical specialist.

Ingestion
Typically no exposure pathway.
Rinse the mouth thoroughly with water.
Do not induce vomiting - give copious water to drink. Consult doctor immediately.
In case of vomiting, keep head low so that the stomach content does not reach the lungs.
Immediate admittance to a hospital.

4.2 Most important symptoms and effects, both acute and delayed
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
The following may occur:
Irritation of the eyes
with long-term contact:
Drying of the skin.
Dermatitis (skin inflammation)
Irritation of the skin.
At high concentrations:
Irritation of the respiratory tract
Coughing
Dizziness
Headaches
Effect on the central nervous system
Coordination disorders
Unconsciousness
Ingestion of large quantities:
Headaches
Nausea
Vomiting
Danger of aspiration
Other dangerous properties cannot be ruled out.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
CO2
Dry extinguisher
Water jet spray

Unsuitable extinguishing media
High volume water jet

5.2 Special hazards arising from the substance or mixture
In case of fire the following can develop:
Oxides of carbon
Toxic pyrolysis products.
Danger of bursting (explosion) when heated
Explosive vapour/air mixture
Dangerous vapours heavier than air.
In case of spreading near the ground, flashback to distance sources of ignition is possible.

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.

According to size of fire
Full protection, if necessary.
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Remove possible causes of ignition - do not smoke.
Ensure sufficient supply of air.
Avoid contact with eyes or skin.
If applicable, caution - risk of slipping.

6.2 Environmental precautions
Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up
If spray or gas escapes, ensure ample fresh air is available.
Without adequate ventilation, formation of explosive mixtures may be possible.
Active substance:
Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

6.4 Reference to other sections
For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling
7.1.1 General recommendations
Ensure good ventilation.
Avoid inhalation of the vapours.
Do not use the product in enclosed spaces.
Keep away from sources of ignition - Do not smoke.
Do not use on hot surfaces.
Avoid contact with eyes or skin.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities
Keep out of access to unauthorised individuals.
Store product closed and only in original packing.
Not to be stored in gangways or stair wells.
Do not store with oxidizing agents.
Observe special regulations for aerosols!
Observe special storage conditions (in Germany, e.g., in accordance with the regulations in the "Betriebssicherheitsverordnung").
Keep protected from direct sunlight and temperatures over 50°C.
Store in a well ventilated place.

7.3 Specific end use(s)
No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):
1000 mg/m3

GB **Chemical Name**	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Content %:10-20
WEL-TWA: 1000 mg/m3	WEL-STEL: ---	---
Monitoring procedures:	- Draeger - Hydrocarbons 2/a (81 03 581) - Draeger - Hydrocarbons 0,1%/c (81 03 571) - Compur - KITA-187 S (551 174)	
BMGV: ---	Other information: (WEL acc. to RCP-method, EH40)	

GB **Chemical Name**	Pentane	Content %:1-10
WEL-TWA: 600 ppm (1800 mg/m3) (WEL), 1000 ppm (3000 mg/m3) (EU)	WEL-STEL: ---	---
Monitoring procedures:	- Compur - KITA-113 SB(C) (549 368) - Draeger - Pentane 100/a (67 24 701) - DFG (D) (Loesungsmittelgemische Meth. Nr. 1), DFG (E) (Solvent mixtures 1) - 1998, 2002	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Dimethyl ether	Content %:1-10
WEL-TWA: 400 ppm (766 mg/m3) (WEL), 1000 ppm (1920 mg/m3) (EU)	WEL-STEL: 500 ppm (958 mg/m3) (WEL)	---
Monitoring procedures:	- Compur - KITA-123 S (549 129)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Isoalkanes (C9 - C12)	Content %:1-10
WEL-TWA: 1200 mg/m3 (>=C7 normal and branched chain alkanes)	WEL-STEL: ---	---
Monitoring procedures:	- Draeger - Hydrocarbons 2/a (81 03 581) - Draeger - Hydrocarbons 0,1%/c (81 03 571) - Compur - KITA-187 S (551 174)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane	Content %:1-<10
WEL-TWA: 800 mg/m3	WEL-STEL: ---	---
Monitoring procedures:	- Draeger - Hydrocarbons 2/a (81 03 581) - Draeger - Hydrocarbons 0,1%/c (81 03 571) - Compur - KITA-187 S (551 174)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Propane	Content %:
WEL-TWA: 1000 ppm (ACGIH)	WEL-STEL: ---	---
Monitoring procedures:	- Compur - KITA-125 SA (549 954)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Butane	Content %:
WEL-TWA: 600 ppm (1450 mg/m3)	WEL-STEL: 750 ppm (1810 mg/m3)	---
Monitoring procedures:	- Compur - KITA-221 SA (549 459)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Isobutane	Content %:
WEL-TWA: 1000 ppm (ACGIH)	WEL-STEL: ---	---
Monitoring procedures:	- Compur - KITA-113 SB(C) (549 368)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Oil mist, mineral	Content %:
WEL-TWA: 5 mg/m3 (ACGIH)	WEL-STEL: 10 mg/m3 (ACGIH)	---
Monitoring procedures:	- Draeger - Oil 10/a-P (67 28 371) - Draeger - Oil Mist 1/a (67 33 031)	
BMGV: ---	Other information: ---	

GB **Chemical Name**	Paraffin wax, fume	Content %:
WEL-TWA: 2 mg/m3	WEL-STEL: 6 mg/m3	---
Monitoring procedures:	---	
BMGV: ---	Other information: ---	

GB WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - oral	Long term, systemic effects	DNEL	26	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	26	mg/kg	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	44	mg/kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	330	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	71	mg/m3	

Dimethyl ether

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1894	mg/m3	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	471	mg/m3	
	Environment - freshwater		PNEC	0,155	mg/l	
	Environment - sediment, freshwater		PNEC	0,681	mg/kg	
	Environment - soil		PNEC	0,045	mg/kg	
	Environment - sewage treatment plant		PNEC	160	mg/l	
	Environment - marine		PNEC	0,016	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,549	mg/l	
	Environment - sediment, marine		PNEC	0,069	mg/kg	

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	300	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2035	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	149	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	608	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	699	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	773	mg/kg bw/day	

8.2 Exposure controls
8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Chemical resistant protective gloves (EN 374).
Recommended
Protective nitrile gloves (EN 374)
Permeation time (penetration time) in minutes:
>480
Minimum layer thickness in mm:
0,7
Protective hand cream recommended.
The breakthrough times determined in accordance with EN 374 Part 3 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
Normally not necessary.
If OES or MEL is exceeded.
Filter A2 P2 (EN 14387), code colour brown, white
In case of emergency:
Respiratory protection appliance (insulation device) (e.g. EN 137 or EN 138)
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
If applicable, these are included in the individual protective measures (eye/face protection, skin protection, respiratory protection).

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls
No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Aerosol, Substance: Liquid
Colour:	Brown
Odour:	Characteristic
Odour threshold:	Not determined
pH-value:	Not determined

Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	-60 °C
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	1,4 Vol-%
Upper explosive limit:	32 Vol-%
Vapour pressure:	4400 hPa
Vapour density (air = 1):	Not determined
Density:	0,731 g/ml
Bulk density:	n.a.
Solubility(ies):	Not determined
Water solubility:	Not miscible
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	235 °C (Ignition temperature)
Decomposition temperature:	Not determined
Viscosity:	Not determined
Explosive properties:	Product is not explosive. Possible build up of explosive/highly flammable vapour/air mixture.
Oxidising properties:	No

9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

SECTION 10: Stability and reactivity

10.1 Reactivity
See also Subsection 10.2 to 10.6.
The product has not been tested.

10.2 Chemical stability
See also Subsection 10.1 to 10.6.
Stable with proper storage and handling.

10.3 Possibility of hazardous reactions
See also Subsection 10.1 to 10.6.
Possible build up of explosive/highly flammable vapour/air mixture.

10.4 Conditions to avoid
See also section 7.
Heating, open flame, ignition sources
Pressure increase will result in danger of bursting.

10.5 Incompatible materials
See also section 7.
Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products
See also Subsection 10.1 to 10.5.
See also section 5.2
No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Possibly more information on health effects, see Section 2.1 (classification).

Seilfett 500 mL Art.: 6135						
Toxicity / effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.

Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.
Other information:						Classification according to calculation procedure.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2920	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Aspiration hazard:						Yes

Pentane

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>16000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	>100	mg/l/4h	Rat		
Skin corrosion/irritation:						Mild irritant, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:						Mild irritant
Respiratory or skin sensitisation:						Not sensitizising
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Aspiration hazard:						Yes
Symptoms:						drowsiness, vomiting, cramps, drowsiness, mucous membrane irritation

Dimethyl ether

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	164	mg/l/4h	Rat		
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 477 (Genetic Toxicology - Sex-Linked Recessive Lethal Test in Drosophilia melanogaster)	Negative
Carcinogenicity:						Negative
Reproductive toxicity:						Negative
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEC	47106		Rat	OECD 452 (Chronic Toxicity Studies)	Negative(2 a)

Symptoms:						unconsciousness, headaches, mucous membrane irritation, dizziness, nausea and vomiting.

Isoalkanes (C9 - C12)

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>10000	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>3000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LC50	>6,6	mg/l/4h	Rat		
Skin corrosion/irritation:						Repeated exposure may cause skin dryness or cracking.
Aspiration hazard:						Yes

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat		
Acute toxicity, by oral route:	LD50	>5840	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>=2000	mg/kg	Rabbit		
Acute toxicity, by dermal route:	LD50	>2920	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>23,3	mg/l/4h	Rat		
Acute toxicity, by inhalation:	LC50	>25,2	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Irritant
Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Irritant, Analogous conclusion
Serious eye damage/irritation:						Not irritant
Respiratory or skin sensitisation:						Not sensitizising
Germ cell mutagenicity:						Negative
Carcinogenicity:						Negative
Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Analogous conclusion, Negative
Specific target organ toxicity - single exposure (STOT-SE):						May cause drowsiness or dizziness.
Specific target organ toxicity - single exposure (STOT-SE):						Vapours may cause drowsiness and dizziness.
Specific target organ toxicity - single exposure (STOT-SE):						May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure (STOT-RE):						Negative
Aspiration hazard:						Yes
Symptoms:						drowsiness, unconsciousness, heart/circulatory disorders, headaches, cramps, drowsiness, mucous membrane irritation, dizziness, nausea and vomiting.
Symptoms:						headaches, fatigue, dizziness, nausea, cramps, itching

Symptoms:						drowsiness, unconsciousness, heart/circulatory disorders, headaches, cramps, drowsiness, mucous membrane irritation, dizziness, nausea and vomiting.
Specific target organ toxicity - single exposure (STOT-SE), inhalative:						Not irritant (respiratory tract).

Propane

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Symptoms:						breathing difficulties, unconsciousness, frostbite, headaches, cramps, mucous membrane irritation, dizziness, nausea and vomiting.

Butane

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Symptoms:						ataxia, breathing difficulties, drowsiness, unconsciousness, frostbite, disturbed heart rhythm, headaches, cramps, intoxication, dizziness, nausea and vomiting.

Isobutane

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	658	mg/l/4h	Rat		
Serious eye damage/irritation:				Rabbit		Not irritant
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Symptoms:						unconsciousness, frostbite, headaches, cramps, dizziness, nausea and vomiting.

Paraffin wax, fume

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Symptoms:						diarrhoea

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:							n.d.a.
Toxicity to daphnia:							n.d.a.
Toxicity to algae:							n.d.a.
Persistence and degradability:							Not biodegradable Isolate as much as possible with an oil separator.
Bioaccumulative potential:							n.d.a.
Mobility in soil:							Product is slightly volatile.
Results of PBT and vPvB assessment							n.d.a.
Other adverse effects:							n.d.a.
Other information:							According to the recipe, contains no AOX.

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to daphnia:	EL50	48h	10-22	mg/l	Daphnia magna		Analogous conclusion
Persistence and degradability:		28d	74,7	%			

Pentane

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	9,87	mg/l	Oncorhynchus mykiss		
Toxicity to fish:	LC50	96h	9,87	mg/l	Salmo gairdneri		
Toxicity to fish:	LC50	96h	9,99	mg/l	Lepomis macrochirus		
Toxicity to daphnia:	EC50	48h	9,74	mg/l	Daphnia magna		
Persistence and degradability:		8d	70	%			
Bioaccumulative potential:	Log Pow		3,39				calculated value

Dimethyl ether

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	>4000	mg/l	Poecilia reticulata		
Toxicity to fish:	LC50	96h	2695	mg/l	Pimephales promelas		
Toxicity to fish:	LC50	96h	3082	mg/l	Salmo gairdneri		
Toxicity to daphnia:	EC50	48h	>4000	mg/l	Daphnia magna		
Toxicity to algae:	EC0	96h	154,9	mg/l	Chlorella vulgaris	QSAR	
Persistence and degradability:		28d	5	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Not readily biodegradable
Bioaccumulative potential:	Log Pow		-0,07				Bioaccumulation is unlikely (LogPow < 1). 25°C (pH 7)
Mobility in soil:	H (Henry)		518,6	Pa*m3/mol			No adsorption in soil.
Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10		>1600	mg/l	Pseudomonas putida		
Water solubility:			45,60	mg/l			25°C

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish:	LC50	96h	1 -10	mg/l			

Toxicity to fish:	LC50	96h	11,4	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to fish:	NOEC/NOEL		>1-<10	mg/l			
Toxicity to daphnia:	EC50		1 -<10	mg/l			
Toxicity to daphnia:	EC50	48h	3	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to daphnia:	NOEC/NOEL		<0,1-<1	mg/l			
Toxicity to daphnia:	NOEC/NOEL	21d	1	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
Toxicity to algae:	EC50	72h	30	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
Toxicity to algae:	IC50		10-<100	mg/l			
Persistence and degradability:							Readily biodegradable
Bioaccumulative potential:	BCF		242-253				
Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Other information:	DOC						DOC-elimination degree(complexing organic substance)>= 80%/28d:

Propane							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Bioaccumulative potential:	Log Pow		2,28				A notable biological accumulation potential is not to be expected (LogPow 1-3).
Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Butane							
Toxicity / effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Bioaccumulative potential:	Log Pow		2,98				A notable biological accumulation potential is not to be expected (LogPow 1-3).
Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

SECTION 13: Disposal considerations

13.1 Waste treatment methods
For the substance / mixture / residual amounts

EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
07 06 99 wastes not otherwise specified
16 05 04 gases in pressure containers (including halons) containing hazardous substances
Recommendation:

Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant.
Do not dispose of with household waste.

For contaminated packing material

Pay attention to local and national official regulations.
15 01 04 metallic packaging
15 01 10 packaging containing residues of or contaminated by hazardous substances
Do not perforate, cut up or weld uncleaned container.

SECTION 14: Transport information

General statements

UN number:	1950

Transport by road/by rail (ADR/RID)

UN proper shipping name:	
UN 1950 AEROSOLS	
Transport hazard class(es):	2.1
Packing group:	-
Classification code:	5F
LQ (ADR 2015):	1 L
Environmental hazards:	Not applicable
Tunnel restriction code:	D

Transport by sea (IMDG-code)

UN proper shipping name:	
AEROSOLS	
Transport hazard class(es):	2.1
Packing group:	-
EmS:	F-D, S-U
Marine Pollutant:	n.a
Environmental hazards:	Not applicable

Transport by air (IATA)

UN proper shipping name:	
Aerosols, flammable	
Transport hazard class(es):	2.1
Packing group:	-
Environmental hazards:	Not applicable

Special precautions for user

Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

Transport in bulk according to Annex II of MARPOL and the IBC Code

Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.
Comply with special provisions.

SECTION 15: Regulatory information

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

For classification and labelling see Section 2.
Observe restrictions:
Comply with trade association/occupational health regulations.
Observe youth employment law (German regulation).
Regulation (EC) No 1907/2006, Annex XVII

Directive 2010/75/EU (VOC):	507 g/l

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 1 - 16
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.
Employee training in handling dangerous goods is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Asp. Tox. 1, H304	Classification according to calculation procedure.
Aquatic Chronic 3, H412	Classification according to calculation procedure.
Aerosol 1, H222	Classification based on test data.
Aerosol 1, H229	Classification based on test data.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
H220 Extremely flammable gas.
H412 Harmful to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

Asp. Tox. — Aspiration hazard
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Aerosol — Aerosols
STOT SE — Specific target organ toxicity - single exposure - narcotic effects
Flam. Liq. — Flammable liquid
Flam. Gas — Flammable gases (including chemically unstable gases)
Skin Irrit. — Skin irritation

Any abbreviations and acronyms used in this document:

AC Article Categories
acc., acc. to according, according to
ACGIH American Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
BMGV Biological monitoring guidance value (EH40, UK)
BOD Biochemical oxygen demand
BSEF Bromine Science and Environmental Forum

bw body weight
CAS Chemical Abstracts Service
CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC Collaborative International Pesticides Analytical Council
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
COD Chemical oxygen demand
CTFA Cosmetic, Toiletry, and Fragrance Association
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
DT50 Dwell Time - 50% reduction of start concentration
DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
EEA European Economic Area
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
ERC Environmental Release Categories
ES Exposure scenario
etc. et cetera
EU European Union
EWC European Waste Catalogue
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
HET-CAM Hen's Egg Test - Chorionallantoic Membrane
HGWP Halocarbon Global Warming Potential
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Container
IBC (Code) International Bulk Chemical (Code)
IC Inhibitory concentration
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform ChemicaL Information Database
LC lethal concentration
LC50 lethal concentration 50 percent kill
LCLo lowest published lethal concentration
LD Lethal Dose of a chemical
LD50 Lethal Dose, 50% kill
LDLo Lethal Dose Low
LOAEL Lowest Observed Adverse Effect Level
LOEC Lowest Observed Effect Concentration
LOEL Lowest Observed Effect Level
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America)
NOAEC No Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level
NOEC No Observed Effect Concentration
NOEL No Observed Effect Level

ODP Ozone Depletion Potential
OECD Organisation for Economic Co-operation and Development
org. organic
PAH polycyclic aromatic hydrocarbon
PBT persistent, bioaccumulative and toxic
PC Chemical product category
PE Polyethylene
PNEC Predicted No Effect Concentration
POCP Photochemical ozone creation potential
ppm parts per million
PROC Process category
PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SADT Self-Accelerating Decomposition Temperature
SAR Structure Activity Relationship
SU Sector of use
SVHC Substances of Very High Concern
Tel. Telephone
ThOD Theoretical oxygen demand
TOC Total organic carbon
TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).
WHO World Health Organization
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.
These statements were made by:

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