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

1.1. Product identifier

100 Multifunktionsöl 400ml ALL

UFI: K4T4-A0PM-7002-U32V

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

Use of the substance/mixture

Lubricant

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

Regulation (EC) No 1272/2008

Aerosol 1; H222-H229
Skin Irrit. 2; H315
Skin Sens. 1; H317
STOT SE 3; H336
Asp. Tox. 1; H304
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane
Polysulfides, di-tert-dodecyl
2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.
Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate

Signal word: Danger

Pictograms:

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P304+P312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3. Other hazards

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
75-28-5	isobutane			50 - < 100 %
	200-857-2	601-004-00-0	01-2119485395-27	
	Flam. Gas 1, Press. Gas (Liq.); H220 H280			
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane			5 - < 10 %
	921-024-6		01-2119475514-35	
	Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H315 H336 H304 H411			
64742-48-9	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics			5 - < 10 %
	927-241-2		01-2119471843-32	
	Flam. Liq. 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 3; H226 H336 H304 H412 EUH066			
64742-49-0	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics			5 - < 10 %
	927-510-4		01-2119475515-33	
	Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H315 H336 H304 H411			
74-98-6	propane			5 - < 10 %
	200-827-9	601-003-00-5	01-2119486944-21	
	Flam. Gas 1, Press. Gas (Liq.); H220 H280			
106-97-8	butane			1 - < 3 %
	203-448-7	601-004-00-0	01-2119474691-32	
	Flam. Gas 1, Press. Gas (Liq.); H220 H280			
1474044-79-5	Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)			0.1 - < 1 %
	939-717-7		01-2119980985-16	
	Skin Irrit. 2, Eye Irrit. 2; H315 H319			
68425-15-0	Polysulfides, di-tert-dodecyl			0.1 - < 1 %
	270-335-7		01-2119540516-41	
	Skin Sens. 1B; H317			
68602-85-7	Hydrocarbon waxes (petroleum), oxidized, Me esters			0.1 - < 1 %
	271-626-1		01-2120749916-39	
	Eye Irrit. 2; H319			
68784-12-3	2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.			0.1 - < 1 %
	272-221-2		01-2119533117-46	
	Skin Sens. 1B; H317			
	Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate			0.1 - < 1 %
	947-946-9		01-2120772600-59	
	Skin Irrit. 2, Skin Sens. 1B, Aquatic Chronic 4; H315 H317 H413			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
64742-49-0	921-024-6	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane	5 - < 10 %
	inhalation: LC50 = > 25,2 mg/l (vapours); dermal: LD50 = > 2800 - 3100 mg/kg; oral: LD50 = > 5000 mg/kg		
64742-48-9	927-241-2	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	5 - < 10 %
	inhalation: LC50 = > 4951 mg/l (vapours); dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 5000 mg/kg		
64742-49-0	927-510-4	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	5 - < 10 %
	inhalation: LC50 = > 23,3 mg/l (vapours); dermal: LD50 = > 2800 - 3100 mg/kg; oral: LD50 = 5500 mg/kg		
1474044-79-5	939-717-7	Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)	0.1 - < 1 %
	inhalation: LC50 = > 18 mg/l (vapours)		
68425-15-0	270-335-7	Polysulfides, di-tert-dodecyl	0.1 - < 1 %
	inhalation: LC50 = >20 mg/l (vapours); dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg		
68602-85-7	271-626-1	Hydrocarbon waxes (petroleum), oxidized, Me esters	0.1 - < 1 %
	oral: LD50 = > 2000 mg/kg		
68784-12-3	272-221-2	2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.	0.1 - < 1 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		

Labelling for contents according to Regulation (EC) No 648/2004

>= 30 % aliphatic hydrocarbons.

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.

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.

Additional information

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

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).
In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Advice on protection against fire and explosion

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

Advice on general occupational hygiene

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

Further information on handling

Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Observe legal regulations and provisions.

Hints on joint storage

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

Further information on storage conditions

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

7.3. Specific end use(s)

Lubricant

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane			
Worker DNEL, long-term		inhalation	systemic	2035 mg/m³
Worker DNEL, long-term		dermal	systemic	773 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	608 mg/m³
Consumer DNEL, long-term		dermal	systemic	699 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	699 mg/kg bw/day
64742-49-0	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics			
Worker DNEL, long-term		inhalation	systemic	2085 mg/m³
Worker DNEL, long-term		dermal	systemic	300 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	447 mg/m³
Consumer DNEL, long-term		dermal	systemic	149 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	149 mg/kg bw/day
1474044-79-5	Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)			
Worker DNEL, long-term		inhalation	systemic	70 mg/m³
Worker DNEL, long-term		dermal	systemic	10 mg/kg bw/day
68602-85-7	Hydrocarbon waxes (petroleum), oxidized, Me esters			
Worker DNEL, long-term		inhalation	systemic	1000 mg/m³
Worker DNEL, long-term		dermal	systemic	1000 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	1000 mg/m³
Consumer DNEL, long-term		dermal	systemic	1000 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	1000 mg/kg bw/day
68784-12-3	2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.			
Worker DNEL, long-term		dermal	systemic	1 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	0,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day
	Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate			
Worker DNEL, long-term		inhalation	systemic	4,93 mg/m³
Worker DNEL, long-term		dermal	systemic	1,4 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,87 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,5 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day

PNEC values

CAS No	Substance
Environmental compartment	Value
1474044-79-5	Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)
Freshwater	0,004 mg/l
Freshwater (intermittent releases)	0,0027 mg/l
Marine water	0,0004 mg/l
Freshwater sediment	69 mg/kg
Marine sediment	6,9 mg/kg
Secondary poisoning	22,2 mg/kg
Micro-organisms in sewage treatment plants (STP)	10 mg/l
Soil	13,9 mg/kg
68602-85-7	Hydrocarbon waxes (petroleum), oxidized, Me esters
Freshwater	100 mg/l
Marine water	10 mg/l
Freshwater sediment	100 mg/kg
Marine sediment	10 mg/kg
Secondary poisoning	100 mg/kg
Micro-organisms in sewage treatment plants (STP)	10 mg/l
Soil	100 mg/kg
68784-12-3	2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.
Freshwater	0,01 mg/l
Freshwater (intermittent releases)	0,1 mg/l
Marine water	0,001 mg/l
Micro-organisms in sewage treatment plants (STP)	8 mg/l
Soil	19,2 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.
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: AX
Observe the wear time limits as specified by the manufacturer.
Observe legal regulations and provisions.

Environmental exposure controls

Observe legal regulations and provisions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Aerosol	
Colour:	greenish-brown, milky	
Odour:	characteristic	
		Test method
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	-40 °C	
Flammability:	not applicable not applicable	
Lower explosion limits:	0,6 vol. %	
Upper explosion limits:	9,4 vol. %	
Flash point:	-80 °C	
Decomposition temperature:	not determined	
pH-Value (at 20 °C):		DIN 19268
Viscosity / kinematic: (at 40 °C)	< 20,5 mm²/s	
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):	0,77 g/cm³	DIN 51757
Relative vapour density:	not determined	

9.2. Other information

Information with regard to physical hazard classes

Explosive properties
Heating may cause an explosion.

Self-ignition temperature

Solid:	not applicable
Gas:	not applicable

Oxidizing properties
The product is not: oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solid content:	not determined

Further Information

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

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

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

10.5. Incompatible materials

Oxidizing agents. Pyrophoric or self-heating substances.

10.6. Hazardous decomposition products

Incomplete combustion and thermolysis gases of different toxicity can occur. In the case of hydrocarbonaceous products such as CO, 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

Toxicocinetics, 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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane				
	oral	LD50 > 5000 mg/kg	Rat		
	dermal	LD50 > 2800 - 3100 mg/kg	Rat		
	inhalation (4 h) vapour	LC50 > 25,2 mg/l	Rat		
64742-48-9	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		
64742-49-0	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics				
	oral	LD50 5500 mg/kg	Rat		
	dermal	LD50 > 2800 - 3100 mg/kg	Rat	Study report (1977)	The acute toxicity of SBP 100/140 was de
	inhalation (4 h) vapour	LC50 > 23,3 mg/l	Rat	Study report (1988)	OECD Guideline 403
1474044-79-5	Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)				
	inhalation (1 h) vapour	LC50 > 18 mg/l	Rat	Study report (1978)	other: FHSLA, CFR, Title 21 J para. 191.
68425-15-0	Polysulfides, di-tert-dodecyl				
	oral	LD50 >2000 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rabbit		
	inhalation (4 h) vapour	LC50 >20 mg/l	Rat		
68602-85-7	Hydrocarbon waxes (petroleum), oxidized, Me esters				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2017)	OECD Guideline 420
68784-12-3	2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2009)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2009)	OECD Guideline 402

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects

May cause an allergic skin reaction. (Polysulfides, di-tert-dodecyl; 2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.; Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate)

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 indication of human carcinogenicity.
No indications of human germ cell mutagenicity exist.
No indications of human reproductive toxicity exist.

STOT-single exposure

May cause drowsiness or dizziness. (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane; Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics; Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)

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.

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane						
	Acute fish toxicity	LC50 mg/l	> 1-10	96 h	Pimephales promelas		
	Acute algae toxicity	ErC50 mg/l	10 - 30	72 h	Pseudokirchneriella subcapitata	Study report (1995)	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	> 1-10	48 h	Daphnia magna		
	Fish toxicity	NOEC mg/l	2,045	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2010)	
	Crustacea toxicity	NOEC	1 mg/l	21 d	Daphnia magna	SIDS Initial Assessment Report For SIAM	OECD Guideline 211
64742-48-9	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics						
	Acute fish toxicity	LC50 mg/l	>1000	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute algae toxicity	ErC50 mg/l	>1000	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 mg/l	>1000	48 h	Daphnia magna		
64742-49-0	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics						
	Acute fish toxicity	LL50 mg/l	> 13,4	96 h	Oncorhynchus mykiss	Study report (2004)	OECD Guideline 203
	Acute algae toxicity	ErC50	12 mg/l	72 h	Pseudokirchneriella subcapitata	SIDS Initial Assessment Report For SIAM	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	>1 - 10	48 h	Daphnia magna		
	Fish toxicity	NOEC mg/l	1,534	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2010)	
	Crustacea toxicity	NOEC	1 mg/l	21 d	Daphnia magna	SIDS Initial Assessment Report For SIAM	OECD Guideline 211
1474044-79-5	Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)						
	Acute algae toxicity	ErC50 mg/l	> 1,2	72 h	Raphidocelis subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	>= 0,18	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC	4,6 mg/l	21 d	Daphnia magna	REACh Registration Dossier	OECD Guideline 211
68425-15-0	Polysulfides, di-tert-dodecyl						
	Acute fish toxicity	LC50 mg/l	>100	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute algae toxicity	ErC50 mg/l	>100	72 h	Selenastrum capricornutum		
	Acute crustacea toxicity	EC50 mg/l	>100	48 h	Daphnia magna (Big water flea)		

68602-85-7	Hydrocarbon waxes (petroleum), oxidized, Me esters						
	Acute fish toxicity	LL50 mg/l	> 100	96 h	Oncorhynchus mykiss	REACh Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Pseudokirchneriella subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EL50 mg/l	> 100	48 h	Daphnia magna	Study report (2017)	OECD Guideline 202
	Acute bacteria toxicity	EC50 mg/l ( )	> 100	3 h	activated sludge of a predominantly domestic sewag	REACh Registration Dossier	OECD Guideline 209
68784-12-3	2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.						
	Acute fish toxicity	LC50 mg/l	> 10	96 h	Leuciscus idus	REACh Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	85,1	72 h		REACh Registration Dossier	OECD Guideline 201
	Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate						
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Raphidocelis subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute bacteria toxicity	EC50 mg/l ( )	> 1000	3 h	activated sludge of a predominantly domestic sewag	REACh Registration Dossier	OECD Guideline 209

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane			
	OECD Guideline 301 F	98%	28	ECHA
	Easily biodegradable (concerning to the criteria of the OECD)			
64742-48-9	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics			
	OECD Guideline 301 F	89 %	28	ECHA

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
75-28-5	isobutane	2,8
64742-49-0	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane	3,4 - 5,2
74-98-6	propane	2,36
106-97-8	butane	2,89
1474044-79-5	Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)	> 6,6
68602-85-7	Hydrocarbon waxes (petroleum), oxidized, Me esters	> 10
68784-12-3	2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.	6,74

BCF

CAS No	Chemical name	BCF	Species	Source
1474044-79-5	Calcium bis(di C8-C10, branched, C9 rich, alkylnaphthalenesulphonate)	3,16	fish	Study report (2013)
68784-12-3	2,5-Furandione, dihydro-, mono-C15-20-alkenyl derivs.	63,79	fish	Study report (2014)

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.

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. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

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

List of Wastes Code - used product

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

List of Wastes Code - contaminated packaging

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

SECTION 14: Transport information

Land transport (ADR/RID)

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

Inland waterways transport (ADN)

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

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1950
14.2. UN proper shipping name:	AEROSOLS
14.3. Transport hazard class(es):	2.1
14.4. Packing group:	-
Hazard label:	2.1
Marine pollutant:	no
Special Provisions:	63, 190, 277, 327, 344, 381,959
Limited quantity:	1000 mL
Excepted quantity:	E0
EmS:	F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

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

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: 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 29, Entry 40, Entry 75

Directive 2010/75/EU on industrial emissions:	No information available.
Directive 2004/42/EC on VOC in paints and varnishes:	No information available.

Information according to Directive 2012/18/EU (SEVESO III): P3a FLAMMABLE AEROSOLS

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
Aerosol Directive (75/324/EEC)

National regulatory information

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

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,12.

Abbreviations and acronyms

Flam. Gas 1: Flammable gases, hazard category 1
Aerosol 1: Aerosols, hazard category 1
Press. Gas (Liq.): Gases under pressure: Liquefied gas
Flam. Liq. 2: Flammable liquids, hazard category 2
Flam. Liq. 3: Flammable liquids, hazard category 3
Asp. Tox. 1: Aspiration hazard, hazard category 1
Skin Irrit. 2: Skin irritation, hazard category 2
Eye Irrit. 2: Eye irritation, hazard category 2
Skin Sens. 1: Skin sensitisation, hazard category 1
Skin Sens. 1B: Skin sensitisation, hazard category 1B
STOT SE 3: Specific target organ toxicity - single exposure, hazard category 3
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3
Aquatic Chronic 4: Hazardous to the aquatic environment, long-term hazard category: Chronic 4
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA: International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL/DMEL: Derived No Effect Level / Derived Minimal Effect Level
WEL (UK): Workplace Exposure Limits
TWA (EC): Time-Weighted Average
ATE: Acute Toxicity Estimate
STEL (EC) Short Term Exposure Limit
LC50: Lethal Concentration
EC50: half maximal Effective Concentration
ErC50: means EC50 in terms of reduction of growth rate

Classification for mixtures and used evaluation method

Classification	Classification procedure
Aerosol 1; H222-H229	On basis of test data
Skin Irrit. 2; H315	Bridging principle "Aerosols"
Skin Sens. 1; H317	Bridging principle "Aerosols"
STOT SE 3; H336	Bridging principle "Aerosols"
Asp. Tox. 1; H304	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
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.)