Safety data sheet
according to 1907/2006/EC, Article 31

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

· **1.1 Product identifier**

· **Trade name:** **CHAINLUBE FOR DRY CONDITIONS SPRAY**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the mixture**
Only for proper handling.
Chain lubricant

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**

MOTOREX AG
Bern–Zürich–Strasse 31, Postfach
CH–4901 Langenthal
Tel. +41 (0)62 919 75 75
www.motorex.com

· **Further information obtainable from:** msds@motorex.com
· **1.4 Emergency telephone number:**
In case of a medical emergency following exposure to a chemical, the public should call NHS Direct in England or Wales 0845 46 47 or NHS 24 in Scotland 08454 24 24 24 (UK only).

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

Aerosol 1	H222-H229	Extremely flammable aerosol. Pressurised container: May burst if heated.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Asp. Tox. 1	H304	May be fatal if swallowed and enters airways.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labelling:**
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics
Polysulfides, di-tert-dodecyl
Hydrocarbons, C15-C20 n-alkanes, isoalkanes, cycloalkanes, <0.03% aromatics
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics
· **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.

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P103 Read carefully and follow all instructions.
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 dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see on this label).
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32	butane, pure Flam. Gas 1A, H220; Press. Gas (Comp.), H280	25-50%
EC number: 927-241-2 Reg.nr.: 01-2119471843-32	Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics Flam. Liq. 3, H226; Asp. Tox. 1, H304; STOT SE 3, H336; Aquatic Chronic 3, H412	≥10-<20%
EC number: 934-956-3 Reg.nr.: 01-2119827000-58	Hydrocarbons, C15-C20 n-alkanes, isoalkanes, cycloalkanes, <0.03% aromatics Asp. Tox. 1, H304	5-10%
EC number: 920-107-4 Reg.nr.: 01-2119453414-43	Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics Asp. Tox. 1, H304	2.5-7.5%
EC number: 934-954-2 Reg.nr.: 01-2119826592-36	Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cycloalkanes, <12:03% aromatics Asp. Tox. 1, H304	2.5-7.5%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21	propane Flam. Gas 1A, H220; Press. Gas (Comp.), H280	2.5-7.5%
EC number: 932-020-9 Reg.nr.: 01-2119548395-31	Hydrocarbons, C8-C9, isoalkanes Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	2.5-7.5%

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Polymer	2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with eicosyl 2-methyl-2-propenoate, hexadecyl 2-methyl-2-propenoate, methyl-2-methyl-2-propenoate, octadecyl 2-methyl-2-propenoate, pentadecyl 2-met Eye Irrit. 2, H319	1-2.5%
CAS: 64742-55-8 EINECS: 265-158-7 Index number: 649-468-00-3 Reg.nr.: 01-2119487077-29	Distillates (petroleum), hydrotreated light paraffinic Asp. Tox. 1, H304	≥0.25-≤2.5%
CAS: 68425-15-0 EINECS: 270-335-7 Reg.nr.: 01-2119540516-41	Polysulfides, di-tert-dodecyl Skin Sens. 1B, H317	≥1-≤2.5%
CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-00-0 Reg.nr.: 01-2119485395-27	isobutane Flam. Gas 1A, H220; Press. Gas (Comp.), H280	1-2.5%

· **Regulation (EC) No 648/2004 on detergents / Labelling for contents**	
aliphatic hydrocarbons	≥30%
optical brighteners	<5%

· **Additional information:**
Note L: The classification as carcinogen does not apply because the mixture (or substance) contains less than 3% dimethyl sulfoxide extract (DMSO), measured according to IP 346.
For the wording of the listed hazard phrases refer to section 16.

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** No special measures required.

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.

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· **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
· **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
Do not spray onto a naked flame or any incandescent material.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Observe official regulations on storing packagings with pressurised containers.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
The recommended storage temperature is (deg.C): ≤50°C
Keep container tightly sealed.
· **Storage class:** 2 B
· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
106-97-8 butane, pure	
WEL	Short-term value: 1810 mg/m³, 750 ppm Long-term value: 1450 mg/m³, 600 ppm Carc (if more than 0.1% of buta-1.3-diene)

· **DNELs**		
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics		
Oral	DNEL/general population/Systemic effects/Long-term	125 mg/kg/24h (consumer)
Dermal	DNEL / Workers / Systemic effects / Long-term	208 mg/kg/24h (worker)
	DNEL/general population/Systemic effects/Long-term	125 mg/kg/24h (consumer)
Inhalative	DNEL / Workers / Systemic effects / Long-term	871 mg/m3 (worker)
	DNEL/general population/Systemic effects/Long-term	185 mg/m3 (consumer)
Hydrocarbons, C15-C20 n-alkanes, isoalkanes, cycloalkanes, <0.03% aromatics		
Dermal	DNEL / Workers / Systemic effects / Long-term	2.9 mg/kg/24h (worker)
Inhalative	DNEL / Workers / Systemic effects / Long-term	16 mg/m3 (worker)
64742-55-8 Distillates (petroleum), hydrotreated light paraffinic		
Dermal	DNEL / Workers / Local Effects / Long-term	1 mg/kg/8h (worker)

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Inhalative	DNEL	2.7-5.4 mg/m3/8h (worker)
	DNEL	1.2 mg/m3/24h (consumer)
68425-15-0 Polysulfides, di-tert-dodecyl		
Oral	DNEL/general population/Systemic effects/Long-term	1.66 mg/kg/24h (consumer)
Dermal	DNEL / Workers / Systemic effects / Long-term	33.3 mg/kg/24h (worker)
	DNEL/general population/Systemic effects/Long-term	16.66 mg/kg/24h (consumer)
Inhalative	DNEL / Workers / Systemic effects / Long-term	23.5 mg/m3 (worker)
	DNEL/general population/Systemic effects/Long-term	5.8 mg/m3 (consumer)

· **PNECs**		
64742-55-8 Distillates (petroleum), hydrotreated light paraffinic		
Oral	PNEC / Predators / Secondary poisoning	9.33 mg/kg food (secondary poisoning (predators))
68425-15-0 Polysulfides, di-tert-dodecyl		
Oral	PNEC / Predators / Secondary poisoning	66.7 mg/kg food (secondary poisoning (predators))
	PNEC/Aquatic organisms/Sewage treatment plant/STP	1,000 mg/l (aquatic organisms)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see section 7.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Not necessary if room is well-ventilated.
Respiratory protection if formation of aerosol or mist: use mask with filter type A2, A2/P2 or ABEK.
· **Hand protection**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye/face protection** Not required.
· **Body protection:** Protective work clothing

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Aerosol
· **Colour:**	Light yellow
· **Odour:**	Mild
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	Undetermined.
· **Boiling point or initial boiling point and boiling range**	Not applicable, as aerosol.
· **Flammability**	Not applicable.
· **Lower and upper explosion limit**	
· **Lower:**	1.5 Vol.%
· **Upper:**	8.5 Vol.%
· **Flash point:**	<-10 °C
· **Auto-ignition temperature:**	>230 °C (DIN 51794)
· **Decomposition temperature:**	Not determined.
· **pH**	Not determined.
· **Viscosity:**	
· **Kinematic viscosity**	<3 mm²/s @ 40 °C
· **Consistency**	
· **Dynamic:**	Not determined.
· **Solubility**	
· **water:**	Not miscible or difficult to mix.
· **Partition coefficient n-octanol/water (log value)**	Not determined.
· **Heat Capacity**	
· **Vapour pressure:**	2100 hPa (20°C)
· **Density and/or relative density**	
· **Density at 20 °C:**	0.709 g/cm³ (ASTM D 4052)
· **Relative density**	Not determined.
· **Vapour density**	Not determined.

· **9.2 Other information**	
· **Appearance:**	
· **Form:**	Liquefied gas
· **Important information on protection of health and environment, and on safety.**	
· **Explosive properties:**	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· **Solvent separation test:**	
· **VOC (EC)**	50.00 %
· **Change in condition**	
· **Evaporation rate**	Not applicable.

· **Information with regard to physical hazard classes**	
· **Explosives**	Void
· **Flammable gases**	Void
· **Aerosols**	Extremely flammable aerosol. Pressurised container: May burst if heated.
· **Oxidising gases**	Void
· **Gases under pressure**	Void
· **Flammable liquids**	Void
· **Flammable solids**	Void
· **Self-reactive substances and mixtures**	Void
· **Pyrophoric liquids**	Void

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· **Pyrophoric solids**	Void
· **Self-heating substances and mixtures**	Void
· **Substances and mixtures, which emit flammable gases in contact with water**	Void
· **Oxidising liquids**	Void
· **Oxidising solids**	Void
· **Organic peroxides**	Void
· **Corrosive to metals**	Void
· **Desensitised explosives**	Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
106-97-8 butane, pure		
Inhalative	LC50 / 15 min	1,442.738-1.443 mg/l (rat)
	LC50 / 15 min	800,000 ppm (rat)
	LC50 / 2h	1,237 mg/l (mouse)
	LC50 / 2h	520,400-539,600 ppm (mouse)
	LC50 / 4h	658 mg/l (rat)
	NOAEC	4,000-16,000 ppm (rat)
	NOAEC	7.2-21.4 mg/l (rat)
	LOAEC	21.6 mg/l (rat)
	LOAEC	12,000 ppm (rat)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics		
Oral	LD50	5,000-15,000 mg/kg (rat)
	NOAEL	1,000-5,000 mg/kg/24h (rat)
Dermal	LD50	2,000 mg/kg (rat)
		3,160-5,000 mg/kg (rabbit)
Inhalative	LC50 / 4h	4.951-9.3 mg/l (rat)
	LC50 / 8h	41-4,467 ppm (rat)
	LC50 / 8h	5 mg/l (rat)
	NOAEL	200 ppm (rat)
	NOAEC	275-10,400 mg/m3 (rat)
Hydrocarbons, C15-C20 n-alkanes, isoalkanes, cycloalkanes, <0.03% aromatics		
Oral	LD50	5,000 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)

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Inhalative	LC50 / 4h	1.72-4.6 mg/l (rat)
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics		
Oral	LD50	5,000-15,000 mg/kg (rat)
	NOAEL	1,000-5,000 mg/kg/24h (rat)
Dermal	LD50	2,000 mg/kg (rat)
		3,160-5,000 mg/kg (rabbit)
Inhalative	LC50 / 4h	4.951-9.3 mg/l (rat)
	LC50 / 8h	41-4,467 ppm (rat)
	LC50 / 8h	5 mg/l (rat)
	NOAEL	200 ppm (rat)
	NOAEC	275-10,400 mg/m3 (rat)
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cycloalkanes, <12:03% aromatics		
Oral	LD50	5,000 mg/kg (rat)
	NOAEL	5,000 mg/kg/24h (rat)
Dermal	LD50	3,160 mg/kg (rabbit)
Inhalative	LC50 / 4h	5.266 mg/l (rat)
	NOAEC	10.4 mg/l (rat)
74-98-6 propane		
Inhalative	LC50 / 15 min	1,442.738-1.443 mg/l (rat)
	LC50 / 15 min	800,000 ppm (rat)
	LC50 / 2h	1,237 mg/l (mouse)
	LC50 / 2h	520,400-539,600 ppm (mouse)
	NOAEC	4,000-16,000 ppm (rat)
	NOAEC	7.214-21.394 mg/l (rat)
	LOAEC	21.64 mg/l (rat)
	LOAEC	12,000 ppm (rat)
64742-55-8 Distillates (petroleum), hydrotreated light paraffinic		
Oral	LD50	5,000 mg/kg (rat)
	LOAEL	125 mg/kg/24h (rat)
Dermal	LD50	2,000-5,000 mg/kg (rabbit)
	NOAEL	150 mg/kg/24h (mouse)
		30-2,000 mg/kg/24h (rat)
		1,000 mg/kg/24h (rabbit)
	LOAEL	100 mg/kg/24h (mouse)
Inhalative	LC50 / 4h	2.18-5.53 mg/l (rat)
	NOEL	220 mg/m3 (rat)
	NOAEL	980 mg/m3 (rat)
68425-15-0 Polysulfides, di-tert-dodecyl		
Oral	LD50	19,550 mg/kg (rat)
	NOAEL	1,000 mg/kg/24h (rat)
Dermal	LD50	2,000 mg/kg (rat)
Inhalative	LC50 / 4h	15.5 mg/l (rat)
75-28-5 isobutane		
Inhalative	LC50 / 15 min	1,442.738-1.443 mg/l (rat)
	LC50 / 15 min	800,000 ppm (rat)
	LC50 / 2h	1,237 mg/l (mouse)

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	LC50 / 2h	520,400-539,600 ppm (mouse)
	NOAEC	4,000-16,000 ppm (rat)
	NOAEC	7.214-21.394 mg/l (rat)
	LOAEC	21.641 mg/l (rat)
	LOAEC	12,000 ppm (rat)

· **Respiratory or skin sensitisation** May cause an allergic skin reaction.
· **Aspiration hazard** May be fatal if swallowed and enters airways.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
None of the ingredients is listed.

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SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
106-97-8 butane, pure	
LC50	24.1-147.5 mg/l/96h (fish)
LC50	14.2-69.4 mg/l/48h (aquatic invertebrates)
EC50	7.7-19.4 mg/l/96h (algae / cyanobacteria)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics	
LL50	10-30 mg/l/96h (fish)
LL50	10-30 mg/l/72h (fish)
LL50	100 mg/l/48h (fish)
LL50	100 mg/l/24h (fish)
LL0	10 mg/l/96h (aquatic invertebrates)
	1 mg/l/96h (fish)
EL50	22-46 mg/l/48h (aquatic invertebrates)
	1,000 mg/l/48h (algae / cyanobacteria)
EL50	100 mg/l/24h (aquatic invertebrates)
	1,000 mg/l/24h (algae / cyanobacteria)
EL50	1,000 mg/l/72h (algae / cyanobacteria)
EL0	10 mg/l/48h (aquatic invertebrates)
NOELR	0.182 mg/l/28d (fish)
NOELR	0.317 mg/l/21d (aquatic invertebrates)
NOELR	1,000 mg/l/72h (algae / cyanobacteria)
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics	
LL50	1,000 mg/l/96h (fish)
LL50	1,000 mg/l/72h (fish)
LL50	1,000 mg/l/48h (fish)
LL50	1,000 mg/l/24h (fish)
LL0	1,000 mg/l/96h (fish)
EL50	1,000 mg/l/48h (aquatic invertebrates)
EL50	1,000 mg/l/24h (aquatic invertebrates)
EL50	1,000 mg/l/72h (algae / cyanobacteria)
EL0	1,000 mg/l/48h (aquatic invertebrates)
NOELR	1,000 mg/l/28d (fish)

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NOELR	1,000 mg/l/21d (aquatic invertebrates)
NOELR	1,000 mg/l/72h (algae / cyanobacteria)
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cycloalkanes, <12:03% aromatics	
EC50	100 mg/l/3h (microorganisms)
LL50	1.028 mg/l/96h (fish)
LL50	3.193 mg/l/48h (aquatic invertebrates)
LL50	3.193 mg/l/24h (aquatic invertebrates)
EL50	10,000 mg/l/72h (algae / cyanobacteria)
NOELR	1,000 mg/l/28d (fish)
NOELR	1,000 mg/l/21d (aquatic invertebrates)
74-98-6 propane	
LC50	24.11-147.54 mg/l/96h (fish)
LC50	14.22-69.43 mg/l/48h (aquatic invertebrates)
EC50	7.71-19.37 mg/l/96h (algae / cyanobacteria)
64742-55-8 Distillates (petroleum), hydrotreated light paraffinic	
LL50	10,000 mg/l/96h (aquatic invertebrates)
	100 mg/l/96h (fish)
	>100 mg/l/96h (Pimephales promelas) (OECD 203)
LL50	10,000 mg/l/72h (aquatic invertebrates)
LL50	10,000 mg/l/48h (aquatic invertebrates)
EL50	10,000 mg/l/48h (aquatic invertebrates)
NOEL	>100 mg/l/72h (Pseudokirchnerella subcapitata) (OECD 201)
68425-15-0 Polysulfides, di-tert-dodecyl	
LC50	100 mg/l/96h (fish)
LC0	100 mg/l/96h (fish)
LL50	100 mg/l/96h (fish)
NOEC	0.08 mg/l/72h (algae / cyanobacteria)
	10-10,000 mg/l/72h (microorganisms)
NOEC	100 mg/l/96h (fish)
NOEC	0.1 mg/l/48h (aquatic invertebrates)
75-28-5 isobutane	
LC50	24.11-147.54 mg/l/96h (fish)
LC50	14.22-69.43 mg/l/48h (aquatic invertebrates)
EC50	7.71-19.37 mg/l/96h (algae / cyanobacteria)

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential**	
106-97-8 butane, pure	
Partition coefficient	1.09-2.8 [---] (log Kow) (Bioaccumulation)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, < 2% aromatics	
Biodegradability	>80 % (28d) (Biodegradability) (OECD 301 F)
Hydrocarbons, C12-C15, n-alkanes, isoalkanes, cycloalkanes, <2% aromatics	
Biodegradability	2 % (28d) (Biodegradability) (OECD 301 F)
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cycloalkanes, <12:03% aromatics	
Biodegradability	74 % (28d) (Biodegradability) (OECD 306)
74-98-6 propane	
Partition coefficient	1.09-2.8 [---] (log Kow) (Bioaccumulation)

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64742-55-8 Distillates (petroleum), hydrotreated light paraffinic	
Partition coefficient	>3.5 [---] (log Kow) (Bioaccumulation)
68425-15-0 Polysulfides, di-tert-dodecyl	
Partition coefficient	6.2-12.45 [---] (log Kow) (Bioaccumulation)
75-28-5 isobutane	
Partition coefficient	1.09-2.8 [---] (log Kow) (Bioaccumulation)
Biodegradability	100 % (28d) (Biodegradability)

· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (according to Appendix 1 AWSV): significantly hazardous to water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Contact waste processors for recycling information.
Return product and/or partially emptied container in original packaging to the point of sale or hand it over to a collection point for special waste.

· **Uncleaned packaging:**
· **Recommendation:**
Disposal must be made according to official regulations.
Discharged containers can contain flammable or explosive vapours.

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SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR/RID/ADN, IMDG, IATA**	UN1950
· **14.2 UN proper shipping name**	
· **ADR/RID/ADN**	1950 AEROSOLS
· **IMDG**	AEROSOLS
· **IATA**	AEROSOLS, flammable
· **14.3 Transport hazard class(es)**	
· **ADR/RID/ADN**	

· **Class**	2 5F Gases.

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· **Label**	2.1
· **IMDG, IATA**	
· **Class**	2.1 Gases.
· **Label**	2.1
· **14.4 Packing group**	
· **ADR/RID/ADN, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Gases.
· **Hazard identification number (Kemler code):**	-
· **EMS Number:**	F-D,S-U
· **Stowage Code**	SW1 Protected from sources of heat. SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
· **Segregation Code**	SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	
· **ADR/RID/ADN**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **Transport category**	2
· **Tunnel restriction code**	D
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **UN "Model Regulation":**	UN 1950 AEROSOLS, 2.1

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SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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· **Seveso category** P3a FLAMMABLE AEROSOLS
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 150 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (UK ANNEX XIV)**
· **VOCV (CH)** 50,00 %

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
The classification of the mixture was carried out by calculation in accordance with the rules laid down in Annex I of Regulation (EC) No 1272/2008.
No special training instructions to ensure protection of human health and environment are required.

· **purity requirement**
· **Relevant phrases**
H220 Extremely flammable gas.
H226 Flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
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.

· **Department issuing SDS:** Abteilung Produktsicherheit
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised 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)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Gas 1A: Flammable gases – Category 1A
Aerosol 1: Aerosols – Category 1
Press. Gas (Comp.): Gases under pressure – Compressed gas
Flam. Liq. 3: Flammable liquids – Category 3
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
· *** Data compared to the previous version altered.**

Annex: Exposure scenario 1

· **Short title of the exposure scenario** Industrial use of lubricants and greases in open systems
· **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

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· **Product category** PC24 Lubricants, greases, release products
· **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC7 Industrial spraying
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC10 Roller application or brushing
PROC13 Treatment of articles by dipping and pouring
· **Environmental release category**
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** The substance is main component.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** No special measures required.
· **Other operational conditions affecting consumer exposure** Not required.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures** No special measures required.
· **Personal protective measures** No special measures required.
· **Measures for consumer protection** No special measures required.
· **Environmental protection measures**
· **Air** No special measures required.
· **Water** No special measures required.
· **Disposal measures** Disposal must be made according to official regulations.
· **Disposal procedures** Dispose of product residues with household waste.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.

Annex: Exposure scenario 2

· **Short title of the exposure scenario** Professional use of lubricants and greases in open systems
· **Sector of Use**
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
· **Product category** PC24 Lubricants, greases, release products
· **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC10 Roller application or brushing
PROC11 Non industrial spraying

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PROC13 Treatment of articles by dipping and pouring
· **Environmental release category**
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** The substance is main component.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** No special measures required.
· **Other operational conditions affecting consumer exposure** Not required.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures** No special measures required.
· **Personal protective measures** No special measures required.
· **Measures for consumer protection** No special measures required.
· **Environmental protection measures**
· **Air** No special measures required.
· **Water** No special measures required.
· **Disposal measures** Disposal must be made according to official regulations.
· **Disposal procedures** Dispose of product residues with household waste.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.

Annex: Exposure scenario 3

· **Short title of the exposure scenario** Private use of lubricants and greases in open systems
· **Sector of Use** SU21 Consumer uses: Private households / general public / consumers
· **Product category** PC24 Lubricants, greases, release products
· **Environmental release category**
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** The substance is main component.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** No special measures required.
· **Other operational conditions affecting consumer exposure** Not required.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures** No special measures required.
· **Personal protective measures** No special measures required.

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· **Measures for consumer protection** No special measures required.
· **Environmental protection measures**
· **Air** No special measures required.
· **Water** No special measures required.
· **Disposal measures** Disposal must be made according to official regulations.
· **Disposal procedures** Dispose of product residues with household waste.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.

Annex: Exposure scenario 4

· **Short title of the exposure scenario** Industrial use of sprays
· **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
· **Product category**
PC14 Metal surface treatment products
PC34 Textile dyes, and impregnating products
· **Process category** PROC11 Non industrial spraying
· **Environmental release category**
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** The substance is main component.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** No special measures required.
· **Other operational conditions affecting consumer exposure** Not required.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures** No special measures required.
· **Personal protective measures** No special measures required.
· **Measures for consumer protection** No special measures required.
· **Environmental protection measures**
· **Air** No special measures required.
· **Water** No special measures required.
· **Disposal measures** Ensure that waste is collected and contained.
· **Disposal procedures** Dispose of product residues with household waste.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.

Annex: Exposure scenario 5

· **Short title of the exposure scenario** Professional use of sprays

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· **Sector of Use**
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
· **Product category**
PC14 Metal surface treatment products
PC34 Textile dyes, and impregnating products
· **Process category** PROC11 Non industrial spraying
· **Environmental release category**
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** The substance is main component.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** No special measures required.
· **Other operational conditions affecting consumer exposure** Not required.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures** No special measures required.
· **Personal protective measures** No special measures required.
· **Measures for consumer protection** No special measures required.
· **Environmental protection measures**
· **Air** No special measures required.
· **Water** No special measures required.
· **Disposal measures** Ensure that waste is collected and contained.
· **Disposal procedures** Dispose of product residues with household waste.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.

Annex: Exposure scenario 6

· **Short title of the exposure scenario** Private use of sprays
· **Sector of Use** SU21 Consumer uses: Private households / general public / consumers
· **Product category**
PC14 Metal surface treatment products
PC34 Textile dyes, and impregnating products
· **Process category** PROC11 Non industrial spraying
· **Environmental release category**
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
· **Duration and frequency** 5 workdays/week.
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** The substance is main component.

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· **Other operational conditions**
· **Other operational conditions affecting environmental exposure** No special measures required.
· **Other operational conditions affecting consumer exposure** Not required.
· **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
· **Risk management measures**
· **Worker protection**
· **Organisational protective measures** No special measures required.
· **Technical protective measures** No special measures required.
· **Personal protective measures** No special measures required.
· **Measures for consumer protection** No special measures required.
· **Environmental protection measures**
· **Air** No special measures required.
· **Water** No special measures required.
· **Disposal measures** Ensure that waste is collected and contained.
· **Disposal procedures** Dispose of product residues with household waste.
· **Waste type** Partially emptied and uncleaned packaging
· **Exposure estimation**
· **Consumer** Not relevant for this Exposure Scenario.
· **Guidance for downstream users** No further relevant information available.