Silico 500ml

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

1.1. Product identifier

Trade name/designation:

Silico 500ml

Article No.:
T201001

UFI:
DX24-6HSY-750H-2C9M

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

Use of the substance/mixture:
Lubricating agent

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

Supplier:

KANDO Service GmbH
Hartleitnerstraße 3
4653 Eberstalzell
Austria
Telephone: +43 (0) 7241 213 79
E-mail: msds@kando.eu

1.4. Emergency telephone number

Vergiftungsinformationszentrale (VIZ), Stubenring 6, 1010 Wien, 24h: 01 406 43 43, Montag - Freitag: 8 bis 16 Uhr, Tel.: 01 406 68 98 (keine medizinische Auskunft) (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
aerosol dispensers and lighters *(Aerosol 1)*	H222; H229: Extremely flammable aerosol. Pressurised container: May burst if heated.	
Aspiration hazard *(Asp. Tox. 1)*	H304: May be fatal if swallowed and enters airways.	
Skin corrosion/irritation *(Skin Irrit. 2)*	H315: Causes skin irritation.	
STOT-single exposure *(STOT SE 3)*	H336: May cause drowsiness or dizziness.	
Hazardous to the aquatic environment *(Aquatic Chronic 2)*	H411: Toxic to aquatic life with long lasting effects.	

2.2. Label elements

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

Hazard pictograms:



GHS02
Flame



GHS07
Exclamation mark



GHS09
Environment

Signal word: Danger

Hazard components for labelling:
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane; Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene

Hazard statements for physical hazards	
H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.

Hazard statements for health hazards	
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.

Hazard statements for environmental hazards	
H411	Toxic to aquatic life with long lasting effects.

Supplemental hazard information	
EUH066	Repeated exposure may cause skin dryness or cracking.

Precautionary statements Prevention	
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.

Precautionary statements Response	
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice/attention.

Precautionary statements Storage	
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3. Other hazards

Other adverse effects:
In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

SECTION 3: Composition/information on ingredients

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3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 75-28-5 EC No.: 200-857-2 REACH No.: 01-2119485395-27	**isobutane** Flam. Gas 1A (H220), Press. Gas (Liq.) (H280) Danger **Acute Toxicity Estimate** ATE (oral) > 15,000 mg/kg ATE (dermal) > 5,000 mg/kg ATE (inhalation, vapour) > 4,951 mg/L	25 – < 50 Vol-%
EC No.: 921-024-6 REACH No.: 01-2119475514-35	**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane** Aquatic Chronic 2 (H411), Asp. Tox. 1 (H304), Flam. Liq. 2 (H225), STOT SE 3 (H336), Skin Irrit. 2 (H315) Danger **Acute Toxicity Estimate** ATE (oral) > 5,000 mg/kg ATE (dermal) > 2,920 mg/kg ATE (inhalation, gases) > 20 ppmV ATE (inhalation, vapour) > 25.2 mg/L	25 – < 50 Vol-%
CAS No.: 64742-49-0 EC No.: 927-510-4 REACH No.: 01-2119475515-33	**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene** Aquatic Chronic 2 (H411), Asp. Tox. 1 (H304), Flam. Liq. 2 (H225), STOT SE 3 (H336), Skin Irrit. 2 (H315) Danger **Acute Toxicity Estimate** ATE (oral) ≥ 5,000 mg/kg ATE (dermal) > 2,920 mg/kg ATE (inhalation, vapour) > 23.3 mg/L	20 – < 25 Vol-%
CAS No.: 74-98-6 EC No.: 200-827-9 REACH No.: 01-2119486944-21	**propane** Flam. Gas 1A (H220), Press. Gas (Liq.) (H280) Danger **Acute Toxicity Estimate** ATE (oral) 5,840 mg/kg ATE (dermal) 13,900 mg/kg ATE (inhalation, gases) > 25 ppmV ATE (inhalation, vapour) ≥ 50 mg/L	10 – < 20 Vol-%
CAS No.: 106-97-8 EC No.: 203-448-7 Index No.: 601-004-00-0 REACH No.: 01-2119474691-32	**butane** Flam. Gas 1A (H220), Press. Gas (Liq.) (H280) Danger **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg ATE (dermal) > 2,000 mg/kg ATE (inhalation, gases) 658 ppmV ATE (inhalation, vapour) > 800,000 mg/L	0.1 – < 1 Vol-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.

Following inhalation:

Remove person to fresh air and keep comfortable for breathing. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact:
Wash with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. When in doubt or if symptoms are observed, get medical advice.

After eye contact:
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms occur or persist, consult an ophthalmologist.

Following ingestion:
Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

Self-protection of the first aider:
First aider: Pay attention to self-protection!

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 mist, 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 can produce gases of varying toxicity. In the case of products containing hydrocarbons, e.g. CO, CO2, aldehydes and soot. These can be very dangerous if inhaled in high concentrations or in enclosed spaces.

5.3. Advice for firefighters
Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely.
In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information
Pressurised container: May burst if heated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Personal precautions:
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.
First aider: Pay attention to self-protection!

Protective equipment:
Wear personal protection equipment (refer to section 8).

6.1.2. For emergency responders
Personal protection equipment:
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).

6.4. Reference to other sections
Further information on proper storage: see section 7.
For further information on personal protective equipment: see section 8.
For further information on disposal: see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices 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.

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

Advices on general occupational hygiene
Avoid exposure - obtain special instructions before use. Wear suitable work clothing. Draw up and observe skin protection programme. Avoid contact with eyes and skin.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:
Keep container tightly closed. The official regulations for the storage of pressurised gas packages must be observed.

Hints on storage assembly:
Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances. Food and feedingstuffs.

Storage class (TRGS 510, Germany): 2B – Aerosol dispensers and lighters

Further information on storage conditions:
Protect from frost. Protect from direct sunlight. Store in a cool dry place. The official regulations for the storage of pressurised gas packages must be observed.

7.3. Specific end use(s)

Recommendation:
No further relevant information available.

SECTION 8: Exposure controls/personal protection

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8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
MAK (AT)	**isobutane** CAS No.: 75-28-5 EC No.: 200-857-2	② 1,600 ppm (3,800 mg/m³) ⑤ (max. 3x60 min./SchichtMomentanwert)
MAK (AT)	**isobutane** CAS No.: 75-28-5 EC No.: 200-857-2	① 800 ppm (1,900 mg/m³)

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
MAK (AT)	**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene** CAS No.: 64742-49-0 EC No.: 927-510-4	① 200 mL/m³ ② 400 mL/m³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/ Isohexanen von weniger als 25 %)
MAK (AT)	**Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene** CAS No.: 64742-49-0 EC No.: 927-510-4	① 170 mL/m³ ② 340 mL/m³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/ Isohexanen von 25 % oder mehr)
MAK (AT)	**propane** CAS No.: 74-98-6 EC No.: 200-827-9	② 2,000 ppm (3,600 mg/m³) ⑤ (max. 3x60 min./Schicht, Momentanwert)
MAK (AT)	**propane** CAS No.: 74-98-6 EC No.: 200-827-9	① 1,000 ppm (1,800 mg/m³)
MAK (AT)	**butane** CAS No.: 106-97-8 EC No.: 203-448-7	① 800 ppm (1,900 mg/m³)
MAK (AT)	**butane** CAS No.: 106-97-8 EC No.: 203-448-7	② 1,600 ppm (3,800 mg/m³) ⑤ (max. 3x60 min./Schicht, Momentanwert)

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6	2,035 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6	608 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6	773 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6	300 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6	699 mg/kg bw/ day	① DNEL Consumer ② Long-term - dermal, systemic effects
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6	699 mg/kg bw/ day	① DNEL Consumer ② Long-term - oral, systemic effects
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene CAS No.: 64742-49-0 EC No.: 927-510-4	2,085 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects

Substance name	DNEL value	① DNEL type ② Exposure route
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene CAS No.: 64742-49-0 EC No.: 927-510-4	477 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene CAS No.: 64742-49-0 EC No.: 927-510-4	300 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene CAS No.: 64742-49-0 EC No.: 927-510-4	149 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene CAS No.: 64742-49-0 EC No.: 927-510-4	149 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects

8.2. Exposure controls

8.2.1. Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used.

8.2.2. Personal protection equipment



Eye/face protection:

Suitable eye protection: Safety goggles with side shields (EN 166).

Skin protection:

Hand protection:
Preventive skin protection through the use of skin protectants is recommended. 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.
Glove material: NBR (Nitrile rubber)
Breakthrough time: 480 min
Thickness of the glove material: 0,45 mm
EN ISO 374

Body protection:
Wear suitable protective clothing when working. Take off immediately all contaminated clothing and wash it before reuse.

Respiratory protection:

Wear breathing apparatus if exposed to vapours/dusts/aerosols.
If the relevant occupational exposure limits are exceeded, the following must be observed: Suitable respiratory protective device: Combination filter device (DIN EN 141). Filter unit with filter or blower filter unit type: AX
Observe the wear time limits as specified by the manufacturer.
Observe legal rules and regulations.

8.2.3. Environmental exposure controls

Observe legal rules and regulations.

SECTION 9: Physical and chemical properties

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9.1. Information on basic physical and chemical properties

Appearance

Form: Aerosol **Colour:** colourless

Odour: characteristic

flammability: No data available

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
Initial boiling point and boiling range	-40 °C		
Flash point	-80 °C		
Evaporation rate	*No data available*		
Upper/lower flammability or explosive limits	1.1 – 10.8 Vol-%		
Vapour pressure	*No data available*		
Density	0.7 g/cm³	20 °C	① DIN 51757
Water solubility	*No data available*		

9.2. Other information
The data refer to the technical active substance: relative density, colour, odour, viscosity, pH-value.

SECTION 10: Stability and reactivity

10.1. Reactivity
Flammable, Risk of ignition.

10.2. Chemical stability
The product is stable under storage at normal ambient temperatures.

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 discharge.

10.5. Incompatible materials
Oxidizing agent. Pyrophoric or self-heating substances.

10.6. Hazardous decomposition products
Incomplete combustion and thermolysis can produce gases of varying toxicity. In the case of products containing hydrocarbons, e.g. CO, CO2, aldehydes and soot. These can be very dangerous if inhaled in high concentrations or in enclosed spaces.

Further information
Do not mix with other chemicals.

SECTION 11: Toxicological information

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

isobutane CAS No.: 75-28-5 EC No.: 200-857-2
LD_{50} oral: >15,000 mg/kg
LD_{50} dermal: >5,000 mg/kg
LC_{50} Acute inhalation toxicity (vapour): >4,951 mg/L
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6
LD_{50} oral: >5,000 mg/kg (Rat) OECD 401
LD_{50} dermal: >2,920 mg/kg (Rabbit)
LC_{50} Acute inhalation toxicity (gas): >20 ppmV 4 h (Rat) OECD 403
LC_{50} Acute inhalation toxicity (vapour): >25.2 mg/L 4 h (Rat)

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene CAS No.: 64742-49-0 EC No.: 927-510-4	
LD_{50} oral: ≥5,000 mg/kg (Rat)	
LD_{50} dermal: >2,920 mg/kg (Rat)	
LC_{50} Acute inhalation toxicity (vapour): >23.3 mg/L 4 h (Rat)	
propane CAS No.: 74-98-6 EC No.: 200-827-9	
LD_{50} oral: 5,840 mg/kg (Rat)	
LD_{50} dermal: 13,900 mg/kg (Rabbit)	
LC_{50} Acute inhalation toxicity (gas): >25 ppmV 4 h (Rat)	
LC_{50} Acute inhalation toxicity (vapour): ≥50 mg/L 4 h (Rat)	
butane CAS No.: 106-97-8 EC No.: 203-448-7	
LD_{50} oral: >2,000 mg/kg	
LD_{50} dermal: >2,000 mg/kg	
LC_{50} Acute inhalation toxicity (gas): 658 ppmV (Rat)	
LC_{50} Acute inhalation toxicity (vapour): >800,000 mg/L (Rat)	

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

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

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

Skin corrosion/irritation:
Causes skin irritation.

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

Respiratory or skin sensitisation:
Based on available data, the classification criteria are not met.

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.

STOT-single exposure:
May cause drowsiness or dizziness.

STOT-repeated exposure:
Based on available data, the classification criteria are not met.

Aspiration hazard:
May be fatal if swallowed and enters airways.

Additional information:
No data available

11.2. Information on other hazards

Endocrine disrupting properties:
This product contains a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 12: Ecological information

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12.1. Toxicity

isobutane CAS No.: 75-28-5 EC No.: 200-857-2
LC_{50}: 91.42 mg/L 4 d (fish, Fish, no other information)
LC_{50}: 100 mg/L 4 d (fish, Danio rerio)
LC_{50}: 91.42 mg/L 4 d (fish)
EC_{50}: 69.43 mg/L 2 d (crustaceans, Daphnia sp.)
EC_{50}: 1,000 mg/L 2 d (fish, Daphnia magna)
EC_{50}: 69.43 mg/L 2 d (crustaceans, Daphnia) Calculation with the ECOSAR programme v1.00.
ErC_{50}: 19.37 mg/L 4 d (Algae/water plant, Algae)
ErC_{50}: 19.37 mg/L 4 d (Algae/water plant) Calculation using ECOSAR Program v1.00.
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6
LC_{50}: 11.4 mg/L 4 d (fish, Oncorhynchus mykiss) OECD 203
EC_{50}: 3 mg/L 2 d (crustaceans, Daphnia magna) OECD 202
NOEC: 0.17 mg/L 21 d (crustaceans, Daphnia magna)
LOEC: 0.32 mg/L 21 d (crustaceans, Daphnia magna)
EC_{50}: 30 – 100 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
LC_{50}: >1 – 10 mg/L 4 d (fish, Pimephales promelas)
EC_{50}: >1 – 10 mg/L 2 d (crustaceans, Daphnia magna)
NOEC: 2.045 mg/L 28 d (fish, Oncorhynchus mykiss)
NOEC: 1 mg/L 21 d (crustaceans, Daphnia magna) OECD 211
ErC_{50}: 10 – 30 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD 201
LOEC: 0.32 mg/L 21 d (Daphnia magna)
LC_{50}: 11.4 mg/L 4 d (fish)
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene CAS No.: 64742-49-0 EC No.: 927-510-4
LC_{50}: >13.4 mg/L 4 d (fish)
EC_{50}: 3 mg/L (crustaceans, Daphnia magna))
NOEC: 0.17 mg/L (Algae/water plant, Daphnia magna)
LOEC: 0.32 mg/L (Algae/water plant)
EC_{50}: 3 mg/L 2 d (Daphnia magna)
propane CAS No.: 74-98-6 EC No.: 200-827-9
LC_{50}: 9,640 mg/L 4 d (fish, Pimephales promelas)
LC_{50}: 0.41 mg/L 4 d (fish, Oncorhynchus mykiss)
LC_{50}: 49.9 mg/L 4 d (fish)
EC_{50}: >100 mg/L (Algae/water plant, Bacteria)
EC_{50}: 0.17 mg/L 3 d (Algae/water plant, Selenastrum capricornutum)
EC_{50}: 69.43 mg/L 2 d (crustaceans, Daphnia) Calculation with the ECOSAR programme v1.00.
NOEC: 0.017 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
ErC_{50}: 19.37 mg/L 4 d (Algae/water plant, Algae) Calculation with the ECOSAR programme v1.00.
LOEC: 1,000 mg/L (Algae/water plant, Algae)
LOEC: 1,000 mg/L (Algae/water plant, Alge)
IC_{50}: 11.3 mg/L 3 d (Algae/water plant)
butane CAS No.: 106-97-8 EC No.: 203-448-7
LC_{50}: 49.9 mg/L 4 d (fish)
LC_{50}: 24.11 mg/L (fish)
EC_{50}: 69.43 mg/L 2 d (crustaceans, Daphnia sp.)
EC_{50}: 7.71 mg/L 4 d (Algae/water plant)
ErC_{50}: 19.37 mg/L 4 d (Algae/water plant)

Aquatic toxicity:
Toxic to aquatic life with long lasting effects.

Assessment/classification:
No further relevant information available.

12.2. Persistence and degradability

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6
Biodegradation: Yes, rapidly
propane CAS No.: 74-98-6 EC No.: 200-827-9
Biodegradation: Yes, rapidly
butane CAS No.: 106-97-8 EC No.: 203-448-7
Biodegradation: Yes, rapidly

Abiotic degradation:
No further relevant information available.

12.3. Bioaccumulative potential

isobutane CAS No.: 75-28-5 EC No.: 200-857-2
Log K_{OW}: 1.09
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6
Log K_{OW}: 5.2
Bioconcentration factor (BCF): 250
propane CAS No.: 74-98-6 EC No.: 200-827-9
Log K_{OW}: 1.09
butane CAS No.: 106-97-8 EC No.: 203-448-7
Log K_{OW}: 1.09

Accumulation / Evaluation:
No further relevant information available.

12.4. Mobility in soil
No further relevant information available.

12.5. Results of PBT and vPvB assessment

isobutane CAS No.: 75-28-5 EC No.: 200-857-2
Results of PBT and vPvB assessment: —
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane EC No.: 921-024-6
Results of PBT and vPvB assessment: —
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclene CAS No.: 64742-49-0 EC No.: 927-510-4
Results of PBT and vPvB assessment: —
propane CAS No.: 74-98-6 EC No.: 200-827-9
Results of PBT and vPvB assessment: —
butane CAS No.: 106-97-8 EC No.: 203-448-7
Results of PBT and vPvB assessment: —

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties
This product contains a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects
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
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

16 05 04 *	Gases in pressure containers (including halons) containing hazardous substances

**: Evidence for disposal must be provided.*

Waste code packaging

15 01 04	metallic packaging

Waste treatment options

Appropriate disposal / Product:
Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:
Uncleaned packaging: Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
UN 1950	UN 1950	UN 1950	UN 1950
14.2. UN proper shipping name			
AEROSOLS (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane)	AEROSOLS (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclene, <5% n-hexane)	AEROSOLS flammable (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane)	AEROSOLS flammable (Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane)
14.3. Transport hazard class(es)			
 2.1	 2.1	 2.1	 2.1
14.4. Packing group			
		-	
14.5. Environmental hazards			
		 MARINE POLLUTANT	
14.6. Special precautions for user			
Special Provisions: 190 | 327 | 344 | 625 **Limited quantity (LQ):** 1 L **Excepted Quantities (EQ):** E0 **Classification code:** 5F **Tunnel restriction code:** (D) **Remark:** Caution: Flammable gases!	**Special Provisions:** 190 | 327 | 344 | 625 **Limited quantity (LQ):** 1 L **Excepted Quantities (EQ):** E0 **Classification code:** 5F **Remark:** Caution: Flammable gases!	**Special Provisions:** 63 | 190 | 277 | 327 | 344 | 381 | 959 **Limited quantity (LQ):** 1000 mL **Excepted Quantities (EQ):** E0 **EmS-No.:** F-D, S-U **Remark:** Caution: Flammable gases!	**Special Provisions:** A145 | A167 | A802 **Limited quantity (LQ):** Y203 **Excepted Quantities (EQ):** E0 **Remark:** IATA Packing Instructions - Passenger: 203 IATA Maximum Quantity - Passenger: 75 kg IATA-Verpackungsanweisung - Cargo: 203 IATA Maximum Quantity - Cargo: 150 kg Caution: Flammable gases!

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

15.1.1. EU legislation

Authorisations:

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH), (EU) 2020/878
Aerosol Directive (75/324/EEC)

Restrictions on use:

Restrictions on use (REACH, Annex XVII) Entry 3, Entry 28, Entry 40

15.1.2. National regulations

No data available

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

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16.1. Indication of changes

1.3.	Details of the supplier of the safety data sheet
3.2.	Mixtures
8.1.	Control parameters
9.1.	Information on basic physical and chemical properties
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
12.1.	Toxicity
15.3.	Additional information
16.1.	Indication of changes

Limit value / limit values updated: SI

16.2. Abbreviations and acronyms

AC	Article Category
ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AOX	Adsorbable Organic halogen compounds
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DIN	German Institute for Standardization / German Industrial Standard
DNEL	derived no-effect level
EC_{50}	Effective Concentration 50%
EN	European Standard
ES	Exposure scenario
EWC	European Waste Catalogue
IC_{50}	Inhibition Concentration 50 %
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Standards Organisation
KG	body weight
LC_{50}	Lethal (fatal) Concentration 50%
LD_{50}	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NOEC	No Observed Effect Concentration

OECD	Organisation for Economic Cooperation and Development
OSHA	Occupational Safety & Health Administration
PBT	persistent and bioaccumulative and toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations
ZNS	central nervous system

16.3. Key literature references and sources for data
No data available

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
aerosol dispensers and lighters *(Aerosol 1)*	H222; H229: Extremely flammable aerosol. Pressurised container: May burst if heated.	
Aspiration hazard *(Asp. Tox. 1)*	H304: May be fatal if swallowed and enters airways.	
Skin corrosion/irritation *(Skin Irrit. 2)*	H315: Causes skin irritation.	
STOT-single exposure *(STOT SE 3)*	H336: May cause drowsiness or dizziness.	
Hazardous to the aquatic environment *(Aquatic Chronic 2)*	H411: Toxic to aquatic life with long lasting effects.	

16.5. List of relevant hazard statements and/or precautionary statements from sections 2 to 15

Hazard statements	
H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
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.

16.6. Training advice
No data available

16.7. Additional information
To the best of our knowledge, the information contained herein is accurate. However, neither the above-mentioned supplier nor its subsidiaries assume any liability with regard to the correctness or completeness of the information provided. A final determination of the suitability of individual materials is the sole responsibility of the user. All materials may involve unknown risks and should be used with caution. While certain risks are described herein, we cannot guarantee that these are the only possible risks.

* Data changed compared with the previous version.