Power Clean 500ml

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

1.1. Product identifier

Trade name/designation:

Power Clean 500ml

Article No.:
T499001

UFI:
Q5AA-SYFV-2T0X-RREE

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

Use of the substance/mixture:
Cold cleaner

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.	
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye 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,C7,n-alkanes,isoalkanes,cyclic, Consisting of: 110-82-7 cyclohexane (2%); (R)-(+)-Limonene; pentane; propan-2-ol

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.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

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

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.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection.

Precautionary statements Response	
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/ if you feel unwell.

Precautionary statements Storage	
P403	Store in a well-ventilated place.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Precautionary statements Disposal	
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

Additional information:
The product contains: Notifiable explosives precursors. Provision, transfer, possession and use in accordance with Regulation (EU) 2019/1148, Article 9.
Formation of explosive mixtures possible without adequate ventilation.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Description:
Cleaning agent

Additional information:
Regulation (EC) No. 648/2004 [Detergents regulation]:
≥ 30% aliphatic hydrocarbons
< 5% Fragrances

Aerosols and containers fitted with a solid nebuliser containing substances or mixtures classified as hazardous by aspiration must not be labelled for this hazard.

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 67-63-0 EC No.: 200-661-7 Index No.: 603-117-00-0 REACH No.: 01-2119457558-25	**propan-2-ol** Eye Irrit. 2 (H319), Flam. Liq. 2 (H225), STOT SE 3 (H336)  Danger **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg ATE (dermal) > 2,000 mg/kg ATE (inhalation, gases) > 25 ppmV ATE (inhalation, vapour) > 20 mg/L	25 – < 50 Vol-%
CAS No.: 64742-49-0 EC No.: 927-510-4 Index No.: 649-328-00-1 REACH No.: 01-2119475515-33	**Hydrocarbons,C7,n-alkanes,isoalkanes,cyclic, Consisting of: 110-82-7 cyclohexane (2%)** 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	25 – < 50 Vol-%
CAS No.: 109-66-0 EC No.: 203-692-4 Index No.: 601-006-00-1 REACH No.: 01-2119459286-30	**pentane** Aquatic Chronic 2 (H411), Asp. Tox. 1 (H304), Flam. Liq. 2 (H225), STOT SE 3 (H336)  Danger EUH066 **Acute Toxicity Estimate** ATE (oral) > 5,000 mg/kg ATE (dermal) > 2,000 mg/kg ATE (inhalation, gases) > 20 ppmV ATE (inhalation, vapour) > 25.3 mg/L **Additional information:** EUH066	10 – < 25 Vol-%
EC No.: 931-254-9 REACH No.: 01-2119484651-34	**Hydrocarbons, C6, iso-alkanes, <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) ≥ 5,000 mg/kg ATE (inhalation, vapour) 259,354 mg/L ATE (inhalation, dust/mist) ≥ 50 mg/L	10 – < 25 Vol-%
CAS No.: 67-64-1 EC No.: 200-662-2 Index No.: 606-001-00-8 REACH No.: 01-2119471330-49	**Acetone** Eye Irrit. 2 (H319), Flam. Liq. 2 (H225), STOT SE 3 (H336)  Danger EUH066 **Acute Toxicity Estimate** ATE (oral) ≥ 5,000 mg/kg ATE (dermal) > 20 mg/kg ATE (inhalation, gases) > 20 ppmV ATE (inhalation, vapour) > 50 mg/L ATE (inhalation, dust/mist) 76 mg/L **Additional information:** EUH066	10 – < 25 Vol-%

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 124-38-9 EC No.: 204-696-9	**carbon dioxide** Press. Gas (Liq.) (H280)  Warning **Acute Toxicity Estimate** ATE (oral) ≥ 5,000 mg/kg ATE (dermal) ≥ 5,000 mg/kg ATE (inhalation, vapour) 259,354 mg/L ATE (inhalation, dust/mist) ≥ 50 mg/L	2.5 – < 10 Vol-%
CAS No.: 5989-27-5 EC No.: 227-813-5 REACH No.: 01-2119529223-47	**(R)-(+)-Limonene** Aquatic Acute 1 (H400), Aquatic Chronic 3 (H412), Asp. Tox. 1 (H304), Flam. Liq. 3 (H226), Skin Irrit. 2 (H315), Skin Sens. 1B (H317)  Danger **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg ATE (dermal) > 5,000 mg/kg	1 – < 2.5 Vol-%

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Following inhalation:
Fresh air supply, consult a doctor in case of complaints.
If unconscious, position and transport in stable lateral position.

In case of skin contact:
Wash with plenty of water and soap.

After eye contact:
Rinse opened eye for several minutes under running water. Consult a doctor if symptoms persist

Following ingestion:
Do not induce vomiting, seek medical help immediately.

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 media:
Water mist, Extinguishing powder, Carbon dioxide, alcohol resistant foam

Unsuitable extinguishing media:
Water in full jet

5.2. Special hazards arising from the substance or mixture

No further relevant information available.

5.3. Advice for firefighters

Special protective equipment: Put on breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:
Wear protective equipment. Keep unprotected persons away.

6.1.2. For emergency responders

No data available

6.2. Environmental precautions

Do not allow to enter into surface water or drains. In case of spillage into water or sewage system, inform the competent authorities.

6.3. Methods and material for containment and cleaning up

For cleaning up:

Do not wash away with water or aqueous detergents.

Other information:

Provide adequate ventilation.

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:

Ensure good ventilation/extraction at the workplace.

Fire prevent measures:

Do not spray on naked flames or any incandescent material. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Container is under pressure. Protect from sunlight and temperatures above 50°C (e.g. from incandescent lamps). Do not open by force or burn even after use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:

Store in a cool place. The official regulations for the storage of pressurised gas packages must be observed.

Hints on storage assembly:

The official regulations for the storage of pressurised gas packages must be observed.

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

Further information on storage conditions:

Store in a cool dry place. Protect from heat and direct sunlight.

7.3. Specific end use(s)

Recommendation:

No further relevant information available.

SECTION 8: Exposure controls/personal protection

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)	**propan-2-ol** CAS No.: 67-63-0 EC No.: 200-661-7	② 800 ppm (2,000 mg/m³) ⑤ (max. 4x15 min./Schicht)
MAK (AT)	**propan-2-ol** CAS No.: 67-63-0 EC No.: 200-661-7	① 200 ppm (500 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,cyclic, Consisting of: 110-82-7 cyclohexane (2%)** 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,cyclic, Consisting of: 110-82-7 cyclohexane (2%)** 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)	**pentane** CAS No.: 109-66-0 EC No.: 203-692-4	② 1,200 ppm (3,600 mg/m³) ⑤ (max. 3x60 min./Schicht, Momentanwert)
IOELV (EU)	**pentane** CAS No.: 109-66-0 EC No.: 203-692-4	① 1,000 ppm (3,000 mg/m³)
MAK (AT)	**pentane** CAS No.: 109-66-0 EC No.: 203-692-4	① 600 ppm (1,800 mg/m³)
MAK (AT)	**Acetone** CAS No.: 67-64-1 EC No.: 200-662-2	② 2,000 ppm (4,800 mg/m³) ⑤ (max. 4x15 min./Schicht)
IOELV (EU)	**Acetone** CAS No.: 67-64-1 EC No.: 200-662-2	① 500 ppm (1,210 mg/m³)
MAK (AT)	**Acetone** CAS No.: 67-64-1 EC No.: 200-662-2	① 500 ppm (1,200 mg/m³)
MAK (AT)	**carbon dioxide** CAS No.: 124-38-9 EC No.: 204-696-9	① 5,000 ppm (9,000 mg/m³)
MAK (AT)	**carbon dioxide** CAS No.: 124-38-9 EC No.: 204-696-9	② 10,000 ppm (18,000 mg/m³) ⑤ (max. 3x60 min./Schicht, Momentanwert)
IOELV (EU)	**carbon dioxide** CAS No.: 124-38-9 EC No.: 204-696-9	① 5,000 ppm (9,000 mg/m³)

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
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	500 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	89 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects

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Substance name	DNEL value	① DNEL type ② Exposure route
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	888 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	319 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	26 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
Hydrocarbons,C7,n-alkanes,isoalkanes,cyclic, Consisting of: 110-82-7 cyclohexane (2%) CAS No.: 64742-49-0 EC No.: 927-510-4	2,085 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
Hydrocarbons,C7,n-alkanes,isoalkanes,cyclic, Consisting of: 110-82-7 cyclohexane (2%) 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,cyclic, Consisting of: 110-82-7 cyclohexane (2%) 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,cyclic, Consisting of: 110-82-7 cyclohexane (2%) 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,cyclic, Consisting of: 110-82-7 cyclohexane (2%) CAS No.: 64742-49-0 EC No.: 927-510-4	149 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
pentane CAS No.: 109-66-0 EC No.: 203-692-4	3,000 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
pentane CAS No.: 109-66-0 EC No.: 203-692-4	643 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
pentane CAS No.: 109-66-0 EC No.: 203-692-4	432 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
pentane CAS No.: 109-66-0 EC No.: 203-692-4	214 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
pentane CAS No.: 109-66-0 EC No.: 203-692-4	214 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9	5,306 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9	1,131 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9	13,964 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects

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Substance name	DNEL value	① DNEL type ② Exposure route
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9	1,377 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9	1,301 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	1,210 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	200 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	2,420 mg/m³	① DNEL worker ② Long-term – inhalation, local effects
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	186 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	62 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	62 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	33.3 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	8.3 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	0.222 mg/kg	① DNEL worker ② Acute - dermal, local effects
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	0.111 mg/kg	① DNEL Consumer ② Acute - dermal, local effects
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	4.76 mg/kg	① DNEL Consumer ② Long-term - oral, systemic effects

Substance name	PNEC Value	① PNEC type
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	140.9 mg/L	① PNEC aquatic, freshwater
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	140.9 mg/L	① PNEC aquatic, marine water
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	2,251 mg/L	① PNEC sewage treatment plant
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	552 mg/kg	① PNEC sediment, freshwater
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	552 mg/kg	① PNEC sediment, marine water
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	28 mg/kg	① PNEC soil

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Substance name	PNEC Value	① PNEC type
propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7	140.9 mg/L	① PNEC aquatic, intermittent release
pentane CAS No.: 109-66-0 EC No.: 203-692-4	0.23 mg/L	① PNEC aquatic, freshwater
pentane CAS No.: 109-66-0 EC No.: 203-692-4	0.23 mg/L	① PNEC aquatic, marine water
pentane CAS No.: 109-66-0 EC No.: 203-692-4	3.6 mg/L	① PNEC sewage treatment plant
pentane CAS No.: 109-66-0 EC No.: 203-692-4	1.2 mg/kg bw/day	① PNEC sediment, freshwater
pentane CAS No.: 109-66-0 EC No.: 203-692-4	1.2 mg/kg	① PNEC sediment, marine water
pentane CAS No.: 109-66-0 EC No.: 203-692-4	0.55 mg/kg	① PNEC soil
pentane CAS No.: 109-66-0 EC No.: 203-692-4	0.88 mg/L	① PNEC aquatic, intermittent release
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	10.6 mg/L	① PNEC aquatic, freshwater
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	1.06 mg/L	① PNEC aquatic, marine water
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	100 mg/L	① PNEC sewage treatment plant
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	30.4 mg/L	① PNEC sediment, freshwater
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	3.04 mg/L	① PNEC sediment, marine water
Acetone CAS No.: 67-64-1 EC No.: 200-662-2	29.5 mg/kg	① PNEC soil
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	0.0054 mg/L	① PNEC aquatic, freshwater
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	0.00054 mg/L	① PNEC aquatic, marine water
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	1.8 mg/L	① PNEC sewage treatment plant
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	1.32 mg/kg	① PNEC sediment, freshwater
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	0.13 mg/kg	① PNEC sediment, marine water
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	0.262 mg/kg	① PNEC soil

Substance name	PNEC Value	① PNEC type
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5	3.33 mg/kg	① PNEC secondary poisoning

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No further details. See section 7.

8.2.2. Personal protection equipment



Eye/face protection:

Safety goggles (EN-166)

Skin protection:

Hand protection:
Gloves / solvent resistant
Breakthrough times and swelling properties of the material must be taken into consideration.
Glove material:
The selection of a suitable glove depends not only on the material but also on other quality features and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of glove materials cannot be calculated in advance and must therefore be checked before use.
Glove material: NBR (Nitrile rubber)
Recommended material thickness: ≥ 0,5mm
Permeation time (maximum wear duration):
For continuous contact we recommend gloves with a breakthrough time of at least 240 minutes, with the preference for a breakthrough time greater than 480 minutes. For short term or splash protection we recommend the same. We are aware that suitable gloves offering this protection are not available. In this case, a shorter breakthrough time is permissible, provided the procedures for maintenance and timely replacement are followed. The thickness of the gloves is not a good measure of the resistance the gloves give against a chemical substance, as this depends on the exact composition of the material of the gloves. The exact breakthrough time should be checked with the glove manufacturer and adhered to.

Body protection:
Use protective suit. (EN-13034/6)
Antistatic, chemical and oil resistant clothing and safety shoes are recommended. (EN1149; EN340&EN ISO 13688 EN13034-6).

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.
Filter A2/P2

Other protection measures:

General protective and hygienic measures:
Keep away from food, drink and animal feed.
Remove contaminated, saturated clothing immediately.
Wash hands before breaks and after work.
Do not inhale gases/vapours/aerosols.
Avoid contact with eyes and skin.
General ventilation.

8.2.3. Environmental exposure controls

Use a suitable container to prevent environmental pollution.

8.3. Additional information

No further relevant information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Form: Aerosol
Colour: colourless
Odour: characteristic
flammability: No data available
Odour threshold: not determined

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	*not applicable*		② Mixture is not polar/aprotic.
Initial boiling point and boiling range	36 °C		② pentane (109-66-0)
Flash point	-26 °C		
Evaporation rate	*No data available*		
Auto-ignition temperature	> 200 °C		
Upper/lower flammability or explosive limits	0.6 – 13 Vol-%		
Vapour pressure	246 hPa	20 °C	
Vapour density	*No data available*		
Density	0.75 g/cm³	20 °C	
Bulk density	*not applicable*		
Water solubility	Immiscible		
Kinematic viscosity	≤ 20.5 mm²/s	40 °C	

9.2. Other information

The product is not self-igniting. The product is not explosive, but the formation of explosive vapour/air mixtures is possible. formation of explosive vapour/air mixtures is possible.
Organic solvents: 96,0%
Solid content: 0,0%

9.2.1. Information with regard to physical hazard classes

Explosives:
Not applicable

Flammable gases:
Not applicable

Aerosols:
Extremely flammable aerosol. Pressurized container: May burst if heated.

Oxidizing gases:
Not applicable

Gases under pressure:
Not applicable

Flammable liquids:
Not applicable

Flammable solids:
Not applicable

Self-reactive substances and mixtures:
Not applicable

Pyrophoric liquids:
Not applicable

Pyrophoric solids:
Not applicable

Self-heating substances and mixtures:
Not applicable

Substances or mixtures which, in contact with water, emit flammable gases:
Not applicable

Oxidizing liquids:
Not applicable

Oxidizing solids:
Not applicable

Organic peroxides:
Not applicable

Corrosive to metals:
Not applicable

Desensitised explosives:
Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
No further relevant information available.

10.2. Chemical stability
Thermal decomposition / Conditions to avoid: No decomposition when used as directed.

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.

SECTION 11: Toxicological information

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

propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7
LD_{50} oral: >2,000 mg/kg (Rat)
LD_{50} dermal: >2,000 mg/kg (Rat)
LC_{50} Acute inhalation toxicity (gas): >25 ppmV 4 h (Rat)
LC_{50} Acute inhalation toxicity (vapour): >20 mg/L 6 h (Rat)
pentane CAS No.: 109-66-0 EC No.: 203-692-4
LD_{50} oral: >5,000 mg/kg (Rat)
LD_{50} dermal: >2,000 mg/kg (Rat)
LC_{50} Acute inhalation toxicity (gas): >20 ppmV 4 h (rat)
LC_{50} Acute inhalation toxicity (vapour): >25.3 mg/L 4 h (Rat) OECD 403
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9
ATE (inhalation, vapour): 259,354 mg/L
LD_{50} oral: ≥5,000 mg/kg (Rat) OECD 401
LD_{50} dermal: ≥5,000 mg/kg (Rabbit) OECD 402
LC_{50} Acute inhalation toxicity (dust/mist): ≥50 mg/L (Rat) OECD 403

Acetone CAS No.: 67-64-1 EC No.: 200-662-2
LD_{50} oral: ≥5,000 mg/kg (Rat)
LD_{50} dermal: >20 mg/kg (Rat)
LC_{50} Acute inhalation toxicity (gas): >20 ppmV 4 h (Rat)
LC_{50} Acute inhalation toxicity (vapour): >50 mg/L 4 h (Rat)
LC_{50} Acute inhalation toxicity (dust/mist): 76 mg/L 4 h (Rat)
carbon dioxide CAS No.: 124-38-9 EC No.: 204-696-9
ATE (inhalation, vapour): 259,354 mg/L
LD_{50} oral: ≥5,000 mg/kg (Ratte)
LD_{50} dermal: ≥5,000 mg/kg (Kaninchen)
LC_{50} Acute inhalation toxicity (dust/mist): ≥50 mg/L 4 h (Ratte)
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5
LD_{50} oral: >2,000 mg/kg (Rat)
LD_{50} dermal: >5,000 mg/kg (Rabbit)
Hydrocarbons,C7,n-alkanes,isoalkanes,cyclic, Consisting of: 110-82-7 cyclohexane (2%) 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)

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:
Causes serious eye irritation.

Respiratory or skin sensitisation:
May cause an allergic skin reaction.

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.

11.2. Information on other hazards

Endocrine disrupting properties:
None of the ingredients are included.

SECTION 12: Ecological information

12.1. Toxicity

propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7
LC_{50}: >1,000 mg/L 4 d (fish)
EC_{50}: >1,000 mg/L 2 d (crustaceans)
LC_{50}: 9,640 mg/L 4 d (fish, Pimephales promelas)
LC_{50}: 9,714 mg/L 1 d (Daphnia magna)
EC_{50}: >100 mg/L (Algae/water plant, Bacteria)
LOEC: 1,000 mg/L (Alge)
EC_{50}: >100 mg/L 2 d (crustaceans, Daphnia magna)
ErC_{50}: >100 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus)
LOEC: 1,000 mg/L (Algae/water plant, Algae)
ErC_{50}: >100 mg/L 3 d (Algae/water plant, Scenedesmus subspicatus)
LOEC: 1,000 mg/L
pentane CAS No.: 109-66-0 EC No.: 203-692-4
LC_{50}: 4.26 mg/L 4 d (fish, Oncorhynchus mykiss)
EC_{50}: 10.7 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
EC_{50}: 2.7 mg/L 2 d (crustaceans, Daphnia magna)
NOEC: 7.51 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
NOEC: 7.51 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
EC_{50}: 10.7 mg/L 3 d (Algae/water plant, Pseudokirchnerie lla subcapitata)
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9
LC_{50}: >2 mg/L 4 d (fish)
EC_{50}: 31.9 mg/L 2 d (crustaceans, Daphnia magna)
ErC_{50}: 13.6 mg/L 3 d (Algae/water plant, Pseudokirchnerella subcapitata)
Acetone CAS No.: 67-64-1 EC No.: 200-662-2
LC_{50}: 8,300 mg/L 4 d
LC_{50}: 5,540 mg/L 4 d (fish, Oncorhynchus mykiss)
LC_{50}: 4,042 mg/L (fish)
EC_{50}: 8,800 mg/L 2 d (crustaceans, Daphnia magna)
EC_{50}: 8,300 mg/L (fish)
EC_{50}: 302 mg/L 4 d (Algae/water plant)
NOEC: 2,212 mg/L (crustaceans, Daphnia pulex)
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5
LC_{50}: 35 mg/L 4 d (fish, Oncorhynchus mykiss)
EC_{50}: 69.6 mg/L 2 d (crustaceans, Daphnia pulex)
Hydrocarbons,C7,n-alkanes,isoalkanes,cyclic, Consisting of: 110-82-7 cyclohexane (2%) 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)

Additional ecotoxicological information:
No further relevant information available.

12.2. Persistence and degradability

propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7
Biodegradation: Yes, rapidly
Remark: Readily biodegradable (according to OECD criteria).
pentane CAS No.: 109-66-0 EC No.: 203-692-4
Biodegradation: Yes, rapidly
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9
Biodegradation: Yes, rapidly
Acetone CAS No.: 67-64-1 EC No.: 200-662-2
Biodegradation: Yes, rapidly
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5
Biodegradation: Yes, rapidly

Biodegradation:
Not readily biodegradable.

12.3. Bioaccumulative potential

propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7
Log K_{OW}: 0.05
pentane CAS No.: 109-66-0 EC No.: 203-692-4
Log K_{OW}: 3.39
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9
Log K_{OW}: 3.6
Acetone CAS No.: 67-64-1 EC No.: 200-662-2
Log K_{OW}: -0.23
Bioconcentration factor (BCF): 3
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5
Log K_{OW}: 4.83
Bioconcentration factor (BCF): 1,022

Bioconcentration factor (BCF):
No further relevant information available.

12.4. Mobility in soil
No further relevant information available.

12.5. Results of PBT and vPvB assessment

propan-2-ol CAS No.: 67-63-0 EC No.: 200-661-7
Results of PBT and vPvB assessment: —
pentane CAS No.: 109-66-0 EC No.: 203-692-4
Results of PBT and vPvB assessment: —
Hydrocarbons, C6, iso-alkanes, <5% n-hexane EC No.: 931-254-9
Results of PBT and vPvB assessment: —
Acetone CAS No.: 67-64-1 EC No.: 200-662-2
Results of PBT and vPvB assessment: —
carbon dioxide CAS No.: 124-38-9 EC No.: 204-696-9
Results of PBT and vPvB assessment: —
(R)-(+)-Limonene CAS No.: 5989-27-5 EC No.: 227-813-5
Results of PBT and vPvB assessment: —
Hydrocarbons,C7,n-alkanes,isoalkanes,cyclic, Consisting of: 110-82-7 cyclohexane (2%) CAS No.: 64742-49-0 EC No.: 927-510-4
Results of PBT and vPvB assessment: —

not applicable

12.6. Endocrine disrupting properties
The product does not contain any substances with endocrine-disrupting properties.

*
12.7. Other adverse effects
water hazard class 2: obviously hazardous to water
Toxic to aquatic life.
Toxic to fish.
Drinking water hazard even when small quantities leak into the subsoil.
Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Must not be disposed of together with household waste. Do not allow to enter into surface water or drains.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Directive 2008/98/EC (Waste Framework Directive)

HP 3	Flammable
HP 4	Irritant — skin irritation and eye damage
HP 5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 14	Ecotoxic

Waste code packaging

15 01 04	metallic packaging

Waste treatment options
Other disposal recommendations:
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, ENVIRONMENTALLY HAZARDOUS	AEROSOLS, ENVIRONMENTALLY HAZARDOUS	AEROSOLS, MARINE POLLUTANT	AEROSOLS, flammable
14.3. Transport hazard class(es)			
 2.1	 2.1	 2.1	 2.1
14.4. Packing group			
		-	
14.5. Environmental hazards			
	No	 MARINE POLLUTANT	No
14.6. Special precautions for user			
Special Provisions: 190 | 327 | 344 | 625 **Limited quantity (LQ):** 1 L	**Special Provisions:** 190 | 327 | 344 | 625 **Limited quantity (LQ):** 1 L	**Special Provisions:** 63 | 190 | 277 | 327 | 344 | 381 | 959 **Limited quantity (LQ):** 1L	**Special Provisions:** A145 | A167 **Remark:** Attention: Gases

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
Excepted Quantities (EQ): E0 **Classification code:** 5F **Tunnel restriction code:** (D) **Remark:** Attention: Gases	**Excepted Quantities (EQ):** E0 **Classification code:** 5F **Remark:** Attention: Gases	**Excepted Quantities (EQ):** E0 **EmS-No.:** F-D,S-U **Remark:** Attention: Gases 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.	

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:
Directive 2012/18/EU
Named dangerous substances - ANNEX I: None of the ingredients are included.

Restrictions on use:
Quantity threshold (in tons) for use in lower class farms 200t
Quantity threshold (in tons) for use in upper-tier establishments 500t
Regulation (EC) No 1907/2006 ANNEX XVII: Restriction conditions: 3
Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment - Annex II:
None of the ingredients are included.
Regulation (EU) 2019/1148
Annex I - RESTRICTED EXPORT SUBSTANCES FOR EXPLOSIVES (upper concentration limit for a permit pursuant to Article 5(3)): None of the ingredients are included.
Annex II - EXPLOSIVES REPORTABLE FOR EXPLOSIVES: 67-64-1 Acetone
Regulation (EC) No 273/2004 on drug precursors: 67-64-1 Acetone
Regulation (EC) No 111/2005 laying down rules for the monitoring of trade in drug precursors between the Community and third countries: 67-64-1 Acetone

Other regulations (EU):
Hazard categories:
• P3b 'Flammable' aerosols Category 1 or 2, not containing flammable gases Category 1 or 2 nor flammable liquids Category 1
• E2 Hazardous to the Aquatic Environment in Category Chronic 2

Named dangerous substances:
• Liquefied flammable gases, Category 1 or 2 (including liquefied petroleum gas) and natural gas

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds:
Volatile organic compounds (VOC) content in percent by weight: 720 g/L

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

*
16.1. Indication of changes

12.7.	Other adverse effects
14.6.	Special precautions for user
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes

16.2. Abbreviations and acronyms

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
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
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
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
OEL	Threshold Limit Value
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
VOC	Volatile organic compounds
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.	

Hazard classes and hazard categories	Hazard statements	Classification procedure
Skin corrosion/irritation *(Skin Irrit. 2)*	H315: Causes skin irritation.	
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye 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	
H225	Highly flammable liquid and vapour.
H226	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.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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

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.