Multi Tech PTFE 500ml

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

* **1.1. Product identifier**

Trade name/designation:

Multi Tech PTFE 500ml

Article No.:
T315001

UFI:
7P88-PC89-H0HV-0VQQ

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

Use of the substance/mixture:
Lubricating agent

Relevant identified uses:

Product Categories [PC]
PC 24: Lubricants, greases, release products
Process categories [PROC]
PROC 7: Industrial spraying
PROC 11: Non industrial spraying

* **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.	
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	

2.2. Label elements

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

Hazard pictograms:



GHS02
Flame

Signal word: Danger

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

Hazard statements for environmental hazards	
H412	Harmful 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.
P260	Do not breathe spray.

Precautionary statements Storage	
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:
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.
Determination of endocrine disrupting properties: not applicable

SECTION 3: Composition/information on ingredients

*

3.2. Mixtures

Additional information:
The content of benzene (EINECS No. 200-753-7) in the individual components is below 0.1% (Note P Annex VI of Directive (EC) No. 1272/2008). In accordance with the current Annex II of the REACH Regulation, the concentration of the substances contained in the mixture is specified. When classifying aerosols, the values used for the calculation may differ.

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 64742-55-8 EC No.: 265-158-7 REACH No.: 01-2119487077-29	**Distillates (petroleum), hydrotreated light paraffinic** Asp. Tox. 1 (H304) Danger **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg ATE (dermal) > 5,000 mg/kg	25 – < 50 %
CAS No.: 74-98-6 EC No.: 200-827-9 Index No.: 601-003-00-5 REACH No.: 01-2119486944-21	**propane** Flam. Gas 1A (H220), Press. Gas (Comp.) (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	12.5 – < 20 %
EC No.: 918-481-9 REACH No.: 01-2119457273-39	**Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%)** Asp. Tox. 1 (H304) Danger **Acute Toxicity Estimate** ATE (oral) > 5,000 mg/kg ATE (dermal) > 5,000 mg/kg ATE (inhalation, vapour) > 4,951 mg/L **Additional information:** EUH066	10 – < 12.5 %
CAS No.: 106-97-8 EC No.: 203-448-7 Index No.: 601-004-00-0 REACH No.: 01-2119474691-32	**Butane (with < 0,1 % butadiene (203-450-8))** Flam. Gas 1A (H220), Press. Gas (Comp.) (H280) Danger **Acute Toxicity Estimate** ATE (inhalation, gases) > 800,000 ppmV ATE (inhalation, vapour) 658 mg/L	10 – < 12.5 %
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 – < 12.5 %
CAS No.: 75-28-5 EC No.: 200-857-2 REACH No.: 01-2119485395-27	**Isobutane (with < 0.1 % butadiene (203-450-8))** Flam. Gas 1A (H220), Press. Gas (Comp.) (H280) Danger **Acute Toxicity Estimate** ATE (inhalation, gases) 260,000 ppmV ATE (inhalation, vapour) 52,000 mg/L	10 – < 12.5 %

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.

In case of skin contact:
In general, the product is not irritating to skin.

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

Following ingestion:
Drink plenty of water. Provide fresh air. Call a physician immediately.

* **4.2. Most important symptoms and effects, both acute and delayed**
No data available

* **4.3. Indication of any immediate medical attention and special treatment needed**
No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
Adapt fire extinguishing measures to the surroundings.

5.2. Special hazards arising from the substance or mixture
Formation of toxic gases when heated or in case of fire.

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:
Use of respiratory protective equipment. Wear protective equipment. Keep unprotected persons away. Keep away from sources of ignition - No smoking.

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**
Other information:
Dispose of contaminated material as waste according to section 13.. Provide adequate ventilation.

6.4. Reference to other sections
See section 7 for further information on safe handling.
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. No special measures are necessary.
Fire prevent measures:
Do not spray on naked flames or any incandescent material. Keep away from sources of ignition - No smoking. Have breathing apparatus ready.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels:
The official regulations for the storage of pressurised gas packages must be observed.
Hints on storage assembly:
Not required.
Storage class (TRGS 510, Germany): 2B – Aerosol dispensers and lighters

Further information on storage conditions:
Keep container tightly closed.

* **7.3. Specific end use(s)**
No data 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)	**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)	**Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%)** EC No.: 918-481-9	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, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%)** EC No.: 918-481-9	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)	**Butane (with < 0,1 % butadiene (203-450-8))** CAS No.: 106-97-8 EC No.: 203-448-7	① 800 ppm (1,900 mg/m³)
MAK (AT)	**Butane (with < 0,1 % butadiene (203-450-8))** CAS No.: 106-97-8 EC No.: 203-448-7	② 1,600 ppm (3,800 mg/m³) ⑤ (max. 3x60 min./Schicht, Momentanwert) 60(Mow); 3x
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)	**Isobutane (with < 0.1 % butadiene (203-450-8))** CAS No.: 75-28-5 EC No.: 200-857-2	② 1,600 ppm (3,800 mg/m³) ⑤ (max. 3x60 min./SchichtMomentanwert) 60(Mow); 3x
MAK (AT)	**Isobutane (with < 0.1 % butadiene (203-450-8))** CAS No.: 75-28-5 EC No.: 200-857-2	① 800 ppm (1,900 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
Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%) EC No.: 918-481-9	2.73 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%) EC No.: 918-481-9	5.58 mg/m³	① DNEL worker ② Long-term – inhalation, local effects
Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%) EC No.: 918-481-9	0.97 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%) EC No.: 918-481-9	0.74 mg/kg bw/day	① DNEL worker 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

Substance name	PNEC Value	① PNEC type
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

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:
Not required.

Skin protection:
Not required.

Respiratory protection:
In case of short or low exposure use breathing filter apparatus; in case of intensive or prolonged exposure use self-contained breathing apparatus. Filter A2/P3

Other protection measures:
General protective and hygienic measures: Wash hands before breaks and after work. Do not inhale gases/vapours/aerosols.

8.2.3. Environmental exposure controls

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Form: Aerosol
Colour: light brown
Odour: solvent-like
flammability: No data available
Odour threshold: not determined

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	*not applicable*		② insoluble in: Water
Initial boiling point and boiling range	*not applicable*		
Flash point	*not applicable*		
Evaporation rate	*No data available*		
Auto-ignition temperature	> 200 °C		② Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics
Upper/lower flammability or explosive limits	0.6 – 10.9 Vol-%		② Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics; 109-66-0 Propane
Vapour pressure	3,500 hPa	20 °C	
Density	0.7 g/cm³	20 °C	
Water solubility	Immiscible		

*

9.2. Other information

Organic solvents: 65,0 %
VOC value 438,8 g/l, 65,00 %
Solid content:1,8 %

9.2.1. Information with regard to physical hazard classes

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

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

Distillates (petroleum), hydrotreated light paraffinic CAS No.: 64742-55-8 EC No.: 265-158-7
LD_{50} oral: >2,000 mg/kg (Rat)
LD_{50} dermal: >5,000 mg/kg (Rabbit)
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)
Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%) EC No.: 918-481-9
LD_{50} oral: >5,000 mg/kg (Rat) OESO 401)
LD_{50} dermal: >5,000 mg/kg (Rabbit)
LC_{50} Acute inhalation toxicity (vapour): >4,951 mg/L 4 h (Rat) OESO 403
Butane (with < 0,1 % butadiene (203-450-8)) CAS No.: 106-97-8 EC No.: 203-448-7
LC_{50} Acute inhalation toxicity (gas): >800,000 ppmV (Rat)
LC_{50} Acute inhalation toxicity (vapour): 658 mg/L 4 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
Isobutane (with < 0.1 % butadiene (203-450-8)) CAS No.: 75-28-5 EC No.: 200-857-2
LC_{50} Acute inhalation toxicity (gas): 260,000 ppmV 4 h (Rat)
LC_{50} Acute inhalation toxicity (vapour): 52,000 mg/L 2 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:
Based on available data, the classification criteria are not met. No irritant effect.

Serious eye damage/irritation:
Based on available data, the classification criteria are not met. No irritant effect.

Respiratory or skin sensitisation:
Based on available data, the classification criteria are not met. No sensitising effect known.

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

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

Aspiration hazard:
Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Endocrine disrupting properties:
None of the ingredients are included.

SECTION 12: Ecological information

*

12.1. Toxicity

Distillates (petroleum), hydrotreated light paraffinic CAS No.: 64742-55-8 EC No.: 265-158-7
NOEC: 10 mg/L 21 d (crustaceans, Daphnia magna)
LC_{50}: >100 mg/L 4 d (fish, Pimephales promelas)
EC_{50}: >10,000 mg/L 2 d (crustaceans, 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)
LOEC: 1,000 mg/L
Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%) EC No.: 918-481-9
LC_{50}: 1,000 mg/L 3 d (Algae/water plant)
EC_{50}: 1,000 mg/L 2 d (crustaceans)
EC_{50}: >1,000 mg/L 2 d (DAPHNIA MAGNA)
EC_{50}: >1,000 mg/L 3 d (Selenastrum capricornutum)
LC_{50}: >1,000 mg/L 4 d (Oncorhynchus mykiss)
Butane (with < 0,1 % butadiene (203-450-8)) CAS No.: 106-97-8 EC No.: 203-448-7
LC_{50}: 24.11 mg/L 4 d (fish) QSAR
LC_{50}: 14.22 mg/L 2 d (crustaceans) QSAR
LC_{50}: 24 mg/L 4 d (Pisces (generic)) ECOSAR QSAR
EC_{50}: 7.7 mg/L 4 d (Algae (generic)) ECOSAR v1.00 QSAR

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)
NOEC: 7.51 mg/L 3 d (Pseudokirchneriella subcapitata)
LC_{50}: 4.26 mg/L 4 d (Oncorhynchus mykiss)
LC_{50}: 4.26 mg/L 4 d (fish)
Isobutane (with < 0.1 % butadiene (203-450-8)) CAS No.: 75-28-5 EC No.: 200-857-2
LC_{50}: 27.98 mg/L 4 d (fish)
EC_{50}: 7.71 mg/L 4 d (Algae/water plant)

* 12.2. Persistence and degradability

propane CAS No.: 74-98-6 EC No.: 200-827-9
Biodegradation: Yes, rapidly
Butane (with < 0,1 % butadiene (203-450-8)) CAS No.: 106-97-8 EC No.: 203-448-7
Biodegradation: Yes, rapidly
pentane CAS No.: 109-66-0 EC No.: 203-692-4
Biodegradation: Yes, rapidly
Isobutane (with < 0.1 % butadiene (203-450-8)) CAS No.: 75-28-5 EC No.: 200-857-2
Biodegradation: Yes, rapidly

* 12.3. Bioaccumulative potential

propane CAS No.: 74-98-6 EC No.: 200-827-9
Log K_{OW}: 1.09
Butane (with < 0,1 % butadiene (203-450-8)) CAS No.: 106-97-8 EC No.: 203-448-7
Log K_{OW}: 2.89
pentane CAS No.: 109-66-0 EC No.: 203-692-4
Log K_{OW}: 3.39

* 12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment

Distillates (petroleum), hydrotreated light paraffinic CAS No.: 64742-55-8 EC No.: 265-158-7
Results of PBT and vPvB assessment: —
propane CAS No.: 74-98-6 EC No.: 200-827-9
Results of PBT and vPvB assessment: —
Hydrocarbons, C10-C13, n-alkanes, cyclic, <2% aromatics (benzene <0.1%) EC No.: 918-481-9
Results of PBT and vPvB assessment: —
Butane (with < 0,1 % butadiene (203-450-8)) CAS No.: 106-97-8 EC No.: 203-448-7
Results of PBT and vPvB assessment: —
pentane CAS No.: 109-66-0 EC No.: 203-692-4
Results of PBT and vPvB assessment: —
Isobutane (with < 0.1 % butadiene (203-450-8)) CAS No.: 75-28-5 EC No.: 200-857-2
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
The product does not contain any substances with endocrine-disrupting properties.

* **12.7. Other adverse effects**

water hazard class 2: obviously hazardous to water
Harmful to fish. Harmful to aquatic life.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Drinking water hazard even when small quantities leak into the subsoil.

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.
Full and empty containers are to be disposed of by private end users at the responsible hazardous waste collection centre.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product

20 01 13 *	Solvents

**: Evidence for disposal must be provided.*

Waste code packaging

15 01 04	metallic packaging
15 01 10 *	packaging containing residues of or contaminated by dangerous substances

**: Evidence for disposal must be provided.*

Waste treatment options

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	AEROSOLS	AEROSOLS	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	No	No	No
* **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:** Attention: Gases	**Special Provisions:** 190 | 327 | 344 | 625 **Limited quantity (LQ):** 1 L **Excepted Quantities (EQ):** E0 **Classification code:** 5F **Remark:** Attention: Gases	**Special Provisions:** 63 | 190 | 277 | 327 | 344 | 381 | 959 **Limited quantity (LQ):** SV277 **Excepted Quantities (EQ):** E0 **EmS-No.:** F-D, S-U **Remark:** Attention: Gases Stowage Code:	**Special Provisions:** A145 | A167 **Limited quantity (LQ):** Y203 **Excepted Quantities (EQ):** E0 **Remark:** Attention: Gases

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
Transport category 2		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

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.
Seveso category P3a FLAMMABLE AEROSOLS

Restrictions on use:
Quantity threshold (in tons) for use in lower class farms 150t
Quantity threshold (in tons) for use in upper-tier establishments 500 t
Regulation (EC) 2019/1021 [POP Regulation]: None of the ingredients are included.
Regulation (EC) No 1907/2006 ANNEX XVII Restrictions on use 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.
Substances of Very High Concern (SVHC) according to REACH, Article 57: None of the ingredients are included.

Other regulations (EU):
Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive], Hazard categories:
• P3a 'Flammable' aerosols Category 1 or 2, containing flammable gases Category 1 or 2 or flammable liquids

Named dangerous substances:
• Liquefied flammable gases, Category 1 or 2 (including liquefied petroleum gas) and natural gas
Regulation (EC) No 1907/2006 ANNEX XVII Restriction conditions: 3

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds:
Volatile organic compound (VOC) content: 438.8 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**

1.1.	Product identifier
1.3.	Details of the supplier of the safety data sheet
3.2.	Mixtures
4.2.	Most important symptoms and effects, both acute and delayed
4.3.	Indication of any immediate medical attention and special treatment needed
6.1.	Personal precautions, protective equipment and emergency procedures
6.2.	Environmental precautions
6.3.	Methods and material for containment and cleaning up
7.3.	Specific end use(s)
8.1.	Control parameters
9.2.	Other information
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
12.1.	Toxicity
12.2.	Persistence and degradability
12.3.	Bioaccumulative potential
12.4.	Mobility in soil
12.7.	Other adverse effects
13.1.	Waste treatment methods
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

* **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
ATE	Acute Toxicity Estimate
AVV	Waste Shipment Ordinance (DE)
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DNEL	derived no-effect level
EAK	European Waste Catalogue
EC_{50}	Effective Concentration 50%
EG	European Community
EN	European Standard
ES	Exposure scenario
EU	European Union
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
PC	Product category
PNEC	Predicted No Effect Concentration
PROC	Process Category
QSAR	Quantitative Structure-Activity Relationship
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
SCL	Specific concentration limit
Tox.	Toxicity
TRGS	Technische Regeln für Gefahrstoffe
UFI	Unique Formula Identifier
UN	United Nations
VOC	Volatile organic compounds

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.	
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful 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.
H336	May cause drowsiness or dizziness.
H411	Toxic 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.