

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

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

1.1. Product identifier

Trade name/designation:

Mabanol Drahtseifett

Other means of identification:

Mabanol Wire Rope Grease

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 (manufacturer/importer/only representative/downstream user/distributor):

Mabanol GmbH & Co. KG

Koreastraße 7

20457 Hamburg

Germany

Telephone: 0049 (0) 40 36809988

E-mail: info@mabanol.com

Website: www.mabanol.com

1.4. Emergency telephone number

Giftinformationszentrale Göttingen , 24h: 0049 (0) 551 1 92 40

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 |
|---|---|--------------------------|
| Aerosols (<i>Aerosol 1</i>) | H222; H229: Extremely flammable aerosol.; Pressurised container: May burst if heated. | |
| STOT-single exposure (<i>STOT SE 3</i>) | H336: May cause drowsiness or dizziness. | |
| Skin corrosion/irritation (<i>Skin Irrit. 2</i>) | H315: Causes skin irritation. | |
| Hazardous to the aquatic environment (<i>Aquatic Chronic 3</i>) | 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



GHS07
Exclamation mark

Signal word: Danger

Hazard components for labelling:

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane; Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics; acetone

hazard statements for physical hazards

| | |
|------|---|
| H222 | Extremely flammable aerosol. |
| H229 | Pressurised container: May burst if heated. |

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hazard statements for health hazards

| | |
|------|------------------------------------|
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |

Hazard statements for environmental hazards

| | |
|------|--|
| H412 | Harmful to aquatic life with long lasting effects. |
|------|--|

Precautionary statements

| | |
|------|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |

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 dust/fume/gas/mist/vapours/spray. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

Precautionary statements Response

| | |
|-------------|--|
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P312 | Call a POISON CENTER/doctor/Emergency telephone number 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. |
|-------------|--|

Precautionary statements Disposal

| | |
|------|---|
| P501 | Dispose of contents/container to Dispose of waste according to applicable legislation.. |
|------|---|

2.3. Other hazards

No data available

SECTION 3: Composition / information on ingredients

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 1, Press. Gas (Liq.) Danger H220-H280 | 25 - < 50 Wt % |
| CAS No.: 92128-66-0 EC No.: 921-024-6 REACH No.: 01-2119475514-35 | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane Aquatic Chronic 2, Asp. Tox. 1, Flam. Liq. 2, STOT SE 3, Skin Irrit. 2 Danger H225-H304-H315-H336-H411 | 10 - < 20 Wt % |
| CAS No.: 64742-49-0 EC No.: 927-510-4 REACH No.: 01-2119475515-33 | Hydrocarbons, C7, n-alkanes, iso-alkanes, cyclics Aquatic Chronic 2, Asp. Tox. 1, Flam. Liq. 2, STOT SE 3, Skin Irrit. 2 Danger H225-H304-H315-H336-H411 | 10 - < 20 Wt % |
| CAS No.: 74-98-6 EC No.: 200-827-9 REACH No.: 01-2119486944-21 | propane Flam. Gas 1, Press. Gas (Liq.) Danger H220-H280 | 5 - < 10 Wt % |

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| product identifiers | Substance name Classification according to Regulation (EC) No 1272/2008 [CLP] | Concentration |
|---|---|-----------------|
| CAS No.: 57855-77-3 EC No.: 260-991-2 REACH No.: 01-2119980985-16 | calcium bis(dinonylnaphthalenesulphonate) Eye Irrit. 2, Skin Irrit. 2 Warning H315-H319 | 1 - < 3 Wt % |
| CAS No.: 106-97-8 EC No.: 203-448-7 REACH No.: 01-2119474691-32 | butane Flam. Gas 1, Press. Gas (Liq.) Danger H220-H280 | 1 - < 3 Wt % |
| CAS No.: 67-64-1 EC No.: 200-662-2 | acetone Eye Irrit. 2, Flam. Liq. 2, STOT SE 3 Danger H225-H319-H336-EUH066 | 1 - < 3 Wt % |

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

First aider: Pay attention to self-protection! Remove persons to safety. Never give anything by mouth to an unconscious person or a person with cramps.

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:

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing. And wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.

After eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

After ingestion:

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Call a physician in any case!

4.2. Most important symptoms and effects, both acute and delayed

Observe risk of aspiration if vomiting occurs.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide (CO₂). Foam. Extinguishing powder. Water spray jet.

Unsuitable extinguishing media:

Full water jet.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air.

Hazardous combustion products:

aldehydes. Carbon dioxide (CO₂). Carbon monoxide. Burning produces heavy smoke.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

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5.4. Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.1.2. For emergency responders

Personal protection equipment:

Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

6.3. Methods and material for containment and cleaning up

For cleaning up:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Do not pierce or burn, even after use. If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Fire prevent measures:

Do not spray on naked flames or any incandescent material. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

Advices on general occupational hygiene

Draw up and observe skin protection programme. When using do not eat, drink or smoke. Avoid contact with eyes and skin. Remove contaminated, saturated clothing immediately. Wash hands and face before breaks and after work and take a shower if necessary.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep container tightly closed in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on storage assembly:

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

Storage class: 2B - Aerosol dispensers and lighters

Further information on storage conditions:

Protect against: Frost. Protect against direct sunlight. Store in a cool dry place.

7.3. Specific end use(s)

No data available

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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 |
|--------------------------------------|-------------------------------|--|
| TRGS 900 (DE) | isobutane CAS No.: 75-28-5 | ① 1,000 ppm (2,400 mg/m ³) ② 4,000 ppm (9,600 mg/m ³) |
| TRGS 900 (DE) | propane CAS No.: 74-98-6 | ① 1,000 ppm (1,800 mg/m ³) ② 4,000 ppm (7,200 mg/m ³) |
| TRGS 900 (DE) | butane CAS No.: 106-97-8 | ① 1,000 ppm (2,400 mg/m ³) ② 4,000 ppm (9,600 mg/m ³) |
| IOELV (EU) | acetone CAS No.: 67-64-1 | ① 500 ppm (1,210 mg/m ³) |
| TRGS 900 (DE) | acetone CAS No.: 67-64-1 | ① 500 ppm (1,200 mg/m ³) ② 1,000 ppm (2,400 mg/m ³) |

8.1.2. Biological limit values

| Limit value type (country of origin) | Substance name | Limit value | ① parameter ② Test material ③ Time of sampling ④ Remark |
|--------------------------------------|-----------------------------|-------------|--|
| TRGS 903 (DE) | acetone CAS No.: 67-64-1 | 80 mg/L | ① Aceton ② Urin ③ Expositionsende bzw. Schichtende |

8.1.3. DNEL-/PNEC-values

| Substance name | DNEL value | ① DNEL type ② Exposure route |
|--|-------------------------|---|
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycl ics, <5% n-hexane CAS No.: 92128-66-0 | 2,035 mg/m ³ | ① DNEL worker ② DNEL long-term inhalative (systemic) |
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycl ics, <5% n-hexane CAS No.: 92128-66-0 | 608 mg/m ³ | ① DNEL Consumer ② DNEL long-term inhalative (systemic) |
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycl ics, <5% n-hexane CAS No.: 92128-66-0 | 773 mg/kg bw/day | ① DNEL worker ② DNEL long-term dermal (systemic) |
| Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycl ics, <5% n-hexane CAS No.: 92128-66-0 | 699 mg/kg bw/day | ① DNEL Consumer ② DNEL long-term dermal (systemic) |
| calcium bis(dinonylnaphthalenesulphonate) CAS No.: 57855-77-3 | 5 mg/m ³ | ① DNEL worker ② DNEL long-term inhalative (systemic) |
| calcium bis(dinonylnaphthalenesulphonate) CAS No.: 57855-77-3 | 10 mg/kg bw/day | ① DNEL worker ② DNEL long-term dermal (systemic) |

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| Substance name | PNEC Value | ① PNEC type |
|--|-------------|-------------------------------------|
| calcium bis(dinonylnaphthalenesulphonate) CAS No.: 57855-77-3 | 0.004 mg/l | ① PNEC aquatic, freshwater |
| calcium bis(dinonylnaphthalenesulphonate) CAS No.: 57855-77-3 | 0.0004 mg/l | ① PNEC aquatic, marine water |
| calcium bis(dinonylnaphthalenesulphonate) CAS No.: 57855-77-3 | 69 mg/kg | ① PNEC sediment, freshwater |
| calcium bis(dinonylnaphthalenesulphonate) CAS No.: 57855-77-3 | 6.9 mg/kg | ① PNEC sediment, marine water |
| calcium bis(dinonylnaphthalenesulphonate) CAS No.: 57855-77-3 | 22.2 mg/kg | ① PNEC Secondary Poisoning |
| calcium bis(dinonylnaphthalenesulphonate) CAS No.: 57855-77-3 | 10 mg/kg | ① PNEC sewage treatment plant (STP) |

8.2. Exposure controls

8.2.1. Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/vapour/aerosol.

8.2.2. Personal protection equipment

Eye/face protection:

Eye glasses with side protection (DIN EN 166).

Skin protection:

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. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection:

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Respiratory protection necessary at: exceeding exposure limit values. aerosol or mist formation. Suitable respiratory protection apparatus: Filtering device (full mask or mouthpiece) with filter: A2, A2/P2, ABEK. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

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

Physical state: Aerosol

Colour: dark brown

Odour: not determined

Safety relevant basis data

| parameter | | at °C | Method | Remark |
|---|-----------------------|-------|--------|--------|
| pH | <i>not determined</i> | | | |
| Melting point | <i>not determined</i> | | | |
| Freezing point | <i>not determined</i> | | | |
| Initial boiling point and boiling range | -40 °C | | | |
| Decomposition temperature | <i>not determined</i> | | | |
| Flash point | -80 °C | | | |
| Evaporation rate | <i>not determined</i> | | | |
| Auto-ignition temperature | <i>not determined</i> | | | |

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| parameter | | at °C | Method | Remark |
|--|--|-------|-----------|--------|
| Upper/lower flammability or explosive limits | 0.6 - 15 Vol-% | | | |
| Vapour pressure | <i>not determined</i> | | | |
| Vapour density | <i>not determined</i> | | | |
| Density | 0.793 g/cm ³ | 20 °C | DIN 51757 | |
| Bulk density | <i>not determined</i> | | | |
| Water solubility | The study does not need to be conducted because the substance is known to be insoluble in water. | | | |
| Partition coefficient: n-octanol/water | <i>not determined</i> | | | |
| Dynamic viscosity | <i>not determined</i> | | | |
| Kinematic viscosity | <i>not determined</i> | | | |

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Pressurised container: May burst if heated. Extremely flammable aerosol.

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.

10.5. Incompatible materials

Oxidizing agent. Pyrophoric or self-heating substances.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide. Carbon dioxide (CO₂). aldehydes. carbon black. Gases/vapours, toxic.

Further information

Do not mix with other chemicals.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

| CAS No. | Substance name | Toxicological information |
|------------|---|---|
| 92128-66-0 | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | LD₅₀ oral: >5,000 mg/kg (Rat) LD₅₀ dermal: >2,800 mg/kg (Rat) LC₅₀ Acute inhalation toxicity (vapour): >25.2 mg/l (Rat) |
| 64742-49-0 | Hydrocarbons, C7, n-alkanes, iso-alkanes, cyclics | LD₅₀ oral: 5,500 mg/kg (Rat) LD₅₀ dermal: 2,770 mg/kg (Rat) LC₅₀ Acute inhalation toxicity (vapour): 23.3 mg/l 4 h (Rat) |
| 57855-77-3 | calcium bis(dinonylnaphthalenesulphonate) | LC₅₀ Acute inhalation toxicity (vapour): >18 mg/l 1 h (Rat) |
| 67-64-1 | acetone | LD₅₀ oral: 5,800 mg/kg (Rat) LD₅₀ dermal: 20,000 mg/kg (Rabbit) LC₅₀ Acute inhalation toxicity (vapour): 76 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:

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:

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

Additional information:

No data available

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SECTION 12: Ecological information

12.1. Toxicity

| CAS No. | Substance name | Toxicological information |
|------------|---|--|
| 75-28-5 | isobutane | LC₅₀ : 91.42 mg/l 4 d ErC₅₀ : 19.37 mg/l 4 d EC₅₀ : 69.43 mg/l 2 d |
| 92128-66-0 | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | LC₅₀ : 1 - <10 mg/l 4 d (Pimephales promelas (fathead minnow)) ErC₅₀ : 10 - <30 mg/l 3 d (Pseudokirchneriella subcapitata) EC₅₀ : 1 - <10 mg/l 2 d (Daphnia magna (Big water flea)) NOEC : 2,045 mg/l 28 d (Oncorhynchus mykiss (Rainbow trout)) NOEC : 1 mg/l 21 d (Daphnia magna (Big water flea)) |
| 64742-49-0 | Hydrocarbons, C7, n-alkanes, iso-alkanes, cyclics | LC₅₀ : >1 - 10 mg/l 4 d (Oncorhynchus mykiss (Rainbow trout)) ErC₅₀ : >10 - 100 mg/l 3 d EC₅₀ : >1 - 10 mg/l 2 d (Daphnia magna (Big water flea)) |
| 74-98-6 | propane | LC₅₀ : 49.9 mg/l 4 d ErC₅₀ : 19.4 mg/l 4 d EC₅₀ : 69.4 mg/l 2 d |
| 57855-77-3 | calcium bis(dinonylnaphthalenesulphonate) | EC₅₀ : >0.27 mg/l 2 d (Daphnia magna (Big water flea)) NOEC : 4.5 mg/l 21 d (Daphnia magna (Big water flea)) |
| 106-97-8 | butane | LC₅₀ : 49.9 mg/l 4 d ErC₅₀ : 19.37 mg/l 4 d EC₅₀ : 69.43 mg/l 2 d |
| 67-64-1 | acetone | LC₅₀ : 5,540 mg/l 4 d (Oncorhynchus mykiss (Rainbow trout)) EC₅₀ : 6,100 mg/l 2 d (Daphnia magna (Big water flea)) |

Aquatic toxicity:

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

| CAS No. | Substance name | Log K _{OC} | Bioconcentration factor (BCF) |
|------------|---|---------------------|-------------------------------|
| 75-28-5 | isobutane | 1.09 | |
| 74-98-6 | propane | 1.09 | |
| 57855-77-3 | calcium bis(dinonylnaphthalenesulphonate) | 6.6 | 3.16 Species: fish |
| 106-97-8 | butane | 2.89 | |
| 67-64-1 | acetone | -0.24 | |

Accumulation / Evaluation:

The product has not been tested.

12.4. Mobility in soil

The product has not been tested.

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12.5. Results of PBT and vPvB assessment

| CAS No. | Substance name | Results of PBT and vPvB assessment |
|------------|---|--|
| 75-28-5 | isobutane | The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII. |
| 92128-66-0 | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII. |
| 64742-49-0 | Hydrocarbons, C7, n-alkanes, iso-alkanes, cyclics | The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII. |
| 74-98-6 | propane | The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII. |
| 57855-77-3 | calcium bis(dinonylnaphthalenesulphonate) | The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII. |
| 106-97-8 | butane | The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII. |
| 67-64-1 | acetone | The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII. |

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

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of waste according to applicable legislation. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

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.

SECTION 14: Transport information

| Land transport (ADR/RID) | Inland waterway craft (ADN) | Sea transport (IMDG) | Air transport (ICAO-TI / IATA-DGR) |
|--|--|--|--|
| 14.1. UN-No. | | | |
| 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 | | | |
| No data available | | | |

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| Land transport (ADR/RID) | Inland waterway craft (ADN) | Sea transport (IMDG) | Air transport (ICAO-TI / IATA-DGR) |
|---|--|--|--|
| 14.5. Environmental hazards | | | |
| No | No | No | No |
| 14.6. Special precautions for user | | | |
| Special provisions: 190, 327, 344, 625 Limited quantity (LQ): 1L Excepted Quantities: E0 Hazard identification number (Kemler No.): Classification code: 5F tunnel restriction code: (D) Remark: transport category: 2 Warning: Flammable gases. | Special provisions: 190, 327, 344, 625 Limited quantity (LQ): 1L Excepted Quantities: E0 Classification code: 5F Remark: Warning: Flammable gases. | Special provisions: 63, 190, 277, 327, 344, 381, 959 Limited quantity (LQ): 1000 mL Excepted Quantities: E0 EmS-No.: F-D, , S-U Remark: Warning: Flammable gases. | Special provisions: A145, A167, A802 Limited quantity (LQ): 30 kg G Excepted Quantities: E0 Remark: Passenger LQ: Y203 Warning: Flammable gases. |

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
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

Restrictions on use:

Use restriction according to REACH annex XVII, no.:

28: Isobutane; BUTANE

29: Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane; Hydrocarbons, C7, n-alkanes, iso-alkanes, cyclics

Other regulations (EU):

Directive 2010/75/EU on industrial emissions: No information available.

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds: No information available.

15.1.2. National regulations

[DE] National regulations

Technische Anleitung Luft (TA-Luft)

Klasse 1:

5.2.5: organic substances, to be indicated as total carbon at $m \geq 0.50$ kg/h: Konz. 50 mg/m^3

Anteil 1:

46.52 %

Water hazard class (WGK)

WGK:

2 - deutlich wassergefährdend

Remark:

Self-classification (mixture; calculation rule).

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15.2. Chemical Safety Assessment

No data available

SECTION 16: Other information

16.1. Indication of changes

No data available

16.2. Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: Accord européen sur le transport des marchandises dangereuses par Route (International Carriage of Dangerous Goods by Road)

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute of Occupational Safety and Health

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect level

NTP: National Toxicology Program

N/A: not applicable

OEL: Occupational Exposure limit (Arbeitsplatzgrenzwert)

OSHA: Occupational Safety and Health Administration

PEL: permissible exposure limit (Zulässiger Expositionsgrenzwert)

PBT: persistent bioaccumulative toxic

PNEC: predicted no effect concentration

REL: Recommended exposure limit (Empfohlene Expositionsgrenze)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

SARA: Superfund Amendments and Reauthorization Act

STEL: Short Term Exposure Limit (Kurzzeitgrenzwert) (15 min)

SVHC: substance of very high concern

TLV: Threshold Limit Values (Schwellwert Grenzwerte)

TRGS Technische Regeln für Gefahrstoffe

TSCA: Toxic Substances Control Act

TWA: Time Weighted Average (Zeitlich gewichteter Mittelwert) (8 h)

VOC: Volatile Organic Compounds

vPvB: very persistent and very bioaccumulative

VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe

WGK: Wassergefährdungsklasse

16.3. Key literature references and sources for data

No data available

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

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

| Hazard classes and hazard categories | Hazard statements | Classification procedure |
|---|---|--------------------------|
| Aerosols (<i>Aerosol 1</i>) | H222; H229: Extremely flammable aerosol.; Pressurised container: May burst if heated. | |
| STOT-single exposure (<i>STOT SE 3</i>) | H336: May cause drowsiness or dizziness. | |
| Skin corrosion/irritation (<i>Skin Irrit. 2</i>) | H315: Causes skin irritation. | |
| Hazardous to the aquatic environment (<i>Aquatic Chronic 3</i>) | H412: Harmful to aquatic life with long lasting effects. | |

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

| 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. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H411 | Toxic to aquatic life with long lasting effects. |

| Supplemental Hazard information (EU) | |
|--------------------------------------|---|
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

16.6. Training advice

No data available

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.