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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revision date / version: 06.02.2018 / 0014
Replacing version dated / version: 27.07.2016 / 0013
Valid from: 06.02.2018
PDF print date: 08.02.2018
Klima-Fresh Plus 150 mL
Art.: 2389

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

1.1 Product identifier

Klima-Fresh Plus 150 mL
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1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture:

Odour inhibitor

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

GB

LIQUI MOLY GmbH, Jerg-Wieland-Str. 4, 89081 Ulm-Lehr, Germany
Phone:(+49) 0731-1420-0, Fax:(+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:

+49 (0) 700 / 24 112 112 (LMR)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

| Hazard class | Hazard category | Hazard statement |
|--------------|-----------------|--|
| Aerosol | 3 | H229-Pressurised container: May burst if heated. |

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)

Warning

H229-Pressurised container: May burst if heated.

P102-Keep out of reach of children.

P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P251-Do not pierce or burn, even after use.

P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

33,25 % by mass of the contents are flammable.

2.3 Other hazards

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The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
 The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3: Composition/information on ingredients

Aerosol

3.1 Substance

n.a.

3.2 Mixture

| Ethanol | Substance with specific conc. limit(s) acc. to REACH-registration |
|---|---|
| Registration number (REACH) | 01-2119457610-43-XXXX |
| Index | 603-002-00-5 |
| EINECS, ELINCS, NLP | 200-578-6 |
| CAS | 64-17-5 |
| content % | 20-40 |
| Classification according to Regulation (EC) 1272/2008 (CLP) | Flam. Liq. 2, H225 Eye Irrit. 2, H319 |

| Dimethyl ether | Substance for which an EU exposure limit value applies. |
|---|---|
| Registration number (REACH) | 01-2119472128-37-XXXX |
| Index | 603-019-00-8 |
| EINECS, ELINCS, NLP | 204-065-8 |
| CAS | 115-10-6 |
| content % | 1-5 |
| Classification according to Regulation (EC) 1272/2008 (CLP) | Flam. Gas 1, H220 |

| Carbon dioxide | Substance for which an EU exposure limit value applies. |
|---|---|
| Registration number (REACH) | --- |
| Index | --- |
| EINECS, ELINCS, NLP | 204-696-9 |
| CAS | 124-38-9 |
| content % | 1-2,5 |
| Classification according to Regulation (EC) 1272/2008 (CLP) | --- |

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

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Typically no exposure pathway.
Rinse the mouth thoroughly with water.
Give copious water to drink - consult doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed

n.c.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

CO2
Dry extinguisher
Water jet spray

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon
Hydrofluoric acid
Toxic pyrolysis products.
Danger of bursting (explosion) when heated

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary.
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove possible causes of ignition - do not smoke.
Ensure sufficient supply of air.
Avoid contact with eyes or skin.
If applicable, caution - risk of slipping.

6.2 Environmental precautions

Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

If spray or gas escapes, ensure ample fresh air is available.
Without adequate ventilation, formation of explosive mixtures may be possible.

Active substance:

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation.

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Avoid inhalation of the vapours.
 Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
 Observe directions on label and instructions for use.
 Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.
 Wash hands before breaks and at end of work.
 Keep away from food, drink and animal feedingstuffs.
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.
 Store product closed and only in original packing.
 Not to be stored in gangways or stair wells.
 Observe special regulations for aerosols!
 Keep protected from direct sunlight and temperatures over 50°C.
 Store in a well ventilated place.

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

| Chemical Name | Ethanol | Content %:20-40 |
|--|---|-----------------|
| WEL-TWA: 1000 ppm (1920 mg/m ³) | WEL-STEL: --- | --- |
| Monitoring procedures: | <ul style="list-style-type: none"> - Compur - KITA-104 SA (549 210) - Draeger - Alcohol 25/a Ethanol (81 01 631) - DFG (D) (Lösungsmittelgemische), Methode Nr. 6 DFG (E) (Solvent mixtures) - 1998, - 2002 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004) | |
| BMGV: --- | Other information: --- | |
| Chemical Name | Dimethyl ether | Content %:1-5 |
| WEL-TWA: 400 ppm (766 mg/m ³) (WEL), 1000 ppm (1920 mg/m ³) (EU) | WEL-STEL: 500 ppm (958 mg/m ³) (WEL) | --- |
| Monitoring procedures: | - Compur - KITA-123 S (549 129) | |
| BMGV: --- | Other information: --- | |
| Chemical Name | Carbon dioxide | Content %:1-2,5 |
| WEL-TWA: 5000 ppm (9150 mg/m ³) (WEL), 5000 ppm (9000 mg/m ³) (EU) | WEL-STEL: 15000 ppm (27400 mg/m ³) (WEL) | --- |
| Monitoring procedures: | <ul style="list-style-type: none"> - Compur - KITA-126 B (549 475) - Compur - KITA-126 SA (549 467) - Compur - KITA-126 SB (548 816) - Compur - KITA-126 SF (549 491) - Compur - KITA-126 SG (550 210) - Compur - KITA-126 SH (549 509) - Compur - KITA-126 UH (549 517) - Draeger - Carbon Dioxide 100/a (81 01 811) - Draeger - Carbon Dioxide 0,1%/a (CH 23 501) - Draeger - Carbon Dioxide 0,5%/a (CH 31 401) - Draeger - Carbon Dioxide 1%/a (CH 25 101) - Draeger - Carbon Dioxide 5%/a (CH 20 301) - OSHA ID-172 (Carbon dioxide in workplace atmospheres) - 1990 - NIOSH 6603 (Carbon dioxide) - 1994 | |
| BMGV: --- | Other information: --- | |

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).
 (8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/EU). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).
 (8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value,

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Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

8.2 Exposure controls

| Ethanol | | | | | | |
|---------------------|--|-----------------------------|------------|-------|-------------------|------|
| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
| | Environment - freshwater | | PNEC | 0,96 | mg/l | |
| | Environment - marine | | PNEC | 0,79 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 2,75 | mg/l | |
| | Environment - sewage treatment plant | | PNEC | 580 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 3,6 | mg/kg | |
| | Environment - soil | | PNEC | 0,63 | mg/kg dry weight | |
| | Environment - oral (animal feed) | | PNEC | 0,72 | mg/kg feed | |
| | Environment - sediment, marine | | PNEC | 2,9 | mg/kg dry weight | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 950 | mg/m ³ | |
| Consumer | Human - dermal | Short term, local effects | DNEL | 950 | mg/m ³ | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 114 | mg/m ³ | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 87 | mg/kg | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 206 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 1900 | mg/m ³ | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 950 | mg/m ³ | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 343 | mg/kg bw/d | |

| Dimethyl ether | | | | | | |
|---------------------|--|-----------------------------|------------|-------|-------------------|------|
| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
| | Environment - freshwater | | PNEC | 0,155 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 0,681 | mg/kg | |
| | Environment - soil | | PNEC | 0,045 | mg/kg | |
| | Environment - sewage treatment plant | | PNEC | 160 | mg/l | |
| | Environment - marine | | PNEC | 0,016 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 1,549 | mg/l | |
| | Environment - sediment, marine | | PNEC | 0,069 | mg/kg | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 471 | mg/m ³ | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 1894 | mg/m ³ | |

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| trans-1,3,3,3-tetrafluoroprop-1-ene | | | | | | |
|--|--|-----------------------------|------------|-------|-------------------|------|
| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
| | Environment - freshwater | | PNEC | 0,1 | mg/l | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 3902 | mg/m ³ | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 830 | mg/m ³ | |

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
 If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
 Applies only if maximum permissible exposure values are listed here.
 Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
 These are specified by e.g. BS EN 14042.
 BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
 Wash hands before breaks and at end of work.
 Keep away from food, drink and animal feedingstuffs.
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
 Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
 Chemical resistant protective gloves (EN 374).
 Recommended
 Protective nitrile gloves (EN 374)
 Minimum layer thickness in mm:
 0,5
 Permeation time (penetration time) in minutes:
 >=
 Protective hand cream recommended.
 The breakthrough times determined in accordance with EN 374 Part 3 were not obtained under practical conditions.
 The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:
 Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
 Normally not necessary.
 If OES or MEL is exceeded.
 Filter A2 P2 (EN 14387), code colour brown, white
 In case of emergency:
 Respiratory protection appliance (insulation device) (e.g. EN 137 or EN 138)

Thermal hazards:
 Not applicable

Additional information on hand protection - No tests have been performed.
 In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
 Selection of materials derived from glove manufacturer's indications.
 Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
 Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

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In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
 The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|---|
| Physical state: | Aerosol. Active substance: liquid. |
| Colour: | Colourless |
| Odour: | Characteristic |
| Odour threshold: | Not determined |
| pH-value: | 9-10 |
| Melting point/freezing point: | Not determined |
| Initial boiling point and boiling range: | n.a. |
| Flash point: | n.a. |
| Evaporation rate: | n.a. |
| Flammability (solid, gas): | n.a. |
| Lower explosive limit: | 3,5 Vol-% |
| Upper explosive limit: | 15 Vol-% |
| Vapour pressure: | 7800 hPa (20°C) |
| Vapour density (air = 1): | Not determined |
| Density: | 0,94 g/cm ³ (20°C) |
| Bulk density: | Not determined |
| Solubility(ies): | Not determined |
| Water solubility: | Not miscible |
| Partition coefficient (n-octanol/water): | Not determined |
| Auto-ignition temperature: | 425 °C (Ignition temperature) |
| Auto-ignition temperature: | No |
| Decomposition temperature: | Not determined |
| Viscosity: | Not determined |
| Explosive properties: | Product is not explosive. Possible build up of explosive/highly flammable vapour/air mixture. |
| Oxidising properties: | No |

9.2 Other information

| | |
|---------------------------|----------------|
| Miscibility: | Not determined |
| Fat solubility / solvent: | Not determined |
| Conductivity: | Not determined |
| Surface tension: | Not determined |
| Solvents content: | Not determined |

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

Heating, open flame, ignition sources
 Pressure increase will result in danger of bursting.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products

No decomposition when used as directed.

SECTION 11: Toxicological information

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11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

| Klima-Fresh Plus 150 mL | | | | | | |
|---|----------|-------|------|----------|-------------|--------|
| Art.: 2389 | | | | | | |
| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
| Acute toxicity, by oral route: | | | | | | n.d.a. |
| Acute toxicity, by dermal route: | | | | | | n.d.a. |
| Acute toxicity, by inhalation: | | | | | | n.d.a. |
| Skin corrosion/irritation: | | | | | | n.d.a. |
| Serious eye damage/irritation: | | | | | | n.d.a. |
| Respiratory or skin sensitisation: | | | | | | n.d.a. |
| Germ cell mutagenicity: | | | | | | n.d.a. |
| Carcinogenicity: | | | | | | n.d.a. |
| Reproductive toxicity: | | | | | | n.d.a. |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | n.d.a. |
| Specific target organ toxicity - repeated exposure (STOT-RE): | | | | | | n.d.a. |
| Aspiration hazard: | | | | | | n.d.a. |
| Symptoms: | | | | | | n.d.a. |

| Ethanol | | | | | | |
|---|----------|-------|------------|------------------------|--|-----------------------------------|
| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
| Acute toxicity, by oral route: | LD50 | 10470 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >2000 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | LC50 | 124,7 | mg/l/4h | Rat | OECD 403 (Acute Inhalation Toxicity) | |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Not irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Irritant |
| Respiratory or skin sensitisation: | | | | Mouse | OECD 429 (Skin Sensitisation - Local Lymph Node Assay) | No (skin contact) |
| Germ cell mutagenicity: | | | | Mouse | OECD 476 (In Vitro Mammalian Cell Gene Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Carcinogenicity: | NOAEL | >3000 | mg/kg | Rat | OECD 451 (Carcinogenicity Studies) | 24 mon |
| Reproductive toxicity: | NOAEL | 5200 | mg/kg bw/d | Rat | | |
| Specific target organ toxicity - repeated exposure (STOT-RE): | NOAEL | 1730 | mg/kg/d | Rat | OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) | Female |
| Specific target organ toxicity - repeated exposure (STOT-RE): | NOAL | >20 | mg/l | Rat | OECD 403 (Acute Inhalation Toxicity) | Male |
| Aspiration hazard: | | | | Human being | | No indications of such an effect. |

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| | | | | | | |
|------------------------|--|--|--|--|--|--|
| Symptoms: | | | | | | respiratory distress, drowsiness, unconsciousness, drop in blood pressure, vomiting, coughing, headaches, intoxication, drowsiness, mucous membrane irritation, dizziness, nausea |
| Experiences in humans: | | | | | | Excessive alcohol consumption during pregnancy induces the foetus alcohol syndrome (reduced weight at birth, physical and mental disorders)., There is no sign that this syndrome is also caused by dermal or inhalative absorption. |

| Dimethyl ether | | | | | | |
|---|----------|-------|---------|----------|---|-------------------|
| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
| Acute toxicity, by inhalation: | LC50 | 164 | mg/l/4h | Rat | | |
| Acute toxicity, by inhalation: | LC50 | 308 | mg/l/4h | Rat | | |
| Skin corrosion/irritation: | | | | | | Not irritant |
| Serious eye damage/irritation: | | | | | | Not irritant |
| Respiratory or skin sensitisation: | | | | | | No (skin contact) |
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 477 (Genetic Toxicology - Sex-Linked Recessive Lethal Test in Drosophila melanogaster) | Negative |
| Carcinogenicity: | | | | | | Negative |
| Reproductive toxicity: | | | | | | Negative |
| Specific target organ toxicity - repeated exposure (STOT-RE): | NOAEC | 47106 | mg/kg | Rat | OECD 452 (Chronic Toxicity Studies) | Negative(2 a) |
| Aspiration hazard: | | | | | | No |

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| | | | | | | |
|-----------|--|--|--|--|--|--|
| Symptoms: | | | | | | unconsciousness , headaches, mucous membrane irritation, dizziness, nausea and vomiting., frostbite, gastrointestinal disturbances, respiratory distress, circulatory collapse |
|-----------|--|--|--|--|--|--|

| Carbon dioxide | | | | | | |
|-------------------|----------|-------|------|----------|-------------|--|
| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
| Symptoms: | | | | | | unconsciousness , blisters by skin- contact, vomiting, frostbite, annoyance, palpitations, itching, headaches, cramps, ear noises, dizziness |

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

| Klima-Fresh Plus 150 mL Art.: 2389 | | | | | | | |
|--|----------|------|-------|------|----------|-------------|-------------------------------|
| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
| 12.1. Toxicity to fish: | | | | | | | n.d.a. |
| 12.1. Toxicity to daphnia: | | | | | | | n.d.a. |
| 12.1. Toxicity to algae: | | | | | | | n.d.a. |
| 12.2. Persistence and degradability: | | | | | | | n.d.a. |
| 12.3. Bioaccumulative potential: | | | | | | | n.d.a. |
| 12.4. Mobility in soil: | | | | | | | Product is slightly volatile. |
| 12.5. Results of PBT and vPvB assessment | | | | | | | n.d.a. |
| 12.6. Other adverse effects: | | | | | | | n.d.a. |

| Ethanol | | | | | | | |
|----------------------------|----------|------|-------|------|---------------------|---|-------|
| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
| 12.1. Toxicity to fish: | LC50 | 96h | 13000 | mg/l | Oncorhynchus mykiss | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to daphnia: | LC50 | 48h | 12340 | mg/l | Daphnia magna | | |
| 12.1. Toxicity to algae: | EC50 | 72h | 275 | mg/l | Chlorella vulgaris | OECD 201 (Alga, Growth Inhibition Test) | |

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| | | | | | | | |
|--|-----------|--|------------|------|-------------|--|---|
| 12.2. Persistence and degradability: | | | 97 | % | | OECD 301 B (Ready Biodegradability - Co2 Evolution Test) | Readily biodegradable |
| 12.3. Bioaccumulative potential: | BCF | | 0,66 - 3,2 | | | | |
| 12.3. Bioaccumulative potential: | Log Pow | | -0,32 | | | | Bioaccumulation is unlikely (LogPow < 1). |
| 12.4. Mobility in soil: | H (Henry) | | 0,000138 | | | | |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | | | 440 | mg/l | | | |
| Other organisms: | NOEC/NOEL | | 280 | mg/l | Lemna gibba | OECD 201 (Alga, Growth Inhibition Test) | |

| Dimethyl ether | | | | | | | |
|--|-----------|------|-------|-----------|---------------------|--|--|
| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
| 12.1. Toxicity to fish: | LC0 | 96h | 2695 | mg/l | Pimephales promelas | | |
| 12.1. Toxicity to fish: | LC50 | 96h | 3082 | mg/l | Salmo gairdneri | | |
| 12.1. Toxicity to fish: | LC50 | 96h | >4000 | mg/l | Poecilia reticulata | | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | >4000 | mg/l | Daphnia magna | | |
| 12.1. Toxicity to algae: | EC0 | 96h | 154,9 | mg/l | Chlorella vulgaris | QSAR | |
| 12.2. Persistence and degradability: | | 28d | 5 | % | | OECD 301 D (Ready Biodegradability - Closed Bottle Test) | Not readily biodegradable |
| 12.3. Bioaccumulative potential: | Log Pow | | -0,07 | | | | Bioaccumulation is unlikely (LogPow < 1).25°C (pH 7) |
| 12.4. Mobility in soil: | H (Henry) | | 518,6 | Pa*m3/mol | | | No adsorption in soil. |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | EC10 | | >1600 | mg/l | Pseudomonas putida | | |
| Other information: | | | | | | | Does not contain any organically bound halogens which can contribute to the AOX value in waste water.DIN EN 1485 |
| Water solubility: | | | 45,60 | mg/l | | | 25°C |

| Carbon dioxide | | | | | | | |
|---------------------------------|----------|------|-------|------|-----------------|-------------|-------------------|
| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
| 12.1. Toxicity to fish: | LC50 | 96h | 35 | mg/l | Salmo gairdneri | | |
| 12.6. Other adverse effects: | | | | | | | Greenhouse effect |
| Other information: | Log Kow | | 0,83 | | | | |
| Global warming potential (GWP): | | | 1 | | | | |

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

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

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

Take full aerosol cans to problem waste collection.

Take emptied aerosol cans to valuable material collection.

For contaminated packing material

Pay attention to local and national official regulations.

15 01 04 metallic packaging

15 01 10 packaging containing residues of or contaminated by hazardous substances

Do not perforate, cut up or weld uncleaned container.

SECTION 14: Transport information

General statements

14.1. UN number: 1950

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

UN 1950 AEROSOLS

14.3. Transport hazard class(es):

2.2

14.4. Packing group:

-

Classification code:

5A

LQ:

1 L

14.5. Environmental hazards:

Not applicable

Tunnel restriction code:

E

Transport by sea (IMDG-code)

14.2. UN proper shipping name:

AEROSOLS

14.3. Transport hazard class(es):

2.2

14.4. Packing group:

-

EmS:

F-D, S-U

Marine Pollutant:

n.a

14.5. Environmental hazards:

Not applicable

Transport by air (IATA)

14.2. UN proper shipping name:

Aerosols, non-flammable

14.3. Transport hazard class(es):

2.2

14.4. Packing group:

-

14.5. Environmental hazards:

Not applicable

14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.

All persons involved in transporting must observe safety regulations.

Precautions must be taken to prevent damage.

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

Freighted as packaged goods rather than in bulk, therefore not applicable.

Minimum amount regulations have not been taken into account.

Danger code and packing code on request.

Comply with special provisions.

SECTION 15: Regulatory information

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

Observe restrictions:
 Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC): 35,5 %
REGULATION (EC) No 648/2004
 less than 5 %
 halogenated hydrocarbons

perfumes
 LAURYLAMINE DIPROPYLENEDIAMINE
 BENZISOTHIAZOLINONE
 METHYLISOTHIAZOLINONE

Observe incident regulations.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 9
 Employee training in handling dangerous goods is required.
 These details refer to the product as it is delivered.
 Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

| Classification in accordance with regulation (EC) No. 1272/2008 (CLP) | Evaluation method used |
|---|--|
| Aerosol 3, H229 | Classification according to calculation procedure. |

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

H225 Highly flammable liquid and vapour.

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H319 Causes serious eye irritation.

H220 Extremely flammable gas.

Aerosol — Aerosols
 Flam. Liq. — Flammable liquid
 Eye Irrit. — Eye irritation
 Flam. Gas — Flammable gases (including chemically unstable gases)

Any abbreviations and acronyms used in this document:

AC Article Categories
 acc., acc. to according, according to
 ACGIH American Conference of Governmental Industrial Hygienists
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
 AOEL Acceptable Operator Exposure Level
 AOX Adsorbable organic halogen compounds

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approx. approximately
 Art., Art. no. Article number
 ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
 BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
 BCF Bioconcentration factor
 BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
 BHT Butylhydroxytoluol (= 2,6-Di-*t*-butyl-4-methyl-phenol)
 BMGV Biological monitoring guidance value (EH40, UK)
 BOD Biochemical oxygen demand
 BSEF Bromine Science and Environmental Forum
 bw body weight
 CAS Chemical Abstracts Service
 CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
 CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
 CIPAC Collaborative International Pesticides Analytical Council
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
 CMR carcinogenic, mutagenic, reproductive toxic
 COD Chemical oxygen demand
 CTFA Cosmetic, Toiletry, and Fragrance Association
 DMEL Derived Minimum Effect Level
 DNEL Derived No Effect Level
 DOC Dissolved organic carbon
 DT50 Dwell Time - 50% reduction of start concentration
 DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
 dw dry weight
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
 EC European Community
 ECHA European Chemicals Agency
 EEA European Economic Area
 EEC European Economic Community
 EINECS European Inventory of Existing Commercial Chemical Substances
 ELINCS European List of Notified Chemical Substances
 EN European Norms
 EPA United States Environmental Protection Agency (United States of America)
 ERC Environmental Release Categories
 ES Exposure scenario
 etc. et cetera
 EU European Union
 EWC European Waste Catalogue
 Fax. Fax number
 gen. general
 GHS Globally Harmonized System of Classification and Labelling of Chemicals
 GWP Global warming potential
 HET-CAM Hen's Egg Test - Chorionallantoic Membrane
 HGWP Halocarbon Global Warming Potential
 IARC International Agency for Research on Cancer
 IATA International Air Transport Association
 IBC Intermediate Bulk Container
 IBC (Code) International Bulk Chemical (Code)
 IC Inhibitory concentration
 IMDG-code International Maritime Code for Dangerous Goods
 incl. including, inclusive
 IUCLID International Uniform Chemical Information Database
 LC lethal concentration
 LC50 lethal concentration 50 percent kill
 LCLo lowest published lethal concentration
 LD Lethal Dose of a chemical
 LD50 Lethal Dose, 50% kill
 LDLo Lethal Dose Low
 LOAEL Lowest Observed Adverse Effect Level
 LOEC Lowest Observed Effect Concentration

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LOEL Lowest Observed Effect Level
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America)
NOAEC No Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level
NOEC No Observed Effect Concentration
NOEL No Observed Effect Level
ODP Ozone Depletion Potential
OECD Organisation for Economic Co-operation and Development
org. organic
PAH polycyclic aromatic hydrocarbon
PBT persistent, bioaccumulative and toxic
PC Chemical product category
PE Polyethylene
PNEC Predicted No Effect Concentration
POCP Photochemical ozone creation potential
ppm parts per million
PROC Process category
PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SADT Self-Accelerating Decomposition Temperature
SAR Structure Activity Relationship
SU Sector of use
SVHC Substances of Very High Concern
Tel. Telephone
ThOD Theoretical oxygen demand
TOC Total organic carbon
TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).
WHO World Health Organization
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.

These statements were made by:

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