

SAFETY DATA SHEET according to regulation 1907/2006

Product name: Steinschlagschutz weiss

Creation date: 11.10.2021, Revision: 20.10.2021, version: 1.1

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

DfcXi WH-B

ÜÖZFHGF

Product name

Steinschlagschutz weiss



<https://my.chemius.net/p/DvNlhV/en/pd/en>

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

Relevant identified uses

Sealant. Corrosion protection.

Uses advised against

No information.

1.3 Details of the supplier of the safety data sheet

Supplier

Peter Kwasny GmbH

Heilbronner Str. 96

D-74831 Gundelsheim, Germany

1.4 Emergency Telephone Number

Emergency

112

Supplier

No information.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Aerosol 1; H222 Extremely flammable aerosol.

Aerosol 1; H229.1 Pressurised container: May burst if heated.

Asp. Tox. 1; H304 May be fatal if swallowed and enters airways.

Skin Irrit. 2; H315 Causes skin irritation.

Eye Irrit. 2; H319 Causes serious eye irritation.

STOT SE 3; H336 May cause drowsiness or dizziness.

Aquatic Chronic 2; H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

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

**Signal word: Danger**

H222 Extremely flammable aerosol.

H229 Pressurised container: May burst if heated.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

EUH066 Repeated exposure may cause skin dryness or cracking.

P102 Keep out of reach of children.

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.

P273 Avoid release to the environment.

P302 + P352 + P362 + P364 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P501 Dispose of contents/container in accordance with national regulation.

Contains:

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

2.3 Other hazards

No information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

For mixtures see 3.2.

3.2 Mixtures

| NAME | CAS EC INDEX REACH | % | CLASSIFICATION ACCORDING TO REGULATION (EC) NO 1272/2008 (CLP) | SPECIFIC CONC. LIMITS | NOTES FOR SUBSTANCES |
|---|---|--------|--|-----------------------|----------------------|
| dimethyl ether | 115-10-6 204-065-8 603-019-00-8 01-2119472128-37 | 25-50 | Flam. Gas 1; H220 Press. Gas; H280 | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | 64742-49-0 927-510-4 - 01-2119475515-33 | 25-50 | Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411 | / | / |
| hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics | - 920-750-0 - 01-2119473851-33 | 2,5-10 | Flam. Liq. 2; H225 Asp. Tox. 1; H304 STOT SE 3; H336 Aquatic Chronic 2; H411 | / | / |

| | | | | | |
|---|--|--------|---|-------------------------|---|
| cyclohexane | 110-82-7 203-806-2 601-017-00-1 | 2,5-10 | Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Acute 1; H400; M = 1 Aquatic Chronic 1; H410; M = 1 | / | / |
| ethyl acetate | 141-78-6 205-500-4 607-022-00-5 | 2,5-10 | Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066 | / | / |
| ethyl methyl ketone | 78-93-3 201-159-0 606-002-00-3 01-2119457290-43 | 2,5-10 | Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066 | / | / |
| hydrocarbons, C9, aromatics | 64742-95-6 918-668-5 - 01-2119455851-35 | 2,5-10 | Flam. Liq. 3; H226 Asp. Tox. 1; H304 STOT SE 3; H335 STOT SE 3; H336 Aquatic Chronic 2; H411 EUH066 | / | P |
| hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | - 921-024-6 - 01-2119475514-35 | 2,5-10 | Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411 | / | / |
| n-hexane | 110-54-3 203-777-6 601-037-00-0 | <1 | Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Repr. 2; H361F STOT RE 2; H373 Aquatic Chronic 2; H411 | STOT RE 2; H373; C ≥ 5% | / |

Notes for substances

| | |
|---|--|
| P | <p>The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (Einesc No 200-753-7).</p> <p>When the substance is not classified as a carcinogen at least the precautionary statements (P102-)P260- P262-P301 + P310-P331 shall apply.</p> <p>This note applies only to certain complex oil-derived substances in Part 3.</p> |
|---|--|

SECTION 4: FIRST AID MEASURES

4.1 First aid measures

General notes

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency. No action shall be taken involving any personal risk or without suitable training.

Following inhalation

If symptoms occur, seek medical advice. Remove patient to fresh air - move out of dangerous area. Keep at rest in a position comfortable for breathing. If breathing is irregular or respiratory arrest occurs provide artificial respiration. In case of unconsciousness bring patient into stable side position and seek medical attention.

Following skin contact

Take off all contaminated clothing. Areas of the body that have come into contact with the product must be rinsed with water and soap. If symptoms develop and persist, seek medical attention. Wash contaminated clothes and shoes before reuse.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. If irritation persists, seek professional medical attention.

Following ingestion

Not likely. Accidental ingestion: Do not induce vomiting! Immediately consult a doctor. Show the physician the safety data sheet or label. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation

Vapours may cause drowsiness and dizziness. Excessive exposure to spray mist, fog, or vapours may cause respiratory irritation. Coughing, sneezing, nasal discharge, labored breathing.

Following skin contact

Irritating to the skin. Itching, redness, pain.

Following eye contact

Strongly irritates the eyes. Redness, tearing, pain.

Following ingestion

Ingestion is unlikely because it is an aerosol. Accidental ingestion: May cause abdominal discomfort. May cause nausea/vomiting and diarrhea. Irritates mucous membranes in the mouth, throat, esophagus and in gastrointestinal area. May be fatal if swallowed and enters airways.

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).

Sand.

Fire extinguishing powder.

Foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

Water.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke. In the event of fire the following can be generated: carbon monoxide (CO), carbon dioxide (CO₂). Various hydrocarbons.

Aldehydes. Soot.

5.3 Advice for firefighters

Protective actions

In case of fire or heating do not breathe fumes/vapours. Vapours can form explosive mixtures with air. In case of fire aerosols can explode and be propelled to considerable distances in different directions. Cool containers at risk with water spray. If possible remove containers from endangered area. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Additional information

Contaminated extinguishing agents must be disposed of in accordance with the regulations; do not allow to reach the

sewage system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment

Use personal protective equipment (Section 8).

Precautionary measures

Ensure adequate ventilation. Keep away from sources of ignition and/or heat; No smoking!

Emergency procedures

Prevent access to unauthorised personnel. Prevent access to unprotected personnel. Avoid contact with skin and eyes. Do not breathe vapour or mist.

For emergency responders

Use personal protective equipment.

6.2 Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. If accidental large entry into water or ground occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

For containment

Stem the spill if this does not pose risks.

For cleaning up

Collect the spray cans and hand them over to an authorized waste disposal contractor. Release of liquid because of damaged aerosol can (release of large quantities): Absorb product (with inert material), collect it in special container and dispose it to a licensed hazardous-waste disposal contractor. Do not absorb spillage with sawdust or other combustible material. Dispose in accordance with applicable regulations (see Section 13). Clean residue from spill site.

OTHER INFORMATION

See Section 7: safe handling.

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures

Measures to prevent fire

Ensure adequate ventilation. Take precautionary measures against static discharges. Keep away from sources of ignition - no smoking. Use spark-proof tools. Pressurized container; protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or incandescent material.

Measures to prevent aerosol and dust generation

Use general or local exhaust ventilation to prevent inhaling vapours and aerosols.

Measures to protect the environment

Avoid release to the environment.

Other measures

No information.

Advice on general occupational hygiene

Wear suitable protective equipment; see Section 8. Refer to instructions on label and regulations for safety and health at work. Use good personal hygiene practices – wash hands at breaks and when done working with material. Avoid contact with skin, eyes and clothes. Do not eat, drink or smoke while working. Do not breathe vapours/mist. Consider measures required in Section 8 of this safety data sheet.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Store in accordance with local regulations. Keep in well closed containers. Keep in cool and well ventilated area. Protect from open fire, heat and direct sunlight. Keep away from sources of ignition. Keep away from oxidising substances. Keep away from food, drink and animal feeding stuffs.

Packaging materials

The original container of producer.

Requirements for storage rooms and vessels

Do not store in unlabelled containers.

Storage class

No information.

Further information on storage conditions

No information.

7.3 Specific end use(s)

Recommendations

No information.

Industrial sector specific solutions

No information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

| NAME | MG/M ³ | ML/M ³ | SHORT-TERM VALUE MG/M ³ | SHORT-TERM VALUE ML/M ³ | REMARK | BIOLOGICAL TOLERANCE VALUES |
|---|-------------------|-------------------|------------------------------------|------------------------------------|----------|---|
| Butan-2-one (methyl ethyl ketone) (78-93-3) | 600 | 200 | 899 | 300 | Sk, BMGV | 70 µmol butan-2-one/L in urine - Post shift |
| n-Hexane (110-54-3) | 72 | 20 | / | / | / | / |
| Cyclohexane (110-82-7) | 350 | 100 | 1050 | 300 | / | / |
| Dimethyl ether (115-10-6) | 766 | 400 | 958 | 500 | / | / |
| Ethyl acetate (141-78-6) | 734 | 200 | 1468 | 400 | / | / |

Information on monitoring procedures

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2021 Workplace exposure. Procedures for the determination of the concentration of chemical agents. Basic performance requirements.

DNEL/DMEL values

For product

No information.

For components

| NAME | TYPE | EXPOSURE ROUTE | EXP. FREQUENCY | REMARK | VALUE |
|----------------|--------|----------------|----------------------------|--------|------------------------|
| dimethyl ether | Worker | inhalation | long term systemic effects | / | 1894 mg/m ³ |

| | | | | | |
|--|----------|------------|----------------------------|---|------------------------|
| dimethyl ether | Consumer | inhalation | long term systemic effects | / | 471 mg/m ³ |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Worker | inhalation | long term systemic effects | / | 2085 mg/m ³ |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Worker | dermal | long term systemic effects | / | 300 mg/kg bw/day |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Consumer | inhalation | long term systemic effects | / | 447 mg/m ³ |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Consumer | dermal | long term systemic effects | / | 149 mg/kg bw/day |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Consumer | oral | long term systemic effects | / | 149 mg/kg bw/day |

PNEC values

For product

No information.

For components

| NAME | EXPOSURE ROUTE | REMARK | VALUE |
|----------------|-----------------------------|-------------|-------------|
| dimethyl ether | fresh water | / | 0.155 mg/L |
| dimethyl ether | marine water | / | 0.016 mg/L |
| dimethyl ether | water, intermittent release | fresh water | 1.549 mg/L |
| dimethyl ether | water treatment plant | / | 160 mg/L |
| dimethyl ether | fresh water sediment | dry weight | 0.681 mg/kg |
| dimethyl ether | marine water sediment | dry weight | 0.069 mg/kg |
| dimethyl ether | soil | dry weight | 0.045 mg/kg |

8.2 Exposure controls

Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Do not breathe vapours/aerosols. Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation.

Structural measures to prevent exposure

No information.

Organisational measures to prevent exposure

If this product contains ingredients with exposure limits, personal, workplace atmosphere monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protection.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

Personal protective equipment

Eye and face protection

Safety glasses with side protection (EN 166).

Hand protection

Protective gloves (EN 374).

Appropriate materials

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory protection. If the concentration limit values are exceeded, it is necessary to wear appropriate respiratory protection. Wear suitable protective breathing mask (EN 136) with filter A2-P2

(EN 14387).

Thermal hazards

No information.

Environmental exposure controls

Substance/mixture related measures to prevent exposure

No information.

Instruction measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Prevent exposure in the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state

liquid - aerosol

Colour

white

Odour

characteristic

Important health, safety and environmental information

| | |
|-------------------------------------|---|
| Odour threshold | No information. |
| pH | No information. |
| Melting point/Freezing point | No information. |
| Initial boiling point/boiling range | No information. |
| Flash point | No information. |
| Evaporation rate | No information. |
| Flammability (solid, gas) | No information. |
| Explosion limits (vol%) | 3.3 – 26.2 vol % (propellant) |
| Vapour pressure | 60 hPa at 20 °C (Dipro 295) 306 hPa at 50 °C (Dipro 295) |
| Vapour density | No information. |
| Density / weight | Density: 0.983 kg/L at 20 °C (data refers to the liquid portion of the product) |
| Solubility | No information. |
| Partition coefficient | No information. |
| Auto-ignition temperature | No information. |
| Decomposition temperature | No information. |
| Viscosity | No information. |
| Explosive properties | No information. |
| Oxidising properties | No information. |

9.2 OTHER INFORMATION

| | |
|-------------------------|-----------------------------|
| Weight organic solvents | 629 g/l (VOC) 74 % (VOC) |
|-------------------------|-----------------------------|

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended transport or storage conditions.

10.2 Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3 Possibility of hazardous reactions

The product is stable under recommended storage and handling conditions.

10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not expose to heat and direct sunlight.

10.5 Incompatible materials

Strong acids.
Oxidants.

10.6 Hazardous decomposition products

In case of fire/explosion vapours/gases that pose a health hazard are released.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects****(a) Acute toxicity****For components**

| NAME | EXPOSURE ROUTE | TYPE | SPECIES | TIME | VALUE | METHOD | REMARK |
|---|----------------------|------------------|---------|------|---------------------------|----------|--------|
| dimethyl ether | Inhalation (gases) | LC ₅₀ | rat | 4 h | 309 mg/l | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | oral | LD ₅₀ | rat | / | > 5840 mg/kg bw | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | dermal | LD ₅₀ | rat | / | > 2920 mg/kg | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | inhalation | LC ₅₀ | rat | 4 h | > 23.3 mg/l | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | dermal | LD ₅₀ | rat | 24 h | > 2920 mg/kg bw | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | inhalation (vapours) | LC ₅₀ | rat | 4 h | > 23300 mg/m ³ | OECD 403 | / |
| hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics | oral | LD ₅₀ | rat | / | > 5000 mg/kg | / | / |

| | | | | | | | |
|---|------------|------------------|--------|-----|--------------|----------|---|
| hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics | dermal | LD ₅₀ | rabbit | / | > 2800 mg/kg | / | / |
| hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics | inhalation | LC ₅₀ | rat | / | ≥ 23.3 mg/l | / | / |
| cyclohexane | oral | LD ₅₀ | rat | / | 12705 mg/kg | / | / |
| cyclohexane | inhalation | LC ₅₀ | rabbit | / | 89600 mg/l | / | / |
| ethyl acetate | oral | LD ₅₀ | rabbit | / | 4935 mg/kg | / | / |
| ethyl acetate | inhalation | LC ₅₀ | rat | 4 h | 1600 mg/l | / | / |
| ethyl methyl ketone | oral | LD ₅₀ | rat | / | > 2193 mg/kg | OECD 423 | / |
| ethyl methyl ketone | dermal | LD ₅₀ | rabbit | / | > 5000 mg/kg | OECD 402 | / |
| ethyl methyl ketone | inhalation | LC ₅₀ | rat | 4 h | 34 mg/l | / | / |
| hydrocarbons, C9, aromatics | dermal | LD ₅₀ | rabbit | / | > 2000 mg/kg | / | / |
| hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | oral | LD ₅₀ | rat | / | > 5840 mg/kg | / | / |
| hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | dermal | LD ₅₀ | rabbit | / | > 2920 mg/kg | / | / |
| hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | inhalation | LC ₅₀ | rat | 4 h | > 25.2 mg/l | / | / |

Additional information

The product is not classified for acute toxicity.

(b) Skin corrosion/irritation

For components

| NAME | SPECIES | TIME | RESULT | METHOD | REMARK |
|--|---------|------|----------------------|----------|---|
| dimethyl ether | / | / | May cause frostbite. | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | / | / | Irritating. | / | / |
| ethyl methyl ketone | rabbit | / | No irritant effect. | OECD 404 | Repeated exposure may cause skin dryness or cracking. |

Additional information

Causes skin irritation.

(c) Serious eye damage/irritation

For components

| NAME | EXPOSURE ROUTE | SPECIES | TIME | RESULT | METHOD | REMARK |
|--|----------------|---------|------|---|----------|--------|
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | / | / | / | Not classified. | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | / | / | / | Contact with eyes may cause irritation. | / | / |
| ethyl methyl ketone | / | rabbit | / | Irritating. | OECD 405 | / |

Additional information

Causes serious eye irritation.

(d) Respiratory or skin sensitisation

For components

| NAME | EXPOSURE ROUTE | SPECIES | TIME | RESULT | METHOD | REMARK |
|---------------------|----------------|------------|------|------------------|----------|--------------|
| ethyl methyl ketone | dermal | guinea pig | / | Non sensitising. | OECD 406 | Buehler test |

Additional information

The product is not classified as sensitising.

(e) (Germ cell) mutagenicity

For components

| NAME | TYPE | SPECIES | TIME | RESULT | METHOD | REMARK |
|--|-----------------------|--------------------------------|------|--|------------------|-----------------------------|
| dimethyl ether | / | / | / | The chemical is not classified as mutagenic. | / | / |
| dimethyl ether | in-vitro mutagenicity | / | / | Negative. | OECD 471 | Ames test |
| dimethyl ether | in-vitro mutagenicity | Human (lymphocytes) | / | Negative. | cytogenetic test | OECD 473 |
| dimethyl ether | in-vivo mutagenicity | <i>Drosophila melanogaster</i> | / | Negative. | OECD 477 | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Genotoxicity | / | / | Negative. | / | / |
| ethyl methyl ketone | in-vitro mutagenicity | / | / | Negative. | / | / |
| ethyl methyl ketone | in-vivo mutagenicity | / | / | Negative. | / | / |
| ethyl methyl ketone | in-vitro mutagenicity | rat | / | Negative. | OECD 473 | DNA test on rat hepatocytes |
| ethyl methyl ketone | in-vitro mutagenicity | mouse (lymphoma cells) | / | Negative. | OECD 476 | / |
| ethyl methyl ketone | in-vitro mutagenicity | Salmonella typhimurium | / | Negative. | OECD 471 | / |
| ethyl methyl ketone | in-vivo mutagenicity | mouse | / | Negative. | OECD 474 | / |

(f) Carcinogenicity

For components

| NAME | EXPOSURE ROUTE | TYPE | SPECIES | TIME | VALUE | RESULT | METHOD | REMARK |
|--|----------------|------|---------|------|-------|--|--------|--------|
| dimethyl ether | / | / | / | / | / | Substance is not classified as carcinogenic. | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | / | / | / | / | / | Substance is not classified as carcinogenic. | / | / |
| ethyl methyl ketone | / | / | / | / | / | Not expected to be carcinogenic. | / | / |

(g) Reproductive toxicity

For components

| NAME | REPRODUCTIVE TOXICITY TYPE | TYPE | SPECIES | TIME | VALUE | RESULT | METHOD | REMARK |
|----------------|----------------------------|------------|---------|------|-----------|---|----------|------------|
| dimethyl ether | Reproductive toxicity | inhalation | rat | / | 47 mg/L | Animal testing did not show any effects on fertility. | OECD 452 | / |
| dimethyl ether | Maternal toxicity | NOAEL | rat | / | 5000 ppm | / | / | Inhalation |
| dimethyl ether | Teratogenicity | NOAEL | rat | / | 40000 ppm | / | / | Inhalation |
| dimethyl ether | Developmental toxicity | NOAEL | rat | / | 40000 ppm | / | / | Inhalation |

| | | | | | | | | |
|--|------------------------|-------|-----|---------|-----------|---|----------|--|
| dimethyl ether | - | NOAEL | rat | / | 20000 ppm | / | OECD 414 | inhalation (vapor), embryo-fetal development |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Reproductive toxicity | - | rat | / | / | The results of animal studies gave no indication of a fertility impairing effect. | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Developmental toxicity | / | rat | / | / | Did not show teratogenic effects in animal experiments. | / | / |
| ethyl methyl ketone | Teratogenicity | / | / | / | / | Tests on animals have shown no effects on the fetus. | / | / |
| ethyl methyl ketone | / | / | / | / | / | Reproductive toxicity is not expected. | / | / |
| ethyl methyl ketone | Teratogenicity | NOAEC | rat | 18 days | 1002 ppm | It does not meet the criteria for classification. | OECD 414 | 7 h per day |
| ethyl methyl ketone | Teratogenicity | LOAEC | rat | 18 days | 3000 ppm | Decrease in body weight | OECD 414 | 7 h per day |
| n-hexane | Reproductive toxicity | - | / | / | / | Suspected of damaging fertility. | / | / |

Summary of evaluation of the CMR properties

The product is not classified as carcinogenic, mutagenic or toxic for reproduction.

(h) STOT-single exposure

For components

| NAME | EXPOSURE ROUTE | TYPE | SPECIES | TIME | EXPOSURE | ORGAN | VALUE | RESULT | METHOD | REMARK |
|--|----------------|------|---------|------|----------|-------|-------|--|--------|-----------------------------|
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | inhalation | - | / | / | / | / | / | May cause effects on the central nervous system. | / | high vapours concentrations |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | inhalation | - | / | / | / | / | / | Symptoms: nausea, unconsciousness. | / | high vapours concentrations |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | inhalation | - | / | / | / | / | / | Symptoms: mucous membrane irritation. | / | high vapours concentrations |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | inhalation | - | / | / | / | / | / | May cause respiratory irritation. | / | high vapours concentrations |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | oral | - | / | / | / | / | / | May cause irritation of the digestive tract. | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | - | - | / | / | / | / | / | May cause drowsiness or dizziness. | / | / |

| | | | | | | | | | | |
|---------------------|------------|---|---|---|---|------------------------|---|------------------------------------|---|---|
| ethyl methyl ketone | inhalation | - | / | / | / | central nervous system | / | May cause drowsiness or dizziness. | / | / |
|---------------------|------------|---|---|---|---|------------------------|---|------------------------------------|---|---|

Additional information

May cause drowsiness or dizziness.

(i) STOT-repeated exposure

For components

| NAME | EXPOSURE ROUTE | TYPE | SPECIES | TIME | EXPOSURE | ORGAN | VALUE | RESULT | METHOD | REMARK |
|---------------------|------------------------|-------|---------|----------|----------|-------|----------|---|----------|-----------------------------------|
| dimethyl ether | Repeated dose toxicity | NOEL | rat | 2 years | / | / | 47 mg/L | / | OECD 452 | inhalation |
| ethyl methyl ketone | Repeated dose toxicity | NOAEC | rat | 4 months | / | / | 5041 ppm | Repeated exposure: no effects. | OECD 413 | inhalation (vapours); 6 h per day |
| ethyl methyl ketone | inhalation | - | / | / | / | / | / | Exposure to high concentrations of vapours may cause headaches, dizziness and nausea. | / | / |
| ethyl methyl ketone | dermal | - | / | / | / | / | / | Repeated or prolonged exposure may cause dermatitis. | / | / |

Additional information

STOT RE (repeated exposure): Not classified.

(j) Aspiration hazard

For components

| NAME | RESULT | METHOD | REMARK |
|--|--|--------|--|
| dimethyl ether | Aspiration hazard: Not Classified. | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | Aspiration into the lungs can cause lung damage. | / | The exposed person should be kept under medical surveillance for 48 hours. |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | May be fatal if swallowed and enters airways. | / | / |
| ethyl methyl ketone | Aspiration hazard: Not Classified. | / | / |

Additional information

May be fatal if swallowed and enters airways.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute (short-term) toxicity

For components

| NAME | TYPE | VALUE | EXPOSURE TIME | SPECIES | ORGANISM | METHOD | REMARK |
|----------------|------------------|-------------|---------------|----------------|----------------------------|--------|--------------------|
| dimethyl ether | LC ₅₀ | > 4.1 mg/L | 96 h | fish | <i>Poecilia reticulata</i> | / | Semi-Static system |
| dimethyl ether | EC ₅₀ | > 4.4 mg/L | 48 h | crustacea | <i>Daphnia magna</i> | / | static test |
| dimethyl ether | LC ₅₀ | 755.5 mg/L | 48 h | <i>Daphnia</i> | / | ECOSAR | / |
| dimethyl ether | EC ₅₀ | 154.9 mg/L | 96 h | algae | / | ECOSAR | / |
| dimethyl ether | EC ₁₀ | > 1600 mg/L | / | bacteria | <i>Pseudomonas putida</i> | / | static test |

| | | | | | | | |
|---|-------------------|---------------|------|--|--|-----------|-------------|
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | EL ₅₀ | 10 - 30 mg/L | 72 h | algae | <i>Selenastrum capricornutum</i> | / | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | ErL ₅₀ | 10 - 30 mg/L | 72 h | algae | <i>Pseudokirchneriella subcapitata</i> | OECD 201 | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | EbL ₅₀ | 10 - 30 mg/L | 72 h | algae | <i>Pseudokirchneriella subcapitata</i> | OECD 201 | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | EL ₅₀ | 3 mg/L | 48 h | crustacea | <i>Daphnia magna</i> | OECD 202 | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | LL ₅₀ | > 13.4 mg/L | 96 h | fish | <i>Oncorhynchus mykiss</i> | OECD 203 | / |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | NOELR | 6.3 mg/L | 72 h | <i>Pseudokirchneriella subcapitata</i> | / | OECD 201 | / |
| hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics | EL ₅₀ | 3 mg/L | 48 h | crustacea | <i>Daphnia magna</i> | / | / |
| hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics | EL ₅₀ | 10 - 30 mg/L | 72 h | algae | <i>Selenastrum capricornutum</i> | / | / |
| hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics | LL ₅₀ | 13.4 mg/L | 96 h | fish | <i>Oncorhynchus mykiss</i> | / | / |
| ethyl methyl ketone | LC ₅₀ | 2993 mg/L | 96 h | fish | <i>Pimephales promelas</i> | OECD 203 | static test |
| ethyl methyl ketone | EC ₅₀ | 308 mg/L | 48 h | crustacea | <i>Daphnia magna</i> | OECD 202 | static test |
| ethyl methyl ketone | EC ₅₀ | 1972 mg/L | 72 h | algae | <i>Pseudokirchneriella subcapitata</i> | OECD 201 | static test |
| ethyl methyl ketone | EC ₀ | 1150 mg/L | 16 h | bacteria | <i>Pseudomonas putida</i> | DIN 38412 | static test |
| hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | EC ₅₀ | 10 mg/L | 48 h | algae | Phaeophyta | / | / |
| hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | EL ₅₀ | 3 mg/L | 48 h | crustacea | <i>Daphnia magna</i> | / | / |
| hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | EL ₅₀ | 30 - 100 mg/L | 72 h | algae | <i>Selenastrum capricornutum</i> | / | / |
| hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | LL ₅₀ | 11.4 mg/L | 96 h | fish | <i>Oncorhynchus mykiss</i> | / | / |

Chronic (long-term) toxicity For components

| NAME | TYPE | VALUE | EXPOSURE TIME | SPECIES | ORGANISM | METHOD | REMARK |
|--|-------|--------|---------------|-----------|----------------------|----------|--------|
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | NOELR | 1 mg/l | 21 days | crustacea | <i>Daphnia magna</i> | OECD 211 | / |

| | | | | | | | |
|--|-------|-----------|---------|------|----------------------------|---|---------------|
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | NOELR | 1.53 mg/l | 28 days | fish | <i>Oncorhynchus mykiss</i> | / | QSAR Petrotox |
|--|-------|-----------|---------|------|----------------------------|---|---------------|

12.2 Persistence and degradability

Abiotic degradation, physical- and photo-chemical elimination

For components

| NAME | ENVIRONMENT | TYPE / METHOD | HALF TIME | EVALUATION | METHOD | REMARK |
|---------------------|-------------|------------------|-----------|-------------------------|--------|--------|
| ethyl methyl ketone | water | hydrolysis | / | not expected | / | / |
| ethyl methyl ketone | Air | photodegradation | / | Photolysis not expected | / | / |

Biodegradation

For components

| NAME | TYPE | RATE | TIME | EVALUATION | METHOD | REMARK |
|--|------------------|------|---------|---------------------------|------------|------------------|
| dimethyl ether | aerobic | 5 % | 28 days | not readily biodegradable | OECD 301 D | activated sludge |
| hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | biodegradability | 98 % | 28 days | readily biodegradable | OECD 301F | / |
| ethyl methyl ketone | biodegradability | 98 % | 28 days | readily biodegradable | OECD 301 D | / |

12.3 Bioaccumulative potential

Partition coefficient

For components

| NAME | MEDIA | VALUE | TEMPERATURE °C | PH | CONCENTRATION | METHOD |
|---------------------|---------|-------|----------------|----|---------------|--------|
| ethyl methyl ketone | Log Pow | 0.3 | 40 | / | / | / |

Bioconcentration factor (BCF)

No information.

12.4 Mobility in soil

Known or predicted distribution to environmental compartments

No information.

Surface tension

For components

| NAME | VALUE | TEMPERATURE °C | CONCENTRATION | METHOD | REMARK |
|---------------------|-----------|----------------|---------------|--------|--------|
| ethyl methyl ketone | 24.8 mN/m | 20 | / | / | / |

Adsorption/Desorption

For components

| NAME | TYPE | CRITERION | VALUE | EVALUATION | METHOD | REMARK |
|---------------------|-------|-----------|-------|----------------------------|--------|--------|
| dimethyl ether | Soil | / | / | Moderate mobility in soil. | / | / |
| ethyl methyl ketone | Water | / | / | Partially soluble. | / | / |

12.5 Results of PBT and vPvB assessment

No evaluation.

12.6 Other adverse effects

No information.

12.7 Additional information

For product

Toxic to aquatic life with long lasting effects. Water hazard class (WGK): 3 (Self-assessment), very hazardous for water. Avoid release to the environment.

For components

dimethyl ether

Bioaccumulation is not expected. This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

ethyl methyl ketone

Does not bioaccumulate. Mobile in soil. This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Do not allow to reach ground water, water bodies or sewage systems.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product / Packaging disposal

Waste chemical

Avoid release to the environment. Product and container must be disposed of safely. Dispose of in accordance with applicable waste disposal regulation. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste.

Waste codes / waste designations according to LoW

16 05 04* - gases in pressure containers (including halons) containing dangerous substances

Packaging

Uncleaned containers should not be perforated, cut or welded. Pressurized container. Do not pierce or burn, even after use. Dispose of in accordance with applicable waste disposal regulation. Deliver completely emptied containers to approved waste disposal authorities.

Waste codes / waste designations according to LoW

15 01 11* - metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers

Waste treatment-relevant information

No information.

Sewage disposal-relevant information

No information.

Other disposal recommendations

No information.

SECTION 14: TRANSPORT INFORMATION

| ADR/RID | IMDG | IATA | ADN |
|----------------|------|------|-----|
| 14.1 UN number | | | |

| | | | |
|--|--|---|---------------------------|
| UN 1950 | UN 1950 | UN 1950 | UN 1950 |
| 14.2 UN proper shipping name | | | |
| AEROSOLS | AEROSOLS (cyclohexane) | AEROSOLS | AEROSOLS |
| 14.3 Transport hazard class(es) | | | |
| 2 | 2 | 2 | 2 |
| | | | |
| 14.4 Packing group | | | |
| Not given/not applicable | Not given/not applicable | Not given/not applicable | Not given/not applicable |
| 14.5 Environmental hazards | | | |
| YES | Marine pollutant | YES | YES |
| 14.6 Special precautions for user | | | |
| Limited quantities 1 L Special provisions 190, 327, 344, 625 Packing Instructions P207, LP200 Special packing provisions PP87, RR6, L2 Transport category 2 Tunnel restriction code (D) | Limited quantities 1 L EmS F-D, S-U | Limited Quantity, Packing Instructions (Ltd Qty, Pkg Inst) Y203 Limited Quantity, Maximum Net Quantity/Package (Ltd Qty, Max Net Qty/Pkg) 30 kg G Packing Instructions (Pkg Inst) 203 Maximum Net Quantity/Package (Max Net Qty/Pkg) 25 kg Special provisions A145, A167, A802 | Limited quantities 1 L |
| 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | | | |
| Goods may not be carried in bulk in bulk containers, containers or vehicles. | Goods may not be carried in bulk in bulk containers, containers or vehicles. | Not given/not applicable | Not given/not applicable |

SECTION 15: REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)
not applicable

Regulation EC 648/2004 on detergents

No information.

Special instructions

No information.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION

Indication of changes

No information.

Key literature references and sources for data

No information.

Abbreviations and acronyms

ATE - Acute Toxicity Estimate

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

CEN - European Committee for Standardisation

C&L - Classification and Labelling

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

CAS# - Chemical Abstracts Service number

CMR - Carcinogen, Mutagen, or Reproductive Toxicant

CSA - Chemical Safety Assessment

CSR - Chemical Safety Report

DMEL - Derived Minimal Effect Level

DNEL - Derived No Effect Level

DPD - Dangerous Preparations Directive 1999/45/EC

DSD - Dangerous Substances Directive 67/548/EEC

DU - Downstream User

EC - European Community

ECHA - European Chemicals Agency

EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)

EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)

EEC - European Economic Community

EINECS - European Inventory of Existing Commercial Substances

ELINCS - European List of notified Chemical Substances

EN - European Standard

EQS - Environmental Quality Standard

EU - European Union

Euphrac - European Phrase Catalogue

EW - European Waste Catalogue (replaced by LoW – see below)

GES - Generic Exposure Scenario

GHS - Globally Harmonized System

IATA - International Air Transport Association

ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air

IMDG - International Maritime Dangerous Goods

IMSBC - International Maritime Solid Bulk Cargoes

IT - Information Technology

IUCLID - International Uniform Chemical Information Database

IUPAC - International Union for Pure Applied Chemistry

JRC - Joint Research Centre

Kow - octanol-water partition coefficient

LC50 - Lethal Concentration to 50 % of a test population

LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)

LE - Legal Entity

LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)

LR - Lead Registrant

M/I - Manufacturer / Importer

MS - Member States

MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

List of relevant H phrases

H220 Extremely flammable gas.
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H361f Suspected of damaging fertility.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.