# Safety data sheet
# according to Regulation (EC) No 1907/2006, Annex II

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

### 1.1 Product identifier

## Ceramic Rust Solvent with freeze-shock effect

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

**Relevant identified uses of the substance or mixture:**
Rust remover

**Uses advised against:**
No information available at present.

### 1.3 Details of the supplier of the safety data sheet

LIQUI MOLY GmbH
Jerg-Wieland-Str. 4
89081 Ulm-Lehr
Tel.: (+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)
+1 872 5888271 (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 |
|---|---|---|
| Skin Irrit. | 2 | H315-Causes skin irritation. |
| Asp. Tox. | 1 | H304-May be fatal if swallowed and enters airways. |
| STOT SE | 3 | H336-May cause drowsiness or dizziness. |
| Aquatic Chronic | 3 | H412-Harmful to aquatic life with long lasting effects. |
| Aerosol | 1 | H222-Extremely flammable aerosol. |
| Aerosol | 1 | H229-Pressurised container: May burst if heated. |

### 2.2 Label elements

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



Danger

H315-Causes skin irritation. H336-May cause drowsiness or dizziness. H412-Harmful to aquatic life with long lasting effects. H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

P101-If medical advice is needed, have product container or label at hand. 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. P261-Avoid breathing vapours or spray. P271-Use only outdoors or in a well-ventilated area. P273-Avoid release to the environment. P280-Wear protective gloves.
P312-Call a POISON CENTRE / doctor if you feel unwell.
P405-Store locked up. P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.
P501-Dispose of contents / container to an approved waste disposal facility.

EUH208-Contains Methyl salicylate. May produce an allergic reaction.

Without adequate ventilation, formation of explosive mixtures may be possible.
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

## 2.3 Other hazards

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 %).
The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

# SECTION 3: Composition/information on ingredients

Aerosol

## 3.1 Substances

n.a.

## 3.2 Mixtures

| **Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane** | |
|---|---|
| **Registration number (REACH)** | 01-2119475514-35-XXXX |
| **Index** | --- |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 921-024-6 |
| **CAS** | --- |
| **content %** | 10-<25 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Flam. Liq. 2, H225<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Asp. Tox. 1, H304<br>Aquatic Chronic 2, H411 |

| **Methyl salicylate** | |
|---|---|
| **Registration number (REACH)** | 01-2119515671-44-XXXX |
| **Index** | 607-749-00-8 |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 204-317-7 |
| **CAS** | 119-36-8 |
| **content %** | 0,1-<1 |

| | |
|---|---|
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Acute Tox. 4, H302<br>Eye Dam. 1, H318<br>Skin Sens. 1B, H317<br>Repr. 2, H361d<br>Aquatic Chronic 3, H412 |
| **Specific Concentration Limits and ATE** | ATE (oral): 890 mg/kg |

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.
The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

## 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
Rinse the mouth thoroughly with water.
Do not induce vomiting. Consult doctor immediately.
In case of vomiting, keep head low so that the stomach content does not reach the lungs.

### 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.
Coughing
Headaches
dizziness
Coordination disorders
mental confusion
reddening of the skin
Dermatitis (skin inflammation)
Allergic reaction
nausea
vomiting
Danger of aspiration.
oedema of the lungs
Chemical pneumonitis (condition similar to pneumonia)

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

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media
### Suitable extinguishing media
Water jet spray/foam/CO2/dry extinguisher
### 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
Toxic gases
Danger of bursting (explosion) when heated
Possible build up of explosive/highly flammable vapour/air mixture.

### 5.3 Advice for firefighters
For personal protective equipment see Section 8.
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
### 6.1.1 For non-emergency personnel
In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.
Ensure sufficient ventilation, remove sources of ignition.
Avoid dust formation with solid or powder products.
Leave the danger zone if possible, use existing emergency plans if necessary.
Avoid inhalation, and contact with eyes or skin.

### 6.1.2 For emergency responders
See section 8 for suitable protective equipment and material specifications.

### 6.2 Environmental precautions
Prevent penetration into drains, cellars, working pits or other places in which accumulation could be hazardous.
Prevent surface and ground-water infiltration, as well as ground penetration.
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.
Active substance:
Soak up with absorbent material (e.g. universal binding agent) 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.
Avoid inhalation of the vapours.
Keep away from sources of ignition - Do not smoke.
Take measures against electrostatic charging, if appropriate.
Do not use on hot surfaces.
Avoid contact with eyes or skin.
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.

Not to be stored in gangways or stair wells.
Store product closed and only in original packing.
Observe special regulations for aerosols!
Observe special storage conditions.
Do not store with flammable or self-igniting materials.
Keep protected from direct sunlight and temperatures over 50°C.
Store in a well-ventilated place.
Store cool.

## 7.3 Specific end use(s)

No information available at present.
Observe the instructions for good working practice and the recommendations for risk assessment.
Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries, depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

# SECTION 8: Exposure controls/personal protection

## 8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):
600 mg/m3

| GB **Chemical Name** | Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane | | |
|---|---|---|---|
| WEL-TWA: 600 mg/m3 | WEL-STEL: --- | --- | |
| Monitoring procedures: | - Compur - KITA-187 S (551 174) | | |
| BMGV: --- | Other information: (OEL acc. to RCP-method, paragraphs 84-87, EH40) | | |

| GB **Chemical Name** | Butane | | |
|---|---|---|---|
| WEL-TWA: 600 ppm (1450 mg/m3) | WEL-STEL: 750 ppm (1810 mg/m3) | --- | |
| Monitoring procedures: | - Compur - KITA-221 SA (549 459)<br>- OSHA PV2010 (n-Butane) - 1993 | | |
| BMGV: --- | Other information: --- | | |

| GB **Chemical Name** | Propane | | |
|---|---|---|---|
| WEL-TWA: 1000 ppm (ACGIH) | WEL-STEL: --- | --- | |
| Monitoring procedures: | - Compur - KITA-125 SA (549 954)<br>- OSHA PV2077 (Propane) - 1990 | | |
| BMGV: --- | Other information: --- | | |

| GB **Chemical Name** | Isobutane | | |
|---|---|---|---|
| WEL-TWA: 1000 ppm (EX) (ACGIH) | WEL-STEL: --- | --- | |
| Monitoring procedures: | - Compur - KITA-113 SB(C) (549 368) | | |
| BMGV: --- | Other information: --- | | |

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

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---|---|---|---|---|---|---|
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 699 | mg/kg bw/day | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 608 | mg/m3 | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 699 | mg/kg bw/day | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 773 | mg/kg bw/day | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 300 | mg/kg bw/day | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 2035 | mg/m3 | |

| Methyl salicylate | | | | | | |
|---|---|---|---|---|---|---|
| **Area of application** | **Exposure route / Environmental compartment** | **Effect on health** | **Descriptor** | **Value** | **Unit** | **Note** |
| | Environment - freshwater | | PNEC | 20 | µg/l | |
| | Environment - marine | | PNEC | 2 | µg/l | |
| | Environment - sewage treatment plant | | PNEC | 140 | mg/l | |
| | Environment - soil | | PNEC | 0,35 | mg/kg dw | |
| | Environment - sediment, freshwater | | PNEC | 0,52 | mg/kg dw | |
| | Environment - sediment, marine | | PNEC | 0,052 | mg/kg dw | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 4 | mg/m3 | |
| Consumer | Human - inhalation | Short term, local effects | DNEL | 213 | mg/m3 | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 3 | mg/kg bw/day | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 1 | mg/kg bw/day | |
| Consumer | Human - oral | Short term, local effects | DNEL | 5 | mg/kg bw/day | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 17,5 | mg/m3 | |
| Workers / employees | Human - inhalation | Short term, systemic effects | DNEL | 285 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 6 | mg/kg bw/day | |

GB - United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/CE, 2017/164/EU). (9) = Respirable fraction (2004/37/CE, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). |
| WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 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 (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
| Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE). |

## 8.2 Exposure controls

### 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. EN 14042.
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:
Protective nitrile gloves (EN ISO 374).
Minimum layer thickness in mm:
>= 0,4
Permeation time (penetration time) in minutes:
>= 480
Protective hand cream recommended.
The breakthrough times determined in accordance with EN 16523-1 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:
If OES or MEL is exceeded.
Filter A P2 (EN 14387), code colour brown, white
Observe wearing time limitations for respiratory protection equipment.

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.
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: | Light brown |
| Odour: | Odourless |
| Melting point/freezing point: | There is no information available on this parameter. |
| Boiling point or initial boiling point and boiling range: | There is no information available on this parameter. |
| Flammability: | Does not apply to aerosols. |
| Lower explosion limit: | There is no information available on this parameter. |
| Upper explosion limit: | There is no information available on this parameter. |
| Flash point: | -60 °C (The flash-point of the mixture was not tested, but complies with the ingredient with the lowest value. ) |
| Auto-ignition temperature: | Does not apply to aerosols. |
| Decomposition temperature: | There is no information available on this parameter. |
| pH: | Mixture is non-soluble (in water). |
| Kinematic viscosity: | Does not apply to aerosols. |
| Solubility: | Insoluble |
| Partition coefficient n-octanol/water (log value): | Does not apply to mixtures. |
| Vapour pressure: | 3800 hPa |
| Density and/or relative density: | ~0,60 g/cm3 (estimated ) |
| Density and/or relative density: | 0,71 g/ml (Active substance ) |
| Relative vapour density: | Does not apply to aerosols. |

Particle characteristics: Does not apply to aerosols.

### 9.2 Other information
No information available at present.

## 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 oxidizing agents.

### 10.6 Hazardous decomposition products
No decomposition when used as directed.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Possibly more information on health effects, see Section 2.1 (classification).

| **Ceramic Rust Solvent with freeze-shock effect** | | | | | | |
|---|---|---|---|---|---|---|
| **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. |

| **Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | >5840 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >2800-3100 | mg/kg | Rat | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | LC50 | >20 | mg/l/4h | Rat | OECD 403 (Acute Inhalation Toxicity) | Vapours |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Skin Irrit. 2 |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Mild irritant (Analogous conclusion) |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | No (skin contact) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Analogous conclusion, Negative |
| Carcinogenicity: | | | | | | Negative |
| Reproductive toxicity: | | | | | OECD 414 (Prenatal Developmental Toxicity Study) | Analogous conclusion, Negative |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | May cause drowsiness or dizziness., STOT SE 3, H336 |
| Aspiration hazard: | | | | | | Yes |
| Symptoms: | | | | | | drowsiness, unconsciousness, heart/circulatory disorders, headaches, cramps, drowsiness, mucous membrane irritation, dizziness, nausea and vomiting. |

**Methyl salicylate**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | ATE | 890 | mg/kg | | | |
| Acute toxicity, by dermal route: | LD50 | >5000 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Not irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 491 (Short-time Exposure ... Chemicals Causing Eye Dam., Chem. Not Requir. Eye Dam. or Irrit.) | Eye Dam. 1 |
| Symptoms: | | | | | | acidosis, respiratory distress, annoyance, blisters, heart/circulatory disorders, coughing, cramps, stomach pain, intoxication, mucous membrane irritation, pain in chest, sweats, dizziness, visual disturbances, nausea and vomiting. |

**Butane**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by inhalation: | LC50 | 658 | mg/l/4h | Rat | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |
| Germ cell mutagenicity: | | | | Human being | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |
| Germ cell mutagenicity: | | | | Rat | OECD 474 (Mammalian Erythrocyte Micronucleus Test) | Negative |
| Aspiration hazard: | | | | | | No |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | NOAEC | 21,394 | mg/l | Rat | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |
| Symptoms: | | | | | | ataxia, breathing difficulties, drowsiness, unconsciousness, frostbite, disturbed heart rhythm, headaches, cramps, intoxication, dizziness, nausea and vomiting. |

**Propane**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by inhalation: | LC50 | 658 | mg/l/4h | Rat | | |
| Acute toxicity, by inhalation: | LC50 | 260000 | ppmV/4h | Rat | | Gasses, Male, Analogous conclusion |
| Skin corrosion/irritation: | | | | | | Not irritant |
| Serious eye damage/irritation: | | | | | | Not irritant |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Reproductive toxicity (Developmental toxicity): | NOAEC | 21,641 | mg/l | | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |
| Aspiration hazard: | | | | | | No |
| Symptoms: | | | | | | breathing difficulties, unconsciousness, frostbite, headaches, cramps, mucous membrane irritation, dizziness, nausea and vomiting. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | NOAEL | 7,214 | mg/l | Rat | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | LOAEL | 21,641 | mg/l | Rat | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |

| **Isobutane** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by inhalation: | LC50 | 658 | mg/l/4h | Rat | | |
| Acute toxicity, by inhalation: | LC50 | 260000 | ppmV/4h | Rat | | Gasses, Male |
| Serious eye damage/irritation: | | | | Rabbit | | Not irritant |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Aspiration hazard: | | | | | | No |
| Symptoms: | | | | | | unconsciousness, frostbite, headaches, cramps, dizziness, nausea and vomiting. |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | NOAEL | 21,394 | mg/l | Rat | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |

## 11.2. Information on other hazards

| **Ceramic Rust Solvent with freeze-shock effect** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Endocrine disrupting properties: | | | | | | Does not apply to mixtures. |
| Other information: | | | | | | No other relevant information available on adverse effects on health. |

# SECTION 12: Ecological information

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

| **Ceramic Rust Solvent with freeze-shock effect** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **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: | | | | | | | n.d.a. |
| 12.5. Results of PBT and vPvB assessment | | | | | | | n.d.a. |
| 12.6. Endocrine disrupting properties: | | | | | | | Does not apply to mixtures. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12.7. Other adverse effects: | | | | | | | No information available on other adverse effects on the environment. |
| Other information: | | | | | | | DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a. |
| Other information: | AOX | | | % | | | According to the recipe, contains no AOX. |

| **Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | NOEC/NOEL | 28d | 2,045 | mg/l | Oncorhynchus mykiss | | |
| 12.1. Toxicity to fish: | NOELR | 28d | 2,04 | mg/l | Salmo gairdneri | | |
| 12.1. Toxicity to fish: | LC50 | 96h | 11,4 | mg/l | Oncorhynchus mykiss | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to fish: | LL50 | 96h | 11,4 | mg/l | Salmo gairdneri | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | 3 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to daphnia: | NOELR | 48h | 2,1 | mg/l | Daphnia magna | | |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 21d | 0,17 | mg/l | Daphnia magna | OECD 211 (Daphnia magna Reproduction Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | 30-100 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | 28d | 81 | % | | OECD 301 F (Ready Biodegradability - Manometric Respirometry Test) | Readily biodegradable |
| 12.3. Bioaccumulative potential: | | | | | | | Concentration in organisms possible. |
| 12.3. Bioaccumulative potential: | BCF | | 242-253 | | | | |
| 12.4. Mobility in soil: | | | | | | | Adsorption in ground., Product is slightly volatile. |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Other information: | AOX | | 0 | % | | | |

| **Methyl salicylate** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC50 | 96h | 19,8 | mg/l | Pimephales promelas | OECD 203 (Fish, Acute Toxicity Test) | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to daphnia: | EC50 | 48h | 870 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | Analogous conclusion |
| 12.1. Toxicity to daphnia: | EC50 | 48h | 28 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | Analogous conclusion |
| 12.1. Toxicity to algae: | EC50 | 72h | 27 | mg/l | Desmodesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.1. Toxicity to algae: | NOEC/NOEL | 72h | 0,79 | mg/l | Desmodesmus subspicatus | Regulation (EC) 440/2008 C.3 (FRESHWATER ALGAE AND CYANOBACTERIA, GROWTH INHIBITION TEST) | |
| 12.2. Persistence and degradability: | DOC | 28d | 98,4 | % | | | Readily biodegradable |
| 12.3. Bioaccumulative potential: | Log Pow | | 2,5 | | | | |
| 12.4. Mobility in soil: | Log Koc | | 2,346 | | | | |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | EC50 | 16h | 380 | mg/l | Pseudomonas putida | | |

**Butane**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to fish: | LC50 | 96h | 24,11 | mg/l | | QSAR | |
| 12.1. Toxicity to daphnia: | LC50 | 48h | 14,22 | mg/l | | QSAR | |
| 12.3. Bioaccumulative potential: | Log Pow | | 2,98 | | | | A notable biological accumulation potential is not to be expected (LogPow 1-3). |
| 12.4. Mobility in soil: | | | | | | | Not to be expected |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |

**Propane**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| 12.3. Bioaccumulative potential: | Log Pow | | 2,28 | | | | A notable biological accumulation potential is not to be expected (LogPow 1-3). |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |

**Isobutane**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to fish: | LC50 | 96h | 27,98 | mg/l | | | |
| 12.1. Toxicity to algae: | EC50 | 96h | 7,71 | mg/l | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12.2. Persistence and degradability: | | | | | | | Readily biodegradable |
| 12.3. Bioaccumulative potential: | | | | | | | A notable biological accumulation potential is not to be expected (LogPow 1-3). |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |

## 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.
Recommendation:
Do not perforate, cut up or weld uncleaned container.
15 01 04 metallic packaging

## SECTION 14: Transport information

### General statements
### Transport by road/by rail (ADR/RID)
14.1. UN number or ID number: 1950
14.2. UN proper shipping name:
UN 1950 AEROSOLS

14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
14.5. Environmental hazards: Not applicable
Tunnel restriction code: D
Classification code: 5F
LQ: 1 L
Transport category: 2
### Transport by sea (IMDG-code)
14.1. UN number or ID number: 1950
14.2. UN proper shipping name:
UN 1950 AEROSOLS

14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
14.5. Environmental hazards: Not applicable
Marine Pollutant: Not applicable
EmS: F-D, S-U
### Transport by air (IATA)
14.1. UN number or ID number: 1950
14.2. UN proper shipping name:
UN 1950 Aerosols, flammable

14.3. Transport hazard class(es): 2.1

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. Maritime transport in bulk according to IMO instruments

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

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

Observe restrictions:
Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!
Regulation (EC) No 1907/2006, Annex XVII
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane
Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

| Hazard categories | Notes to Annex I | Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements | Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements |
|---|---|---|---|
| P3a | 11.1 | 150 (netto) | 500 (netto) |

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 2 - This product contains the substances listed below:

| Entry Nr | Dangerous substances | Notes to Annex I | Qualifying quantity (tonnes) for the application of - Lower-tier requirements | Qualifying quantity (tonnes) for the application of - Upper-tier requirements |
|---|---|---|---|---|
| 18 | Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas | 19 | 50 | 200 |

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): ~ 98,3 %

### REGULATION (EC) No 648/2004

30 % and more
aliphatic hydrocarbons

METHYL SALICYLATE

National rules/regulation for the compliance with maximum quantities with regard to phosphates and or phosphorous compounds must be observed and complied with.

Observe incident regulations.

National requirements/regulations on safety and health protection must be applied when using work equipment.

### 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

## SECTION 16: Other information

Revised sections: 2
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 |
|---|---|
| Skin Irrit. 2, H315 | Classification according to calculation procedure. |
| Asp. Tox. 1, H304 | Classification according to calculation procedure. |
| STOT SE 3, H336 | Classification according to calculation procedure. |
| Aquatic Chronic 3, H412 | Classification according to calculation procedure. |
| Aerosol 1, H222 | Classification according to calculation procedure. |
| Aerosol 1, H229 | Classification based on the form or physical state. |

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.
H361d Suspected of damaging the unborn child.
H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Skin Irrit. — Skin irritation
Asp. Tox. — Aspiration hazard
STOT SE — Specific target organ toxicity - single exposure - narcotic effects
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Aerosol — Aerosols
Flam. Liq. — Flammable liquid
Acute Tox. — Acute toxicity - oral
Eye Dam. — Serious eye damage
Skin Sens. — Skin sensitization
Repr. — Reproductive toxicity

### Key literature references and sources for data:
Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.
Guidelines for the preparation of safety data sheets as amended (ECHA).
Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).
Safety data sheets for the constituent substances.
ECHA Homepage - Information about chemicals.
GESTIS Substance Database (Germany).
German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).
EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.
National Lists of Occupational Exposure Limits for each country as amended.
Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

## Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ASTM ASTM International (American Society for Testing and Materials)
ATE Acute Toxicity Estimate
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
BSEF The International Bromine Council
CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)
EC European Community
ECHA European Chemicals Agency
ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect
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)
ErCx, EμCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)
etc. et cetera
EU European Union
EVAL Ethylene-vinyl alcohol copolymer
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
Koc Adsorption coefficient of organic carbon in the soil
Kow octanol-water partition coefficient
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC (Code) International Bulk Chemical (Code)
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform Chemical Information Database
IUPAC International Union for Pure Applied Chemistry
LC50 Lethal Concentration to 50 % of a test population
LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
Log Koc Logarithm of adsorption coefficient of organic carbon in the soil
Log Kow, Log Pow Logarithm of octanol-water partition coefficient
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
mg/kg bw mg/kg body weight
mg/kg bw/d, mg/kg bw/day mg/kg body weight/day
mg/kg dw mg/kg dry weight
mg/kg wwt mg/kg wet weight
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute for Occupational Safety and Health (USA)
NLP No-longer-Polymer
NOEC, NOEL No Observed Effect Concentration/Level
OECD Organisation for Economic Co-operation and Development

org. organic
OSHA Occupational Safety and Health Administration (USA)
PBT persistent, bioaccumulative and toxic
PE Polyethylene
PNEC Predicted No Effect Concentration
ppm parts per million
PVC Polyvinylchloride
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. 6/7/8/9xx-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)
SVHC Substances of Very High Concern
Tel. Telephone
TOC Total organic carbon
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative

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:
**Chemical Check GmbH, Chemical Check Platz 1-7, D-32839 Steinheim, Tel.: +49 5233 94 17 0, Fax: +49 5233 94 17 90**

© by Chemical Check GmbH Gefahrstoffberatung. The copying or changing of this document is forbidden except with consent of the Chemical Check GmbH Gefahrstoffberatung.