

Page 1 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

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

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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:

Anti-freeze 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 mixtureClassification according to Regulation (EC) 1272/2008 (CLP)Hazard classHazard categoryHazard statement

Flam. Liq. Eye Irrit. 2 2 Hazard statement H225-Highly flammable liquid and vapour. H319-Causes serious eye irritation.

2.2 Label elements Labeling according to Regulation (EC) 1272/2008 (CLP)





Page 2 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

H225-Highly flammable liquid and vapour. H319-Causes serious eye irritation.

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. P233-Keep container tightly closed. P280-Wear eye protection.

P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313-If eye irritation persists: Get medical advice / attention.

P501-Dispose of contents / container to an approved waste disposal facility.

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 %).

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

SECTION 3: Composition/information on ingredients

3.1 Substances

n.a. **3.2 Mixtures**

| Alcohol | |
|--|----------------------------|
| Ethanol | |
| Registration number (REACH) | |
| Index | 603-002-00-5 |
| EINECS, ELINCS, NLP, REACH-IT List-No. | 200-578-6 |
| CAS | 64-17-5 |
| content % | 80-90 |
| Classification according to Regulation (EC) 1272/2008 (CLP), M-factors | Flam. Liq. 2, H225 |
| | Eye Irrit. 2, H319 |
| Specific Concentration Limits and ATE | Eye Irrit. 2, H319: >=50 % |

Glycol

Aromatics Dyes

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.

Keep Data Sheet available.

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.



Page 3 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

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

Ingestion Rinse the mouth thoroughly with water.

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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. The following may occur: Irritation of the eyes Headaches Dizziness Narcotic effect. Effects/damages the central nervous system Ingestion of large quantities: Nausea Vomiting With long-term contact: Product removes fat. Dermatitis (skin inflammation) Irritation of the skin. 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 Extinction powder Water jet spray Large fire: Water jet spray / alcohol resistant foam Pressure increase will result in danger of bursting.

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

Explosive vapour/air or gas/air mixtures.

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.

Remove possible causes of ignition - do not smoke.

Ensure sufficient supply of air.

Avoid inhalation, and contact with eyes or skin.



Page 4 of 15

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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Do not pour down the drain undiluted.

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.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent) and dispose of according to Section 13. Flush residue using copious water.

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.

Suction measures at the workplace or on the processing machines required.

Keep away from sources of ignition - Do not smoke.

Take precautions against electrostatic charges.

Do not use on hot surfaces.

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.

Observe special storage conditions.

Store product closed and only in original packing.

Not to be stored in gangways or stair wells.

Do not store with flammable or self-igniting materials.

Solvent resistant floor

Store cool.

Protect from direct sunlight and warming. 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 %:80-90 |
|------------------------------|--|------------------------------|
| WEL-TWA: 1000 ppm (1920 mg/m | 3) WEL-STEL: | |
| Monitoring procedures: | Draeger - Alcohol 25/a Ethanol (81 01 631) | |
| | Compur - KITA-104 SA (549 210) | |
| | DFG (D) (Loesungsmittelgemische), Methode Nr. 6 DFG (E |) (Solvent mixtures) - 2013, |
| | 2002 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2 | 2004) |
| | DFG Meth. Nr. 2 (D) (Loesungsmittelgemische) - 2013 - EU | project |
| | BC/CEN/ENTR/000/2002-16 card 63-2 (2004) | |
| | | |



Page 5 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

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| DFG Meth. Nr. 3 (D) (Loesungsmittelgemische) - 2013 - EU project | | | | | | | | |
|--|---------------------------|----------------------------|--------------------|--|------------|--|--|--|
| - BC/CEN/ENTR/000/2002-16 card 63-2 (2004) | | | | | | | | |
| BMGV: | GV: Other information: | | | | | | | |
| Chemical Name | Propane-1,2-diol | | | | Content %: | | | |
| WEL-TWA: 150 ppm (474 r | ng/m3) (total, vapour and | WEL-STEL: | | | | | | |
| particulates), 10 mg/m3 (parti | iculates) | | | | | | | |
| Monitoring procedures: | - [| Draeger - Alcohol 100/a (C | H 29 701) | | | | | |
| BMGV: | | | Other information: | | | | | |
| | | | | | | | | |

| Ethanol | | 1 | | | 1 | |
|---------------------|--|--------------------------------|------------|-------|---------------------|------|
| Area of application | Exposure route / Environmental | Effect on health | Descriptor | Value | Unit | Note |
| | compartment | | | | | |
| | 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 | 0,38 | g/kg feed | |
| | Environment - sediment, marine | | PNEC | 2,9 | mg/kg dry weight | |
| Consumer | Human - dermal | Short term, local effects | DNEL | 950 | mg/m3 | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 114 | mg/m3 | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 87 | mg/kg | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 206 | mg/kg bw/d | |
| Consumer | Human - inhalation | Short term, local effects | DNEL | 950 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 343 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 950 | mg/m3 | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 1900 | mg/m3 | |

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---------------------|--|------------------|------------|-------|----------|------|
| | Environment - freshwater | | PNEC | 260 | mg/l | |
| | Environment - marine | | PNEC | 26 | mg/l | |
| | Environment - sewage treatment plant | | PNEC | 20000 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 572 | mg/kg dw | |
| | Environment - sediment, marine | | PNEC | 57,2 | mg/kg dw | |
| | Environment - soil | | PNEC | 50 | mg/kg dw | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 183 | mg/l | |



Page 6 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

| Consumer | Human - dermal | Long term, systemic effects | DNEL | 213 | mg/kg | |
|---------------------|--------------------|--------------------------------|------|-----|-------|--|
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 50 | mg/m3 | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 85 | mg/kg | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 10 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 168 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 10 | mg/m3 | |

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 (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 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 (Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).

(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/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, 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. (13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 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:

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Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection: Solvent resistant protective gloves (EN ISO 374). If applicable Protective gloves made of butyl (EN ISO 374). Minimum layer thickness in mm: 0,7 Permeation time (penetration time) in minutes: > 480 Protective Neoprene® / polychloroprene gloves (EN ISO 374). Protective Neoprene® / polychloroprene gloves (EN ISO 374). Protective PVC gloves (EN ISO 374). 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:



Page 7 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

If OES or MEL is exceeded. Gas mask filter A (EN 14387), code colour brown With long-term contact: Respiratory protection appliance (insulation device) (e.g. EN 137 or EN 138) Observe wearing time limitations for respiratory protection equipment.

Thermal hazards: Not applicable

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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

| straine internation on basic physical and enemiear p | noper lies |
|---|--|
| Physical state: | Liquid |
| Colour: | Blue |
| Odour: | Alcoholic |
| Melting point/freezing point: | There is no information available on this parameter. |
| Boiling point or initial boiling point and boiling range: | 78 °C |
| Flammability: | Flammable |
| Lower explosion limit: | 3,5 Vol-% |
| Upper explosion limit: | 15 Vol-% |
| Flash point: | 13 °C |
| Auto-ignition temperature: | 371 °C |
| Decomposition temperature: | There is no information available on this parameter. |
| pH: | 5,8 (20°C) |
| Kinematic viscosity: | There is no information available on this parameter. |
| Solubility: | Mixable |
| Partition coefficient n-octanol/water (log value): | Does not apply to mixtures. |
| Vapour pressure: | 59 hPa (20°C) |
| Density and/or relative density: | 0,831 g/ml (20°C) |
| Relative vapour density: | There is no information available on this parameter. |
| Particle characteristics: | Does not apply to liquids. |
| 9.2 Other information | |
| Explosives: | Product is not explosive. When using: development of explosive |
| | vapour/air mixture possible. |
| Oxidising liquids: | No |
| Bulk density: | n.a. |
| Solvents content: | 96,1 % |
| | 00,1 /0 |

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 decomposition if used as intended. **10.4 Conditions to avoid** See also section 7. Heating, open flame, ignition sources



Page 8 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

Electrostatic charge **10.5 Incompatible materials**

See also section 7. Avoid contact with strong oxidizing agents. Avoid contact with strong acids.

10.6 Hazardous decomposition products

See also section 5.2

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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).

| 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 | | | | | | n.d.a. |
| sensitisation: | | | | | | |
| Germ cell mutagenicity: | | | | | | n.d.a. |
| Carcinogenicity: | | | | | | n.d.a. |
| Reproductive toxicity: | | | | | | n.d.a. |
| Specific target organ toxicity - | | | | | | n.d.a. |
| single exposure (STOT-SE): | | | | | | |
| Specific target organ toxicity - | | | | | | n.d.a. |
| repeated exposure (STOT-RE): | | | | | | |
| Aspiration hazard: | | | | | | n.d.a. |
| Symptoms: | | | | | | n.d.a. |

| 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 | 51-124,7 | mg/l/4h | Rat | OECD 403 (Acute | Vapours |
| | | | | | Inhalation Toxicity) | |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute | Not irritant |
| | | | | | Dermal | |
| | | | | | Irritation/Corrosion) | |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye | Irritant |
| | | | | | Irritation/Corrosion) | |
| Respiratory or skin | | | | Mouse | OECD 429 (Skin | No (skin contact) |
| sensitisation: | | | | | Sensitisation - Local | |
| | | | | | Lymph Node Assay) | |
| Germ cell mutagenicity: | | | | Salmonella | OECD 471 (Bacterial | Negative |
| | | | | typhimurium | Reverse Mutation Test) | |
| Germ cell mutagenicity: | | | | Mouse | OECD 476 (In Vitro | Negative |
| | | | | | Mammalian Cell Gene | |
| | | | | | Mutation Test) | |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro | Negative |
| | | | | | Mammalian | |
| | | | | | Chromosome | |
| | | | | | Aberration Test) | |
| Germ cell mutagenicity: | | | | | OECD 475 (Mammalian | Negative |
| | | | | | Bone Marrow | |
| | | | | | Chromosome | |
| | | | | | Aberration Test) | |
| Aspiration hazard: | | | | Human being | | No indications of |
| | | | | | | such an effect. |



B Page 9 of 15

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

| Symptoms: | | respiratory |
|-----------|--|-----------------|
| | | distress, |
| | | drowsiness, |
| | | unconsciousness |
| | | , drop in blood |
| | | pressure, |
| | | vomiting, |
| | | coughing, |
| | | headaches, |
| | | intoxication, |
| | | drowsiness, |
| | | mucous |
| | | membrane |
| | | irritation, |
| | | dizziness, |
| | | nausea |

| Propane-1,2-diol | | | | | | |
|------------------------------------|----------|--------|---------|------------|--|-------------------|
| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
| Acute toxicity, by oral route: | LD50 | >20000 | mg/kg | Rat | | |
| Acute toxicity, by dermal route: | LD50 | >2000 | mg/kg | Rabbit | | |
| Acute toxicity, by inhalation: | LC50 | >20 | mg/l/4h | Rabbit | | Vapours |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute | Not irritant |
| | | | | | Dermal Irritation/Corrosion) | |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Not irritant |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | Not sensitizising |
| Germ cell mutagenicity: | | | | | in vitro | Negative |

11.2. Information on other hazards

| Scheibenenteiser | | | | | | |
|----------------------------------|----------|-------|------|----------|-------------|-----------------|
| 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. |
| | | | | | | |
| Ethanol | | | | | | |
| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |



Page 10 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

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| Other information: | 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., |
| | Experiences on |
| | persons. |

SECTION 12: Ecological information

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

| 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 | | | | | | | n.d.a. |
| degradability: | | | | | | | |
| 12.3. Bioaccumulative | | | | | | | n.d.a. |
| potential: | | | | | | | |
| 12.4. Mobility in soil: | | | | | | | n.d.a. |
| 12.5. Results of PBT | | | | | | | n.d.a. |
| and vPvB assessment | | | | | | | |
| 12.6. Endocrine | | | | | | | Does not apply |
| disrupting properties: | | | | | | | to mixtures. |
| 12.7. Other adverse | | | | | | | No information |
| effects: | | | | | | | available on |
| | | | | | | | other adverse |
| | | | | | | | effects on the |
| | | | | | | | environment. |
| Other information: | | | | | | | According to the |
| | | | | | | | recipe, contains |
| | | | | | | | no AOX. |

| 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) | |
| 2.1. Toxicity to fish: | NOEC/NOEL | 120h | 250 | mg/l | Brachydanio rerio | OECD 212 (Fish, Short- term Toxicity Test on Embryo and Sac- fry Stages) | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | 5414 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |



Page 11 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

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| 12.1. Toxicity to daphnia: | NOEC/NOEL | 10d | 9,6 | mg/l | Ceriodaphnia spec. | | References |
|---|-----------|-----|----------------------|------|-----------------------|--|---|
| 12.1. Toxicity to algae: | EC50 | 72h | 275 | mg/l | Chlorella vulgaris | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | 28d | 97 | % | activated sludge | OECD 301 B (Ready Biodegradability - Co2 Evolution Test) | Readily biodegradable |
| 12.3. Bioaccumulative potential: | Log Pow | | (-0,35) - (-0,32) | | | | Bioaccumulatior is unlikely (LogPow < 1). |
| 12.3. Bioaccumulative potential: | BCF | | 0,66 - 3,2 | | | | |
| 12.4. Mobility in soil: | H (Henry) | | 0,00013 | | | | |
| 12.4. Mobility in soil: | Koc | | 1,0 | | | | Highestimated |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | IC50 | 3h | >1000 | mg/l | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | Analogous conclusion |
| Other organisms: | NOEC/NOEL | | 280 | mg/l | Lemna gibba | OECD 201 (Alga, Growth Inhibition Test) | |

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|--|-----------|------|-------|------|-------------------------------------|---|---|
| 12.3. Bioaccumulative potential: | Log Pow | | -1,07 | | | OECD 107 (Partition Coefficient (n- octanol/water) - Shake Flask Method) | |
| 12.5. Results of PBT and vPvB assessment | | | | | | , , | No PBT substance, No vPvB substance |
| 12.1. Toxicity to fish: | LC50 | 96h | 40613 | mg/l | Oncorhynchus mykiss | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to daphnia: | LC50 | 48h | 18340 | mg/l | Ceriodaphnia spec. | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 7d | 13020 | mg/l | Ceriodaphnia spec. | , | |
| 12.1. Toxicity to algae: | EC50 | 48h | 19000 | mg/l | Pseudokirchneriell a subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | 28d | 81,7 | % | | OECD 301 F (Ready Biodegradability - Manometric Respirometry Test) | Readily biodegradable |
| 12.3. Bioaccumulative potential: | BCF | | 0,09 | | | | valued |



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|---|---|---|----------------|------------------------|--------------------------|--|--|--|--|
| Page 12 of 15 Safety data sheet accordir Revision date / version: 01 Replacing version dated / Valid from: 01.11.2021 PDF print date: 01.11.202 | 1.11.2021 / 0012 version: 18.07.20 | | 07/2006, Ani | nex II | | | | | |
| Scheibenenteiser | | | | | | | | | |
| Toxicity to bacteria: | NOEC/NOEL | 18h | >20000 | mg/l | Pseudomonas putida | | | | |
| Other information: | COD | | 1585 | mg/g | | | | | |
| | | | | | | | | | |
| SECTION 13: Disposal considerations | | | | | | | | | |
| EC disposal code no.: The waste codes are reco Owing to the user's specifi allocated under certain cir 07 01 04 other organic sol 14 06 03 other solvents ar Recommendation: Sewage disposal shall be Pay attention to local and Implement substance recy E.g. suitable incineration p For contaminated Pay attention to local and Empty container complete Uncontaminated packaging Dispose of packaging that Residues may present a ri Recommended cleaner: | ic conditions for u cumstances. (201 vents, washing lic nd solvent mixture discouraged. national official re rcling. blant. packing ma national official re ly. g can be recycled cannot be cleane | se and disp 4/955/EU) quids and n s gulations. terial gulations. | oosal, other v | waste code: s | s may be | | | | |
| Water | | SECTI | ON 14.7 | Francha | rt information | | | | |
| | | SECH | UN 14. | ranspo | ort information | | | | |
| General statemen 14.1. UN number or ID nu | mber: | | | 1170 |) | | | | |
| Transport by road 14.2. UN proper shipping I UN 1170 ETHANOL SOL 14.3. Transport hazard cla 14.4. Packing group: Classification code: LQ: 14.5. Environmental hazar | name: LUTION ass(es): | (שואיק | | 3 F1 1 L | applicable | | | | |
| Tunnel restriction code: Transport by sea (14.2. UN proper shipping 1 ETHANOL SOLUTION 14.3. Transport hazard cla 14.4. Packing group: EmS: Marine Pollutant: | (IMDG-code) name: |) | | 3 II F-E, n.a | | | | | |
| 14.5. Environmental hazar Transport by air (I 14.2. UN proper shipping to Ethanol solution 14.3. Transport hazard cla 14.4. Packing group: 14.5. Environmental hazar 14.6. Special prec | ATA) name: nss(es): rds: | ISPL | | 3 | applicable 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.



Page 13 of 15

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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

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)! 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 | Qualifying quantity (tonnes) of |
|-------------------|------------------|--------------------------------------|--------------------------------------|
| | | dangerous substances as | dangerous substances as |
| | | referred to in Article 3(10) for the | referred to in Article 3(10) for the |
| | | application of - Lower-tier | application of - Upper-tier |
| | | requirements | requirements |
| P5c | | 5000 | 50000 |

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):

REGULATION (EC) No 648/2004 perfumes

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15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

1-16

Revised sections: 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 |
|--|--|
| Flam. Liq. 2, H225 | Classification based on test data. |
| Eye Irrit. 2, H319 | 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. H319 Causes serious eye irritation.

Flam. Liq. — Flammable liquid Eye Irrit. — Eye irritation

Key literature references and sources for data:

~ 96 %



Page 14 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser

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).

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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:

according, according to acc., acc. to Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the ADR 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) Acute Toxicity Estimate ATE 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 body weight bw 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 dw dry weight for example (abbreviation of Latin 'exempli gratia'), for instance e.a. EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants) European Community EC 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 European List of Notified Chemical Substances ELINCS European Norms FN EPA United States Environmental Protection Agency (United States of America) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants) ErCx, $E\mu Cx$, ErLx (x = 10, 50) etc. et cetera EU **European Union** EVAL Ethylene-vinyl alcohol copolymer Fax. Fax number general gen. GHS Globally Harmonized System of Classification and Labelling of Chemicals GWP Global warming potential Adsorption coefficient of organic carbon in the soil Koc octanol-water partition coefficient Kow International Agency for Research on Cancer IARC IATA International Air Transport Association IBC (Code) International Bulk Chemical (Code) International Maritime Code for Dangerous Goods IMDG-code including, inclusive incl. IUCLID International Uniform Chemical Information Database IUPAC International Union for Pure Applied Chemistry LC50 Lethal Concentration to 50 % of a test population



ആ Page 15 of 15 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 01.11.2021 / 0012 Replacing version dated / version: 18.07.2019 / 0011 Valid from: 01.11.2021 PDF print date: 01.11.2021 Scheibenenteiser LD50 Lethal Dose to 50% of a test population (Median Lethal Dose) Logarithm of adsorption coefficient of organic carbon in the soil Log Koc Log Kow, Log Pow Logarithm of octanol-water partition coefficient Limited Quantities 10 MARPOL International Convention for the Prevention of Marine Pollution from Ships not applicable n.a. n.av. not available not checked n.c. n.d.a. no data available NIOSH National Institute for Occupational Safety and Health (USA) No-longer-Polymer NLP NOEC, NOEL No Observed Effect Concentration/Level OECD Organisation for Economic Co-operation and Development organic org. OSHA Occupational Safety and Health Administration (USA) PBT persistent, bioaccumulative and toxic PF Polyethylene PNEC Predicted No Effect Concentration ppm parts per million Polyvinylchloride PVC REACHRegistration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals) 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List **REACH-IT List-No.** Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT. Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International RID Carriage of Dangerous Goods by Rail) SVHC Substances of Very High Concern Telephone Tel. Total organic carbon TOC UN RTDG United Nations Recommendations on the Transport of Dangerous Goods Volatile organic compounds VOC vPvB very persistent and very bioaccumulative wet weight wwt

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

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