# 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

## Screenwash Anti-freeze R539
## 25 l Art.: 6160 0144, Art.: 6164 0144

### 1.2 Relevant identified uses of the substance or mixture and uses advised against
**Relevant identified uses of the substance or mixture:**
Solvent
**Uses advised against:**
No information available at present.

### 1.3 Details of the supplier of the safety data sheet
Theo Förch GmbH & Co. KG
Theo-Förch-Str. 11 – 15
74196 Neuenstadt
Tel.: 07139/95-0
Fax: 07139/95-199
Email: info@foerch.de
Homepage: www.foerch.com

Details of the supplier of the safety data sheet see section 16 of this safety data sheet.

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:**
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**Telephone number of the company in case of emergencies:**
+49 (0) 700 / 24 112 112 (TFC)

## 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 |
|---|---|---|
| Flam. Liq. | 3 | H226-Flammable liquid and vapour. |
| Eye Irrit. | 2 | H319-Causes serious eye irritation. |

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

Warning

H226-Flammable liquid and vapour. H319-Causes serious eye irritation.

P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280-Wear eye protection.
P337+P313-If eye irritation persists: Get medical advice / attention.

## 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 %).
Dangerous vapours
In case of spreading near the ground, flashback to distance sources of ignition is possible.

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

n.a.

## 3.2 Mixtures

| **Ethanol** | |
|---|---|
| **Registration number (REACH)** | 01-2119457610-43-XXXX |
| **Index** | 603-002-00-5 |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 200-578-6 |
| **CAS** | 64-17-5 |
| **content %** | 50-70 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319 |
| **Specific Concentration Limits and ATE** | Eye Irrit. 2, H319: >=50 % |

| **Ethanediol** | **Substance for which an EU exposure limit value applies.** |
|---|---|
| **Registration number (REACH)** | --- |
| **Index** | 603-027-00-1 |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 203-473-3 |
| **CAS** | 107-21-1 |
| **content %** | 1-<25 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Acute Tox. 4, H302 |

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

# SECTION 4: First aid measures

## 4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

### Inhalation
Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.
If the person is unconscious, place in a stable side position and consult a doctor.
Respiratory arrest - Artificial respiration apparatus necessary.

### Skin contact
Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult 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.
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
Irritation of the skin.
Drying 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
Water jet spray / alcohol resistant 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 pyrolysis products.
Explosive vapour/air or gas/air mixtures.
Oxides of sulphur

### 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.
If applicable, caution - risk of slipping.

### 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.
Prevent surface and ground-water infiltration, as well as ground penetration.
Do not pour down the drain undiluted.
If accidental entry into drainage system occurs, inform responsible authorities.

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

### 6.4 Reference to other sections
For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

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

### 7.1 Precautions for safe handling

### 7.1.1 General recommendations
Ensure good ventilation.
Avoid inhalation of the vapours.
Keep away from sources of ignition - Do not smoke.
Take precautions against electrostatic charges.
Electrical equipment must be suitable for temperature class T 2 (Germany).
Use explosion-proof equipment.
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.
Do not store with oxidizing agents.
Observe special storage conditions.
Store in a well ventilated place.
Protect from direct sunlight and warming.
Store cool.

### 7.3 Specific end use(s)
No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

| GB **Chemical Name** | Ethanol | | Content %:50-70 |
|---|---|---|---|
| WEL-TWA: 1000 ppm (1920 mg/m3) | | WEL-STEL: --- | --- |
| Monitoring procedures: | - Draeger - Alcohol 25/a Ethanol (81 01 631)<br>- Compur - KITA-104 SA (549 210)<br>DFG (D) (Loesungsmittelgemische), Methode Nr. 6 DFG (E) (Solvent mixtures) - 2013,<br>- 2002 - EU project BC/CEN/ENTR/000/2002-16 card 63-2 (2004)<br>DFG Meth. Nr. 2 (D) (Loesungsmittelgemische) - 2013 - EU project<br>- BC/CEN/ENTR/000/2002-16 card 63-2 (2004)<br>DFG Meth. Nr. 3 (D) (Loesungsmittelgemische) - 2013 - EU project<br>- BC/CEN/ENTR/000/2002-16 card 63-2 (2004) | | |
| BMGV: --- | | Other information: --- | |

| GB **Chemical Name** | Ethanediol | Content %:1-<25 |
|---|---|---|
| WEL-TWA: 10 mg/m3 (particulate), 52 mg/m3 (vapour) (WEL), 20 ppm (52 mg/m3) (EU) | WEL-STEL: 104 mg/m3 (vapour) (WEL), 40 ppm (104 mg/m3) (EU) | --- |

| | |
|---|---|
| Monitoring procedures: | - Draeger - Ethylene Glycol 10 (5) (81 01 351)<br>- Compur - KITA-232 SA (502 342)<br>- Compur - KITA-232 SB (550 267)<br>- NIOSH 5500 (ETHYLENE GLYCOL) - 1993<br>- NIOSH 5523 (GLYCOLS) - 1996<br>OSHA PV2024 (Ethylene glycol) - 1999 - EU project BC/CEN/ENTR/000/2002-16 card<br>- 11-2 (2004)<br>- Draeger - Alcohol 100/a (CH 29 701) |
| BMGV: --- | Other information: Sk (particulate, vapour) |

**Ethanol**

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---|---|---|---|---|---|---|
| | Environment - freshwater | | PNEC | 0,96 | mg/l | |
| | Environment - marine | | PNEC | 0,79 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 2,75 | mg/l | |
| | Environment - sewage treatment plant | | PNEC | 580 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 3,6 | mg/kg | |
| | Environment - soil | | PNEC | 0,63 | mg/kg dry weight | |
| | Environment - oral (animal feed) | | PNEC | 0,38 | 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 | |

**Ethanediol**

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---|---|---|---|---|---|---|
| | Environment - freshwater | | PNEC | 10 | mg/l | |
| | Environment - marine | | PNEC | 1 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 37 | mg/kg dry weight | |
| | Environment - sediment, marine | | PNEC | 3,7 | mg/kg dry weight | |
| | Environment - soil | | PNEC | 1,53 | mg/kg dry weight | |
| | Environment - sewage treatment plant | | PNEC | 199,5 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 10 | mg/l | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 53 | mg/kg bw/d | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 7 | mg/kg bw/d | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 106 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 35 | mg/m3 | |

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

Skin protection - Hand protection:
Solvent resistant protective gloves (EN ISO 374).
If applicable
Protective nitrile gloves (EN ISO 374).
Minimum layer thickness in mm:
>= 0,7
Permeation time (penetration time) in minutes:
<= 480
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.
Protective hand cream recommended.

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.
Gas mask filter A (EN 14387), code colour brown
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
If applicable, these are included in the individual protective measures (eye/face protection, skin protection, respiratory protection).

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: | Liquid |
| Colour: | Blue |
| Odour: | Perfumed |
| 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: | 19 Vol-% |
| Flash point: | 23 °C |
| Auto-ignition temperature: | 460 °C |
| Decomposition temperature: | There is no information available on this parameter. |
| pH: | 7,5 (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: | There is no information available on this parameter. |
| Density and/or relative density: | <0,9 g/cm3 (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. Possible build up of explosive/highly flammable vapour/air mixture. |
| Oxidising liquids: | No |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

See also Subsection 10.2 to 10.6.
The product has not been tested.

### 10.2 Chemical stability

See also Subsection 10.1 to 10.6.
Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

See also Subsection 10.1 to 10.6.
No decomposition if used as intended.

### 10.4 Conditions to avoid

Heating, open flame, ignition sources

### 10.5 Incompatible materials

Avoid contact with strong oxidizing agents.
Avoid contact with other chemicals.

### 10.6 Hazardous decomposition products

See also Subsection 10.1 to 10.5.
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).

**Screenwash Anti-freeze R539**
**25 l Art.: 6160 0144, Art.: 6164 0144**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | ATE | >2000 | mg/kg | | | calculated value |
| Acute toxicity, by dermal route: | | | | | | n.d.a. |
| Acute toxicity, by inhalation: | | | | | | n.d.a. |
| Skin corrosion/irritation: | | | | | | n.d.a. |
| Serious eye damage/irritation: | | | | | | n.d.a. |
| Respiratory or skin sensitisation: | | | | | | n.d.a. |
| Germ cell mutagenicity: | | | | | | n.d.a. |
| Carcinogenicity: | | | | | | n.d.a. |
| Reproductive toxicity: | | | | | | n.d.a. |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | n.d.a. |
| Specific target organ toxicity - repeated exposure (STOT-RE): | | | | | | n.d.a. |
| Aspiration hazard: | | | | | | n.d.a. |
| Symptoms: | | | | | | n.d.a. |

**Ethanol**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | LD50 | 10470 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >2000 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | LC50 | 51-124,7 | mg/l/4h | Rat | OECD 403 (Acute Inhalation Toxicity) | Vapours |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Not irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Irritant |
| Respiratory or skin sensitisation: | | | | Mouse | OECD 429 (Skin Sensitisation - Local Lymph Node Assay) | No (skin contact) |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | Mouse | OECD 476 (In Vitro Mammalian Cell Gene Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 475 (Mammalian Bone Marrow Chromosome Aberration Test) | Negative |
| Aspiration hazard: | | | | Human being | | No indications of such an effect. |

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

| **Ethanediol** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | >2000 | mg/kg | Rat | IUCLID Chem. Data Sheet (ESIS) | Does not conform with EU classification. |
| Acute toxicity, by oral route: | LD50 | 1600 | mg/kg | Human being | | |
| Acute toxicity, by dermal route: | LD50 | 9530 | mg/kg | Rabbit | | |
| Acute toxicity, by inhalation: | LC50 | >2,5 | mg/l/4h | Rat | | Analogous conclusion |
| Symptoms: | | | | | | ataxia, breathing difficulties, unconsciousness, cramps, fatigue |

## 11.2. Information on other hazards

| **Screenwash Anti-freeze R539<br>25 l Art.: 6160 0144, Art.: 6164 0144** | | | | | | |
|---|---|---|---|---|---|---|
| **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** |

| | | | | | | |
|---|---|---|---|---|---|---|
| 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).

**Screenwash Anti-freeze R539**
**25 l Art.: 6160 0144, Art.: 6164 0144**

| 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: | | | | | | | The surfactant(s) contained in this mixture complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer. |
| 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: | | | | | | | According to the recipe, contains no AOX. |
| Other information: | | | | | | | DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a. |

| **Ethanol** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC50 | 96h | 13000 | mg/l | Oncorhynchus mykiss | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to 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) | |
| 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) | | | | Bioaccumulation is unlikely (LogPow < 1). |
| 12.3. Bioaccumulative potential: | BCF | | 0,66 - 3,2 | | | | |
| 12.4. Mobility in soil: | H (Henry) | | 0,000138 | | | | |
| 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) | |

| **Ethanediol** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12.2. Persistence and degradability: | | 14d | 83-96 | % | | OECD 301 C (Ready Biodegradability - Modified MITI Test (I)) | |
| 12.3. Bioaccumulative potential: | Log Pow | | -1,36 | | | | Bioaccumulation is unlikely (LogPow < 1). |
| 12.1. Toxicity to fish: | LC50 | 96h | >10000 | mg/l | Pimephales promelas | IUCLID Chem. Data Sheet (ESIS) | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | >100 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| Other information: | BOD5 | | 0,78 | g/g | | | IUCLID |
| Other information: | COD | | 1,19 | g/g | | | IUCLID |
| Other information: | ThOD | | 1,29 | g/g | | | IUCLID |
| Other information: | BOD5 | | 60 | % | | | |

## 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)
07 06 04 other organic solvents, washing liquids and mother liquors
14 06 03 other solvents and solvent mixtures
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant.
Do not dispose of with household waste.

### For contaminated packing material

Pay attention to local and national official regulations.
Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.
Do not perforate, cut up or weld uncleaned container.
Residues may present a risk of explosion.

## SECTION 14: Transport information

### General statements

14.1. UN number or ID number: 1170

### Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:
UN 1170 ETHANOL SOLUTION

14.3. Transport hazard class(es): 3
14.4. Packing group: III
Classification code: F1
LQ: 5 L
14.5. Environmental hazards: Not applicable
Tunnel restriction code: D/E

### Transport by sea (IMDG-code)

14.2. UN proper shipping name:
ETHANOL SOLUTION

14.3. Transport hazard class(es): 3
14.4. Packing group: III
EmS: F-E, S-D

Marine Pollutant: n.a
14.5. Environmental hazards: Not applicable

## Transport by air (IATA)

14.2. UN proper shipping name:
Ethanol solution

14.3. Transport hazard class(es): 3
14.4. Packing group: III
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 maternity protection (national implementation of the Directive 92/85/EEC)!
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 |
|---|---|---|---|
| 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): 54 %

## REGULATION (EC) No 648/2004

perfumes
LIMONENE
CITRAL
METHYLISOTHIAZOLINONE
BENZISOTHIAZOLINONE

## 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

# SECTION 16: Other information

Revised sections: 1-16
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. 3, H226 | 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.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.

Flam. Liq. — Flammable liquid
Eye Irrit. — Eye irritation
Acute Tox. — Acute toxicity - oral

## 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.

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## 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
bw body weight
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
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
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. 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
wwt wet weight

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

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