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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
Revision date / version: 25.03.2019 / 0022
Replacing version dated / version: 22.02.2019 / 0021
Valid from: 25.03.2019
PDF print date: 25.03.2019
Radiator Cleaner 300 ml
Art.: 21309

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

Radiator Cleaner 300 ml
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1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture:

Sector of use [SU]:

SU 3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

SU21 - Consumer uses: Private households (=general public = consumers)

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category [PC]:

PC35 - Washing and cleaning products

Process category [PROC]:

PROC 1 - Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC 2 - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC 8a - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC 8b - Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC 9 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Article Categories [AC]:

AC99 - Not required.

Environmental Release Category [ERC]:

ERC 4 - Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC 7 - Use of functional fluid at industrial site

ERC 9a - Widespread use of functional fluid (indoor)

ERC 9b - Widespread use of functional fluid (outdoor)

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

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LIQUI MOLY GmbH, Jerg-Wieland-Str. 4, 89081 Ulm-Lehr, Germany

Phone:(+49) 0731-1420-0, Fax:(+49) 0731-1420-88

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

1.4 Emergency telephone number

Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

| Hazard class | Hazard category | Hazard statement |
|--------------|-----------------|------------------|
|--------------|-----------------|------------------|

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Eye Dam. 1 H318-Causes serious eye damage.

2.2 Label elements

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



Danger

H318-Causes serious eye damage.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.

P280-Wear eye protection / face 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. P310-Immediately call a POISON CENTER / doctor.

EUH208-Contains Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.

Isotridecanol, ethoxylated
 Sulfonic acids, C14-17-sec-alkane, sodium salts

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 %).

SECTION 3: Composition/information on ingredients

3.1 Substance

n.a.

3.2 Mixture

| | |
|--|--|
| Isotridecanol, ethoxylated | |
| Registration number (REACH) | --- |
| Index | --- |
| EINECS, ELINCS, NLP | --- |
| CAS | 9043-30-5 |
| content % | 5-<10 |
| Classification according to Regulation (EC) 1272/2008 (CLP) | Acute Tox. 4, H302 Eye Dam. 1, H318 |

| | |
|--|--|
| Sulfonic acids, C14-17-sec-alkane, sodium salts | Substance with specific conc. limit(s) acc. to REACH-registration |
| Registration number (REACH) | 01-2119489924-20-XXXX |
| Index | --- |
| EINECS, ELINCS, NLP | 307-055-2 |
| CAS | 97489-15-1 |
| content % | 1-<5 |

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| | |
|--|--|
| Classification according to Regulation (EC) 1272/2008 (CLP) | Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412 |
|--|--|

| | |
|--|---|
| Morpholine | |
| Registration number (REACH) | 01-2119496057-30-XXXX |
| Index | 613-028-00-9 |
| EINECS, ELINCS, NLP | 203-815-1 |
| CAS | 110-91-8 |
| content % | 0,1-<0,25 |
| Classification according to Regulation (EC) 1272/2008 (CLP) | Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 |

| | |
|--|--|
| Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) | |
| Registration number (REACH) | --- |
| Index | 613-167-00-5 |
| EINECS, ELINCS, NLP | --- |
| CAS | 55965-84-9 |
| content % | 0,001-<0,0015 |
| Classification according to Regulation (EC) 1272/2008 (CLP) | Acute Tox. 3, H301 Acute Tox. 2, H310 Skin Corr. 1C, H314 Skin Sens. 1A, H317 Eye Dam. 1, H318 Acute Tox. 2, H330 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100) |

Impurities, test data and additional information may have been taken into account in classifying and labelling the product.
 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

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

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 - call doctor immediately, have Data Sheet available.
 Protect uninjured eye.
 Follow-up examination by an ophthalmologist.

Ingestion

Rinse the mouth thoroughly with water.
 Do not induce vomiting - 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.

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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

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Adapt to the nature and extent of fire.

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
Oxides of nitrogen
Oxides of sulphur
Toxic gases

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure sufficient supply of air.

Avoid contact with eyes or skin.

If applicable, caution - risk of slipping.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent from entering drainage system.

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

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 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

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Keep out of access to unauthorised individuals.
 Store product closed and only in original packing.
 Not to be stored in gangways or stair wells.
 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 | Morpholine | Content %:0,1- <0,25 |
|--------------------------------------|---------------------------------------|-------------------------|
| WEL-TWA: 10 ppm (36 mg/m3) (WEL, EU) | WEL-STEL: 20 ppm (72 mg/m3) (WEL, EU) | --- |
| Monitoring procedures: --- | | |
| BMGV: --- | | Other information: Sk |

| Sulfonic acids, C14-17-sec-alkane, sodium salts | | | | | | |
|---|--|-----------------------------|------------|-------|------------|------|
| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
| | Environment - freshwater | | PNEC | 0,04 | mg/l | |
| | Environment - marine | | PNEC | 0,004 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 0,06 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 9,4 | mg/kg dw | |
| | Environment - sediment, marine | | PNEC | 0,94 | mg/kg dw | |
| | Environment - soil | | PNEC | 9,4 | mg/kg dw | |
| | Environment - sewage treatment plant | | PNEC | 600 | mg/l | |
| | Environment - oral (animal feed) | | PNEC | 53,3 | mg/kg feed | |
| | Environment - periodic release | | DNEL | 0 | mg/kg | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 3,57 | mg/kg bw/d | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 12,4 | mg/m3 | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 7,1 | mg/kg bw/d | |
| Consumer | Human - dermal | Short term, local effects | DNEL | 2,8 | mg/cm2 | |
| Consumer | Human - dermal | Long term, local effects | DNEL | 2,8 | mg/cm2 | |
| Workers / employees | Human - dermal | Short term, local effects | DNEL | 2,8 | mg/cm2 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 5 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 35 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, local effects | DNEL | 2,8 | mg/cm2 | |

| Morpholine | | | | | | |
|---------------------|--|------------------|------------|-------|------|------|
| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
| | Environment - freshwater | | PNEC | 0,1 | mg/l | |

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| | | | | | | |
|---------------------|---|------------------------------|------|-------|-------------------|--|
| | Environment - marine | | PNEC | 0,01 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 1,49 | mg/kg | |
| | Environment - sediment, marine | | PNEC | 0,149 | mg/kg | |
| | Environment - sporadic (intermittent) release | | PNEC | 0,28 | mg/l | |
| | Environment - sewage treatment plant | | PNEC | 10 | mg/l | |
| Consumer | Human - oral | Short term, systemic effects | DNEL | 38 | mg/kg bw/d | |
| Consumer | Human - inhalation | Short term, local effects | DNEL | 18 | mg/m ³ | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 0,52 | mg/kg bw/day | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 45 | mg/m ³ | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 6,3 | mg/kg bw/day | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 35,8 | mg/m ³ | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 72 | mg/m ³ | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 1,04 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 91 | mg/m ³ | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 36 | mg/m ³ | |

6B WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).

(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). | 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.

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. BS EN 14042.

BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

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

Skin protection - Hand protection:

Rubber gloves (EN 374).

Protective nitrile gloves (EN 374).

Minimum layer thickness in mm:

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0,4
 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:
 Normally not necessary.

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: | Liquid |
| Colour: | Light yellow |
| Odour: | Characteristic |
| Odour threshold: | Not determined |
| pH-value: | ~8,7 |
| Melting point/freezing point: | Not determined |
| Initial boiling point and boiling range: | Not determined |
| Flash point: | >94 °C |
| Evaporation rate: | Not determined |
| Flammability (solid, gas): | Not determined |
| Lower explosive limit: | Not determined |
| Upper explosive limit: | Not determined |
| Vapour pressure: | Not determined |
| Vapour density (air = 1): | Not determined |
| Density: | 1,029 g/ml (20°C) |
| Bulk density: | Not determined |
| Solubility(ies): | Not determined |
| Water solubility: | Soluble |
| Partition coefficient (n-octanol/water): | Not determined |
| Auto-ignition temperature: | Not determined |
| Decomposition temperature: | Not determined |
| Viscosity: | Not determined |
| Explosive properties: | Not determined |
| Oxidising properties: | No |

9.2 Other information

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

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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

See also section 7.

None known

10.5 Incompatible materials

See also section 7.

Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

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| 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: | ATE | >2000 | mg/kg | | | calculated value |
| Acute toxicity, by inhalation: | ATE | >20 | mg/l/4h | | | calculated value, Vapours |
| Acute toxicity, by inhalation: | ATE | >5 | mg/l/4h | | | calculated value, Aerosol |
| 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. |

Isotridecanol, ethoxylated

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|------------------------------------|----------|-------|-------|------------|---|----------------------------------|
| Acute toxicity, by oral route: | LD50 | 500 | mg/kg | Rat | | |
| Acute toxicity, by dermal route: | LD50 | >2000 | mg/kg | Rat | OECD 402 (Acute Dermal Toxicity) | |
| Skin corrosion/irritation: | | | | Rabbit | | Not irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Intensively irritant |
| Respiratory or skin sensitisation: | | | | Guinea pig | | No (skin contact), References |
| Germ cell mutagenicity: | | | | | (Ames-Test) | Negative, References |

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| Sulfonic acids, C14-17-sec-alkane, sodium salts | | | | | | |
|---|----------|-----------|-------|------------|--|-----------------------------------|
| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
| Acute toxicity, by oral route: | LD50 | >500-2000 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >2000 | mg/kg | Mouse | | Analogous conclusion |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Skin Irrit. 2 |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Eye Dam. 1 |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | No (skin contact) |
| Germ cell mutagenicity: | | | | | | No indications of such an effect. |
| Carcinogenicity: | | | | Rat | | No indications of such an effect. |
| Reproductive toxicity: | | 200 | mg/kg | Rat | | No indications of such an effect. |
| Aspiration hazard: | | | | | | No |

| Morpholine | | | | | | |
|---|----------|-------|---------|------------|---|---|
| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
| Acute toxicity, by oral route: | LD50 | 1910 | mg/kg | Rat | | |
| Acute toxicity, by dermal route: | LD50 | 500 | mg/kg | | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | LC50 | 8 | mg/l/4h | Rat | | Vapours, Does not conform with EU classification. |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Corrosive |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Corrosive |
| Respiratory or skin sensitisation: | | | | Guinea pig | IUCLID Chem. Data Sheet (ESIS) | Not sensitizing |
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 479 (Genetic Toxicology - In Vitro Sister Chromatid Exchange assay in Mammalian Cells) | Negative |
| Germ cell mutagenicity: | | | | | OECD 482 (Gen. Tox. - DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro) | Negative |
| Carcinogenicity: | | | | Rat | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Negative |
| Specific target organ toxicity - repeated exposure (STOT-RE): | NOEC | 36 | | | OECD 452 (Chronic Toxicity Studies) | Vapours |

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| | | | | | | | |
|--|--|--|--|--|--|--|--|
| 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. Supporting documents that confirm this are kept available for the competent authorities and will be provided by a detergent manufacturer upon inquiry or demand. |
| 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. Other adverse effects: | | | | | | | n.d.a. |
| Other information: | | | | | | | According to the recipe, contains no AOX. |

| Isotridecanol, ethoxylated | | | | | | | |
|--------------------------------------|----------|------|-------|------|-------------------------|--|------------|
| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
| 12.1. Toxicity to fish: | LC50 | 96h | 1-10 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to fish: | LC50 | 96h | 1 -10 | mg/l | Cyprinus caprio | OECD 203 (Fish, Acute Toxicity Test) | References |
| 12.1. Toxicity to daphnia: | EC50 | 48h | 4,7 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | 1 -10 | mg/l | Scenedesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | References |
| 12.2. Persistence and degradability: | | 28d | 67 | % | | OECD 301 B (Ready Biodegradability - Co2 Evolution Test) | |
| 12.2. Persistence and degradability: | | 28d | >60 | % | | OECD 301 E (Ready Biodegradability - Modified OECD Screening Test) | |

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| | | | | | | | |
|--|-----|-----|------|------|--|---|---------|
| 12.2. Persistence and degradability: | DOC | 28d | > 70 | % | | OECD 301 A (Ready Biodegradability - DOC Die-Away Test) | |
| 12.5. Results of PBT and vPvB assessment | | | | | | | n.a. |
| Other information: | DOC | | 600 | mg/g | | | |
| Other information: | COD | | 1980 | mg/g | | DIN 38409-H41 | |
| Water solubility: | | | | | | | Soluble |

| Sulfonic acids, C14-17-sec-alkane, sodium salts | | | | | | | |
|---|-----------|------|-------|-------|-------------------------|---|--|
| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
| 12.1. Toxicity to fish: | LC50 | 96h | 1 -10 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to fish: | NOEC/NOEL | 28d | 0,85 | mg/l | Oncorhynchus mykiss | OECD 204 (Fish, Prolonged Toxicity Test - 14-Day Study) | |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 22d | 0,36 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | 9,81 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | >61 | mg/l | Scenedesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | 28d | 96,2 | % | activated sludge | OECD 304 A (Inherent Biodegradability in Soil) | Readily biodegradable |
| 12.2. Persistence and degradability: | | 28d | 78 | % | | OECD 301 B (Ready Biodegradability - Co2 Evolution Test) | Readily biodegradable |
| 12.2. Persistence and degradability: | | 28d | 89 | % | activated sludge | OECD 301 E (Ready Biodegradability - Modified OECD Screening Test) | Readily biodegradable |
| 12.3. Bioaccumulative potential: | | | | | | | Not accepted due to the log Pow - value. |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | NOEC/NOEL | 16h | 600 | mg/l | Pseudomonas putida | DIN 38412 T.8 | |
| Other organisms: | NOEC/NOEL | 56d | 470 | mg/kg | Eisenia foetida | OECD 222 (Earthworm Reproduction Test (Eisenia foetida/Eisenia andrei)) | |

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| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|--------------------------------------|-----------|------|-------|------|---------------------------------|--|-------|
| 12.1. Toxicity to fish: | LC50 | 96h | 179 | mg/l | | | |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 21d | 5 | mg/l | Daphnia magna | OECD 211 (Daphnia magna Reproduction Test) | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | 45 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to algae: | NOEC/NOEL | 72h | 31 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | 58 | mg/l | | | |
| 12.2. Persistence and degradability: | | 28d | 92 | % | | OECD 301 B (Ready Biodegradability - Co2 Evolution Test) | |
| 12.2. Persistence and degradability: | | 26d | 93 | % | | OECD 301 E (Ready Biodegradability - Modified OECD Screening Test) | |
| 12.3. Bioaccumulative potential: | BCF | | <2,8 | | | OECD 305 (Bioconcentration - Flow-Through Fish Test) | |
| 12.3. Bioaccumulative potential: | Log Pow | | -2,55 | | | | |

Reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|--------------------------------------|-----------|------|---------|------|---------------------------------|--|--|
| 12.2. Persistence and degradability: | | | >60 | % | activated sludge | OECD 301 D (Ready Biodegradability - Closed Bottle Test) | Does not conform with EU classification. |
| 12.1. Toxicity to algae: | EC50 | 48h | 0,0052 | mg/l | Skeletonema costatum | ISO 10253 | |
| 12.1. Toxicity to algae: | NOEC/NOEL | 48h | 0,00064 | mg/l | Skeletonema costatum | ISO 10253 | |
| 12.1. Toxicity to algae: | NOEC/NOEL | 72h | 0,0012 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| Toxicity to bacteria: | EC50 | 3h | 7,92 | mg/l | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | |

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 01 aqueous washing liquids and mother liquors

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20 01 29 detergents containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

E.g. dispose at suitable refuse site.

For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Untampered packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

SECTION 14: Transport information

General statements

14.1. UN number: n.a.

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

14.3. Transport hazard class(es):

n.a.

14.4. Packing group:

n.a.

Classification code:

n.a.

LQ:

n.a.

14.5. Environmental hazards:

Not applicable

Tunnel restriction code:

Transport by sea (IMDG-code)

14.2. UN proper shipping name:

14.3. Transport hazard class(es):

n.a.

14.4. Packing group:

n.a.

Marine Pollutant:

n.a.

14.5. Environmental hazards:

Not applicable

Transport by air (IATA)

14.2. UN proper shipping name:

14.3. Transport hazard class(es):

n.a.

14.4. Packing group:

n.a.

14.5. Environmental hazards:

Not applicable

14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

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

Non-dangerous material according to Transport Regulations.

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 2010/75/EU (VOC):

0,10144 %

REGULATION (EC) No 648/2004

5 % or over but less than 15 %

non-ionic surfactants

less than 5 %

anionic surfactants

METHYLCHLOROISOTHIAZOLINONE/ METHYLISOTHIAZOLINONE

Treated goods as per Regulation (EU) No. 528/2012 must display specific information on the label.

Please note Article 58 paragraph (3) subparagraph 2 of Regulation (EU) No. 528/2012.

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Approval of the biocidal active substance may mean that special conditions are required for marketing the treated goods.
 These are indicated in the approval of the active substance.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 9
 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 |
|---|--|
| Eye Dam. 1, H318 | 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).

H330 Fatal if inhaled.
 H310 Fatal in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H226 Flammable liquid and vapour.
 H317 May cause an allergic skin reaction.
 H301 Toxic if swallowed.
 H302 Harmful if swallowed.
 H311 Toxic in contact with skin.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H331 Toxic if inhaled.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

Eye Dam. — Serious eye damage
 Acute Tox. — Acute toxicity - oral
 Skin Irrit. — Skin irritation
 Aquatic Chronic — Hazardous to the aquatic environment - chronic
 Flam. Liq. — Flammable liquid
 Acute Tox. — Acute toxicity - dermal
 Acute Tox. — Acute toxicity - inhalation
 Skin Corr. — Skin corrosion
 Skin Sens. — Skin sensitization
 Aquatic Acute — Hazardous to the aquatic environment - acute

Any abbreviations and acronyms used in this document:

AC Article Categories
 acc., acc. to according, according to
 ACGIH American Conference of Governmental Industrial Hygienists
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
 AOEL Acceptable Operator Exposure Level
 AOX Adsorbable organic halogen compounds
 approx. approximately
 Art., Art. no. Article number
 ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

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

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

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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