

**Hand cleaner - 4000 ml**

Version 10.0      Revision Date: 04/29/2020      SDS Number: 418725-00005      Date of last issue: 09/10/2019  
Date of first issue: 09/10/2014

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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Hand cleaner - 4000 ml

Product code : 08939000

**Manufacturer or supplier's details**

Company : Wuerth India Pvt. Ltd.

Address : 703/704, Windfall, Sahar Plaza Complex  
Andheri (East), Mumbai 400059

Telephone : +91 8828111830

Emergency telephone number : 1800 102 5061

E-mail address : customer.care@wuerth.in

**Recommended use of the chemical and restrictions on use**

Recommended use : Cosmetic products

Restrictions on use :

This is a personal care or cosmetic product that is safe for consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific intended-use guidance, please refer to the information provided on the package or instruction sheet.

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**2. HAZARDS IDENTIFICATION****Manufacture, Storage and Import of Hazardous Chemicals Rules 1989****Classification**

Not classified as hazardous according to criteria laid down in Part I of Schedule-1.

**GHS Classification**

Skin corrosion/irritation : Category 3


|| Serious eye damage/eye irritation : Category 2A

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||  
 Short-term (acute) aquatic hazard : Category 3  
 Long-term (chronic) aquatic hazard : Category 3

**GHS label elements**

Hazard pictograms : 

Signal word : Warning

Hazard statements : H316 Causes mild skin irritation.  
 H319 Causes serious eye irritation.  
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
 P264 Wash skin thoroughly after handling.  
 P273 Avoid release to the environment.  
 P280 Wear eye protection/ face protection.

**Response:**  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.

**Disposal:**  
 P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in classification**

None known.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
Isotridecanol, ethoxylated	69011-36-5	>= 2.5 - < 5
Sulfonic acids, C14-17-sec-alkane, sodium salts	97489-15-1	>= 3 - < 5
Glucopyranose, oligomeric C10-16 glycosides	110615-47-9	>= 1 - < 2.5
Orange, sour, extract	72968-50-4	>= 0.1 - < 0.25
(R)-p-mentha-1,8-diene	5989-27-5	>= 0.1 - < 0.25

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Titanium dioxide	13463-67-7	>= 0.1 - < 1
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	>= 0.0002 - < 0.0015

### 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
 When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
 Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.  
 Remove contaminated clothing and shoes.  
 Get medical attention.  
 Wash clothing before reuse.  
 Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
 If easy to do, remove contact lens, if worn.  
 Get medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting.  
 Get medical attention if symptoms occur.  
 Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Causes mild skin irritation.  
 Causes serious eye irritation.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.

### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray  
 Alcohol-resistant foam  
 Carbon dioxide (CO<sub>2</sub>)  
 Dry chemical
- Unsuitable extinguishing media : None known.
- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides  
 Oxides of phosphorus  
 Metal oxides

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Sulphur oxides

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

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### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions : Discharge into the environment must be avoided.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.  
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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### 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Do not get on skin or clothing.  
Avoid inhalation of vapour or mist.  
Do not swallow.  
Do not get in eyes.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment

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- Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labelled containers.  
Store in accordance with the particular national regulations.
- Materials to avoid : No special restrictions on storage with other products.
- Recommended storage temperature : > 0 °C
- Storage period : 24 Months

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Titanium dioxide	13463-67-7	TWA	10 mg/m <sup>3</sup> (Titanium dioxide)	ACGIH

**These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.**

Titanium dioxide

- Engineering measures** : Ensure adequate ventilation, especially in confined areas.  
Minimize workplace exposure concentrations.

#### Personal protective equipment

- Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Filter type : Combined particulates and organic vapour type
- Hand protection
- Remarks : not required
- Eye protection : Wear the following personal protective equipment:  
Safety goggles
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.

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When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	:	paste
Colour	:	coloured
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	7
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1 g/cm <sup>3</sup> (20 °C)
Solubility(ies) Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available

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Viscosity  
  Viscosity, dynamic           : 70,000 mPa.s ( 40 °C)  
  Viscosity, kinematic       : No data available  
Explosive properties         : Not explosive  
Oxidizing properties         : The substance or mixture is not classified as oxidizing.  
Particle size                 : Not applicable

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**10. STABILITY AND REACTIVITY**

Reactivity                    : Not classified as a reactivity hazard.  
Chemical stability           : Stable under normal conditions.  
Possibility of hazardous reactions   : None known.  
Conditions to avoid         : None known.  
Incompatible materials       : None.  
Hazardous decomposition products   : No hazardous decomposition products are known.

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**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

**Acute toxicity**

|| Not classified based on available information.

**Product:**

Acute oral toxicity           : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

**Components:****||| Isotridecanol, ethoxylated:**

||| Acute oral toxicity           : LD50 (Rat): > 5,000 mg/kg  
Remarks: Based on data from similar materials

**Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Acute oral toxicity           : LD50 (Rat): > 500 - 2,000 mg/kg  
Method: OECD Test Guideline 401

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Acute dermal toxicity : LD50 (Mouse): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Glucopyranose, oligomeric C10-16 glycosides:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Orange, sour, extract:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 8,500 mg/kg

**(R)-p-mentha-1,8-diene:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 423  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg  
Remarks: Based on data from similar materials

**Titanium dioxide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6.82 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Acute oral toxicity : LD50 (Rat, male): > 50 - 300 mg/kg  
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 0.05 - 0.5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: Corrosive to the respiratory tract.  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit, male): > 50 - 200 mg/kg  
Remarks: Based on data from similar materials

**Skin corrosion/irritation**

|| Causes mild skin irritation.



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**Components:****Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation

**Glucopyranose, oligomeric C10-16 glycosides:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation

**Orange, sour, extract:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation  
Remarks : Based on data from similar materials

**(R)-p-mentha-1,8-diene:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Skin irritation

**Titanium dioxide:**

Species : Rabbit  
Result : No skin irritation

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Corrosive after 4 hours or less of exposure  
Remarks : Based on data from similar materials

**Serious eye damage/eye irritation**

|| Causes serious eye irritation.

**Components:****|| Isotridecanol, ethoxylated:**

|| Result : Irritation to eyes, reversing within 21 days  
|| Remarks : Based on data from similar materials

**Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Irreversible effects on the eye

**Glucopyranose, oligomeric C10-16 glycosides:**

Species : Rabbit

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Method : OECD Test Guideline 405  
Result : Irreversible effects on the eye

**Orange, sour, extract:**

Species : Rat  
Result : No eye irritation

**(R)-p-mentha-1,8-diene:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : No eye irritation

**Titanium dioxide:**

Species : Rabbit  
Result : No eye irritation

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Irreversible effects on the eye  
Remarks : Based on data from similar materials

**Respiratory or skin sensitisation****Skin sensitisation**

|| Not classified based on available information.

**Respiratory sensitisation**

|| Not classified based on available information.

**Components:****Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Result : negative

**Glucopyranose, oligomeric C10-16 glycosides:**

Test Type : Buehler Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

**Orange, sour, extract:**

Test Type : Local lymph node assay (LLNA)  
Exposure routes : Skin contact  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : positive

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Assessment : Probability or evidence of skin sensitisation in humans

**(R)-p-mentha-1,8-diene:**

Test Type : Local lymph node assay (LLNA)  
 Exposure routes : Skin contact  
 Species : Mouse  
 Method : OECD Test Guideline 429  
 Result : positive

Assessment : Probability or evidence of low to moderate skin sensitisation rate in humans

**Titanium dioxide:**

Test Type : Local lymph node assay (LLNA)  
 Exposure routes : Skin contact  
 Species : Mouse  
 Result : negative

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Test Type : Maximisation Test  
 Exposure routes : Skin contact  
 Species : Guinea pig  
 Method : OECD Test Guideline 406  
 Result : positive  
 Remarks : Based on data from similar materials

Assessment : Probability or evidence of high skin sensitisation rate in humans

**Germ cell mutagenicity**

|| Not classified based on available information.

**Components:**

**Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
 Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
 Species: Mouse  
 Application Route: Ingestion  
 Result: negative

**Glucopyranose, oligomeric C10-16 glycosides:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
 Method: OECD Test Guideline 473  
 Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)

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Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative

**Orange, sour, extract:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

**(R)-p-mentha-1,8-diene:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Test Type: Chromosome aberration test in vitro  
Result: negative

Genotoxicity in vivo : Test Type: In vivo mammalian alkaline comet assay  
Species: Rat  
Application Route: Ingestion  
Result: negative

**Titanium dioxide:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse  
Result: negative

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: positive  
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: positive  
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro  
Result: positive  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow  
cytogenetic test, chromosomal analysis)  
Species: Mouse

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Application Route: Ingestion  
Method: OECD Test Guideline 475  
Result: equivocal  
Remarks: Based on data from similar materials

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

**Carcinogenicity**

|| Not classified based on available information.

**Components:****Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Species : Rat  
Application Route : Ingestion  
Exposure time : 2 Years  
Result : negative

**(R)-p-mentha-1,8-diene:**

Species : Mouse  
Application Route : Ingestion  
Exposure time : 103 weeks  
Result : negative

**Titanium dioxide:**

Species : Rat  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 2 Years  
Method : OECD Test Guideline 453  
Result : positive  
Remarks : The mechanism or mode of action may not be relevant in humans.

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in inhalation studies with animals.

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Species : Rat  
Application Route : Ingestion  
Exposure time : 24 Months  
Method : OECD Test Guideline 453  
Result : negative  
Remarks : Based on data from similar materials

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**Reproductive toxicity**

|| Not classified based on available information.

**Components:****Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

**Glucopyranose, oligomeric C10-16 glycosides:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 421  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative

**(R)-p-mentha-1,8-diene:**

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 416  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rabbit  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative  
Remarks: Based on data from similar materials

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**STOT - single exposure**

|| Not classified based on available information.

**STOT - repeated exposure**

|| Not classified based on available information.

**Components:****(R)-p-mentha-1,8-diene:**

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

**Repeated dose toxicity****Components:****Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Species : Rat  
NOAEL :  $\geq 4,000$  mg/kg  
Application Route : Ingestion  
Exposure time : 52 Weeks

**Glucopyranose, oligomeric C10-16 glycosides:**

Species : Rat  
NOAEL : 1,000 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days  
Method : Directive 67/548/EEC, Annex, B.26

**(R)-p-mentha-1,8-diene:**

Species : Rat, male  
NOAEL : 5 mg/kg  
LOAEL : 30 mg/kg  
Application Route : Ingestion  
Exposure time : 13 Weeks

**Titanium dioxide:**

Species : Rat  
NOAEL : 24,000 mg/kg  
Application Route : Ingestion  
Exposure time : 28 Days

Species : Rat  
NOAEL : 10 mg/m<sup>3</sup>  
Application Route : inhalation (dust/mist/fume)  
Exposure time : 2 yr

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

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Species	:	Dog
NOAEL	:	> 10 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Method	:	OECD Test Guideline 409
Remarks	:	Based on data from similar materials

### Aspiration toxicity

|| Not classified based on available information.

### Components:

#### Orange, sour, extract:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

#### (R)-p-mentha-1,8-diene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

#### || Isotridecanol, ethoxylated:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): > 1 - 10 mg/l Exposure time: 96 h Method: DIN 38412 Remarks: Based on data from similar materials
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Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
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Toxicity to algae/aquatic plants	:	EC50: > 1 - 10 mg/l Exposure time: 72 h Remarks: Based on data from similar materials
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Toxicity to microorganisms	:	EC10: > 2,500 mg/l Exposure time: 17 h Method: DIN 38 412 Part 8 Remarks: Based on data from similar materials
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Toxicity to fish (Chronic toxicity)	:	NOEC: > 0.1 - 1 mg/l Species: Fish
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#### Sulfonic acids, C14-17-sec-alkane, sodium salts:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 5.5 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 9.2 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : ErC50 ( Desmodesmus subspicatus (green algae)): 119.4 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- EC10 ( Desmodesmus subspicatus (green algae)): 60 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- Toxicity to microorganisms : NOEC (Pseudomonas putida): 1,000 mg/l  
Exposure time: 16 h  
Method: DIN 38 412 Part 8
- Toxicity to fish (Chronic toxicity) : NOEC: 2 mg/l  
Exposure time: 28 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Method: OECD Test Guideline 204
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1 mg/l  
Exposure time: 22 d  
Species: Daphnia magna (Water flea)

**Glucopyranose, oligomeric C10-16 glycosides:**

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): 2.95 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7 mg/l  
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 ( Desmodesmus subspicatus (green algae)): 12.5 mg/l  
Exposure time: 72 h
- Toxicity to microorganisms : EC0 (Pseudomonas putida): 5,000 mg/l  
Exposure time: 16 h  
Method: DIN 38 412 Part 8
- Toxicity to fish (Chronic toxicity) : NOEC: 1.8 mg/l  
Exposure time: 28 d  
Species: Danio rerio (zebra fish)  
Method: OECD Test Guideline 204
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: 1.76 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

**Orange, sour, extract:**

- Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 1.1 mg/l  
Exposure time: 48 h  
Test substance: Water Accommodated Fraction

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Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 ( Pseudokirchneriella subcapitata (green algae)): 8 mg/l  
 Exposure time: 72 h  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 201

EL10 ( Pseudokirchneriella subcapitata (green algae)): 5.1 mg/l  
 Exposure time: 72 h  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 201

**(R)-p-mentha-1,8-diene:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 702 µg/l  
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 307 µg/l  
 Exposure time: 48 h  
 Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 ( Pseudokirchneriella subcapitata (green algae)): 0.32 mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201

EC10 ( Pseudokirchneriella subcapitata (green algae)): 0.174 mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50: > 100 mg/l  
 Exposure time: 3 h  
 Method: OECD Test Guideline 209  
 Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: 153 µg/l  
 Exposure time: 21 d  
 Species: Daphnia magna (Water flea)  
 Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

**Titanium dioxide:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
 Exposure time: 96 h  
 Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
 Exposure time: 48 h

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Toxicity to algae/aquatic plants : EC50 ( Skeletonema costatum (marine diatom)): > 10,000 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.1 - 1 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.01 - 0.1 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 ( Skeletonema costatum (marine diatom)): > 0.001 - 0.01 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

NOEC ( Skeletonema costatum (marine diatom)): > 0.001 - 0.01 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 100

Toxicity to microorganisms : EC50: > 1 - 10 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC: > 0.01 - 0.1 mg/l  
Exposure time: 36 d  
Species: Pimephales promelas (fathead minnow)  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 0.001 - 0.01 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 10

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**Persistence and degradability****Components:****Isotridecanol, ethoxylated:**

Biodegradability : Result: Readily biodegradable.  
Exposure time: 28 d  
Method: OECD Test Guideline 301B  
Remarks: Based on data from similar materials

**Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 78 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**Glucopyranose, oligomeric C10-16 glycosides:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 88 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D

**Orange, sour, extract:**

Biodegradability : Result: Readily biodegradable.  
Remarks: Based on data from similar materials

**(R)-p-mentha-1,8-diene:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 71.4 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 62 %  
Exposure time: 29 d  
Method: OECD Test Guideline 301B

**Bioaccumulative potential****Components:****Sulfonic acids, C14-17-sec-alkane, sodium salts:**

Partition coefficient: n-  
octanol/water : log Pow: 0.2

**Orange, sour, extract:**

Partition coefficient: n-  
octanol/water : log Pow: > 4  
Remarks: Calculation method

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**(R)-p-mentha-1,8-diene:**

Partition coefficient: n-octanol/water : log Pow: 4.38

**5-Chloro-2-methyl-4-isothiazolin-3-one:**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 41 - 54

Partition coefficient: n-octanol/water : log Pow: 0.401

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

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**14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

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**15. REGULATORY INFORMATION**

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

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**16. OTHER INFORMATION****Further information**

Sources of key data used to : Internal technical data, data from raw material SDSs, OECD

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