

# Safety Data Sheet

## according to Regulation (EC) No. 1907/2006 (REACH)

**Trade name :** Orotol® plus Disinfection of suction systems  
**Revision :** 02.01.2018  
**Print date :** 02.01.2018

**Version (Revision) :** 4.0.1 (4.0.0)

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

#### 1.1 Product identifier

Orotol® plus Disinfection of suction systems

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

##### Relevant identified uses

Orotol® plus is a highly effective aldehyde-free concentrate for the simultaneous disinfection, deodorization, cleaning and care of dental suction systems as well as spittoon bowls, being likewise suitable for all amalgam separators.

##### Product Categories [PC]

PCO - Other  
Disinfectants

##### Uses advised against

None, if handled according to order.

##### Remark

The product is intended for professional use.

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

##### Supplier (manufacturer/importer/only representative/downstream user/distributor)

orochemie GmbH + Co. KG

**Street :** Max-Planck-Straße 27

**Postal code/city :** 70806 Kornwestheim

**Telephone :** +49 7154 1308-0

**Telefax :** +49 7154 1308-40

**Information contact :** DÜRR DENTAL SE, Höpfigheimer Str. 17, 74321 Bietigheim-Bissingen, Germany

Tel: +49 7142 705-0, Fax: +49 7142 705-500, info@duerrdental.com

in Great Britain/Ireland:

DÜRR DENTAL [Products] UK Ltd., 14 Linnell Way - Telford Way Industrial Estate, Kettering Northants NN16 8PS, United Kingdom

Tel: +44 1536 526740, Fax.: +44 1536 526749, info@duerruk.com

#### 1.4 Emergency telephone number

INT: +49 6132 84463 (24 h/7 d)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008 [CLP]

Aquatic Chronic 3 ; H412 - Hazardous to the aquatic environment : Chronic 3 ; Harmful to aquatic life with long lasting effects.

Eye Dam. 1 ; H318 - Serious eye damage/eye irritation : Category 1 ; Causes serious eye damage.

Skin Corr. 1C ; H314 - Skin corrosion/irritation : Category 1C ; Causes severe skin burns and eye damage.

Met. Corr. 1 ; H290 - Corrosive to metals : Category 1 ; May be corrosive to metals.

##### Classification procedure

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP] as well as in-house investigations.

#### 2.2 Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms

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Corrosion (GHS05)

### Signal word

Danger

### Hazard components for labelling

DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3

POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3

### Hazard statements

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H412 Harmful to aquatic life with long lasting effects.

### Precautionary statements

P280 Wear protective gloves and eye/face protection.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P353 Rinse skin with water/shower.  
P403+P232 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container to hazardous or special waste collection point.

### 2.3 Other hazards

None

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Description

Orotol® plus contains quaternary ammonium compounds, alkaline cleaning agents, complexing agents, special antifoaming agents, fragrances and auxiliary agents in aqueous solution.

#### Hazardous ingredients

TETRAPOTASSIUM DIPHOSPHATE ; REACH registration No. : 01-2119489369-18 ; EC No. : 230-785-7 ; CAS No. : 7320-34-5

Weight fraction :  $\geq 3 - < 8 \%$

Classification 1272/2008 [CLP] : Eye Irrit. 2 ; H319

DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; REACH registration No. : - ; EC No. : 226-901-0 ; CAS No. : 5538-94-3

Weight fraction :  $\geq 3 - < 5 \%$

Classification 1272/2008 [CLP] : Flam. Liq. 3 ; H226 Skin Corr. 1B ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302 Aquatic Acute 1 ; H400

SODIUM ETHYLENEDIAMINETETRAACETATE ; REACH registration No. : 01-2119486762-27 ; EC No. : 200-573-9 ; CAS No. : 64-02-8

Weight fraction :  $\geq 3 - < 5 \%$

Classification 1272/2008 [CLP] : STOT RE 2 ; H373 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302 Acute Tox. 4 ; H332

DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; REACH registration No. : - ; EC No. : 287-089-1 ; CAS No. : 85409-22-9

Weight fraction :  $\geq 0,5 - < 1 \%$

Classification 1272/2008 [CLP] : Skin Corr. 1B ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302 Aquatic Acute 1 ; H400

POTASSIUM HYDROXIDE ; REACH registration No. : 01-2119487136-33 ; EC No. : 215-181-3 ; CAS No. : 1310-58-3

Weight fraction :  $\geq 0,3 - < 0,7 \%$

Classification 1272/2008 [CLP] : Met. Corr. 1 ; H290 Skin Corr. 1A ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302

TRISODIUM NITRILOTRIACETATE ; REACH registration No. : 01-2119519239-36 ; EC No. : 225-768-6 ; CAS No. : 5064-31-3

Weight fraction :  $< 0,5 \%$

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Classification 1272/2008 [CLP] : Carc. 2 ; H351 Acute Tox. 4 ; H302 Eye Irrit. 2 ; H319  
EUCALYPTOL ; REACH registration No. : 01-2119967772-24 ; EC No. : 207-431-5 ; CAS No. : 470-82-6  
Weight fraction : < 0,05 %  
Classification 1272/2008 [CLP] : Flam. Liq. 3 ; H226 Skin Sens. 1 ; H317

### Additional information

Full text of H- and EUH-phrases: see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

Remove contaminated, saturated clothing immediately. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

#### Following inhalation

Provide fresh air. In case of respiratory tract irritation, consult a physician.

#### In case of skin contact

Wash with plenty of water. When in doubt or if symptoms are observed, get medical advice.

#### After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### After ingestion

If swallowed, immediately drink: Water Never give anything by mouth to an unconscious person or a person with cramps. Do NOT induce vomiting. Call a physician immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage.

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

None

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>) Extinguishing powder Water spray Water mist The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

#### Unsuitable extinguishing media

High power water jet

### 5.2 Special hazards arising from the substance or mixture

None known.

#### Hazardous combustion products

None known.

### 5.3 Advice for firefighters

Adapt protective equipment to surrounding fire.

#### Special protective equipment for firefighters

Adapt protective equipment to surrounding fire.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protection equipment. See protective measures under point 7 and 8.

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### For non-emergency personnel

Use personal protection equipment. See protective measures under point 7 and 8.

### For emergency responders

#### Personal protection equipment

See protective measures under point 7 and 8.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### 6.3 Methods and material for containment and cleaning up

#### For cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

#### Other information

Treat the recovered material as prescribed in the section on waste disposal.

### 6.4 Reference to other sections

None

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Keep/Store only in original container. Please note safety instructions and directions for use on the drum. Handle and open container with care. Provide adequate ventilation. Do not breathe vapour/aerosol.

#### Protective measures

##### Measures to prevent fire

Usual measures for fire prevention. When using do not smoke.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Keep/Store only in original container. Keep container tightly closed. Keep in a cool, well-ventilated place. Do not store in temperatures below 5 °C.

#### Hints on joint storage

Store the foodstuffs separately.

### 7.3 Specific end use(s)

None

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limit values

POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3

Limit value type (country of origin) : TLV/STEL ( GB )

Limit value : 2 mg/m<sup>3</sup>

#### DNEL/DMEL and PNEC values

There are no data available on the preparation itself.

##### DNEL/DMEL

Limit value type : DNEL Consumer (systemic) ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )

Exposure route : Inhalation

Exposure frequency : Long-term (repeated)

Limit value : 0,68 mg/l

Limit value type : DNEL Consumer (systemic) ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )

Exposure route : Oral

Exposure frequency : Long-term (repeated)

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Limit value : > 70 mg/kg  
Safety factor : 24 h  
Limit value type : DNEL Consumer (systemic) ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 10,87 mg/m<sup>3</sup>  
Limit value type : DNEL worker (systemic) ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 2,79 mg/m<sup>3</sup>  
Limit value type : DNEL worker (systemic) ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 44,08 mg/m<sup>3</sup>  
Limit value type : DNEL/DMEL (Consumer) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Oral  
Exposure frequency : Long-term (repeated)  
Limit value : 7,5 mg/kg  
Safety factor : 24 h  
Limit value type : DNEL/DMEL (Consumer) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Dermal  
Limit value : 7,5 mg/kg  
Safety factor : 24 h  
Limit value type : DNEL/DMEL (Industrial) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 44 mg/m<sup>3</sup>  
Limit value type : DNEL/DMEL (Industrial) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Dermal  
Exposure frequency : Long-term (repeated)  
Limit value : 12,5 mg/kg  
Safety factor : 24 h  
Limit value type : DNEL Consumer (local) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 1,5 mg/m<sup>3</sup>  
Limit value type : DNEL Consumer (local) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Inhalation  
Exposure frequency : Short-term (acute)  
Limit value : 1,5 mg/m<sup>3</sup>  
Limit value type : DNEL Consumer (systemic) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 1,5 mg/m<sup>3</sup>  
Limit value type : DNEL Consumer (systemic) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Inhalation  
Exposure frequency : Short-term (acute)  
Limit value : 1,5 mg/m<sup>3</sup>  
Limit value type : DNEL Consumer (systemic) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. :

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64-02-8 )  
Exposure route : Oral  
Exposure frequency : Long-term (repeated)  
Limit value : 25 mg/kg  
Safety factor : 24 h  
Limit value type : DNEL worker (local) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )

Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 2,5 mg/m<sup>3</sup>  
Limit value type : DNEL worker (local) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )

Exposure route : Inhalation  
Exposure frequency : Short-term (acute)  
Limit value : 2,5 mg/m<sup>3</sup>  
Limit value type : DNEL worker (systemic) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )

Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 2,5 mg/m<sup>3</sup>  
Limit value type : DNEL worker (systemic) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )

Exposure route : Inhalation  
Exposure frequency : Short-term (acute)  
Limit value : 2,5 mg/m<sup>3</sup>  
Limit value type : DNEL Consumer (local) ( POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3 )

Exposure route : Inhalation  
Exposure frequency : Long-term  
Limit value : 1 mg/m<sup>3</sup>  
Limit value type : DNEL worker (local) ( POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3 )

Exposure route : Inhalation  
Exposure frequency : Long-term  
Limit value : 1 mg/m<sup>3</sup>  
Limit value type : DNEL Consumer (local) ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )

Exposure route : Inhalation  
Exposure frequency : Short-term (acute)  
Limit value : 1,75 mg/m<sup>3</sup>  
Limit value type : DNEL Consumer (systemic) ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )

Exposure route : Inhalation  
Exposure frequency : Short-term (acute)  
Limit value : 1,75 mg/m<sup>3</sup>  
Limit value type : DNEL Consumer (systemic) ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )

Exposure route : Oral  
Exposure frequency : Long-term (repeated)  
Limit value : 0,5 mg/kg  
Safety factor : 24 h  
Limit value type : DNEL worker (local) ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )

Exposure route : Inhalation  
Exposure frequency : Short-term (acute)  
Limit value : 5,25 mg/m<sup>3</sup>  
Limit value type : DNEL worker (local) ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )

Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 3,5 mg/m<sup>3</sup>  
Limit value type : DNEL worker (systemic) ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )  
Exposure route : Inhalation

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Exposure frequency : Short-term (acute)  
Limit value : 5,25 mg/m<sup>3</sup>  
Limit value type : DNEL worker (systemic) ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )  
Exposure route : Inhalation  
Exposure frequency : Long-term (repeated)  
Limit value : 3,5 mg/m<sup>3</sup>

### PNEC

Limit value type : PNEC aquatic, freshwater ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Limit value : 0,05 mg/l  
Limit value type : PNEC aquatic, intermittent release ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Limit value : 0,5 mg/l  
Limit value type : PNEC aquatic, marine water ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Limit value : 0,005 mg/l  
Limit value type : PNEC sewage treatment plant (STP) ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Limit value : 50 mg/l  
Limit value type : PNEC (Consumer) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Water (Including sewage plant)  
Limit value : 0,0135 mg/l  
Limit value type : PNEC (Consumer) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Water (Including sewage plant)  
Limit value : 0,0014 mg/l  
Limit value type : PNEC (Consumer) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Water (Including sewage plant)  
Limit value : 1 mg/kg  
Limit value type : PNEC (Consumer) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Water (Including sewage plant)  
Limit value : 0,1 mg/kg  
Limit value type : PNEC (Consumer) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Water (Including sewage plant)  
Limit value : 3000 mg/kg  
Limit value type : PNEC (Consumer) ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Exposure route : Soil  
Limit value : 0,8 mg/kg  
Limit value type : PNEC aquatic, freshwater ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Water (Including sewage plant)  
Limit value : 2,8 mg/l  
Limit value type : PNEC aquatic, intermittent release ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Limit value : 1,6 mg/l  
Limit value type : PNEC aquatic, marine water ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Water (Including sewage plant)  
Limit value : 0,28 mg/l  
Limit value type : PNEC (Industrial) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Soil  
Limit value : 0,95 mg/kg  
Limit value type : PNEC sewage treatment plant (STP) ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )

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|                    |   |
|--------------------|---|
| Exposure route :   | Water (Including sewage plant)  |
| Limit value :      | 57 mg/l   |
| Limit value type : | PNEC aquatic, freshwater ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )          |
| Exposure route :   | Water (Including sewage plant)  |
| Limit value :      | 0,93 mg/l   |
| Limit value type : | PNEC aquatic, marine water ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )        |
| Exposure route :   | Water (Including sewage plant)  |
| Limit value :      | 0,093 mg/l  |
| Limit value type : | PNEC sediment, freshwater ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )         |
| Exposure route :   | Soil  |
| Limit value :      | 3,64 mg/kg  |
| Limit value type : | PNEC sediment, marine water ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )       |
| Exposure route :   | Soil  |
| Limit value :      | 0,364 mg/kg   |
| Limit value type : | PNEC soil, freshwater ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )             |
| Exposure route :   | Soil  |
| Limit value :      | 0,182 mg/kg   |
| Limit value type : | PNEC Secondary Poisoning ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )          |
| Limit value :      | 0,2 mg/kg   |
| Limit value type : | PNEC sewage treatment plant (STP) ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 ) |
| Exposure route :   | Water (Including sewage plant)  |
| Limit value :      | 540 mg/l  |

## 8.2 Exposure controls

### Personal protection equipment

#### Eye/face protection

Eye glasses with side protection DIN EN 166

#### Skin protection

##### Hand protection

Short-term exposure (Level 2: < 30 min): disposable gloves to EN374 category III, e.g. nitrile rubber, material thickness 0.1 mm.

Long-term exposure (Level 6: < 480 min): protective gloves to EN374 category III, e.g. nitrile rubber, material thickness 0.7 mm.

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

##### Body protection

Body protection: not required.

#### Respiratory protection

Usually no personal respiratory protection necessary.

### General health and safety measures

Keep away from food, drink and animal feedingstuffs. Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing. Wash hands before breaks and after work. Separate storage of work clothes. When using do not eat, drink, smoke, sniff.

### Occupational exposure controls

#### Technical measures to prevent exposure

Provide adequate ventilation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance :** liquid



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Colour : yellow

Odour : Lemon

### Safety relevant basis data

|   |                    |                                    |                   |                   |
|---|--------------------|------------------------------------|-------------------|-------------------|
| Melting point/melting range :             | ( 1013 hPa )       |                                    | No data available |                   |
| Initial boiling point and boiling range : | ( 1013 hPa )       | approx.                            | 100               | °C                |
| Decomposition temperature :               | ( 1013 hPa )       |                                    | No data available |                   |
| Flash point :                             |                    |                                    | not applicable    |                   |
| Ignition temperature :                    |                    |                                    | not applicable    |                   |
| Lower explosion limit :                   |                    |                                    | not applicable    |                   |
| Upper explosion limit :                   |                    |                                    | not applicable    |                   |
| Vapour pressure :                         | ( 50 °C )          |                                    | No data available |                   |
| Density :                                 | ( 20 °C )          |                                    | 1,07 - 1,11       | g/cm <sup>3</sup> |
| Solvent separation test :                 | ( 20 °C )          | <                                  | 3                 | %                 |
| Water solubility :                        | ( 20 °C )          |                                    | 100               | Wt %              |
| pH value :                                |                    |                                    | 12 - 13           |                   |
| pH :                                      | ( 20 °C / 20 g/l ) |                                    | 10 - 10,5         |                   |
| log P O/W :                               |                    |                                    | No data available |                   |
| Flow time :                               | ( 20 °C )          | <                                  | 12                | s                 |
| Odour threshold :                         |                    |                                    | No data available | DIN-cup 4 mm      |
| Maximum VOC content (EC) :                |                    |                                    | 6,6               | Wt %              |
| Oxidising liquids :                       |                    | Not applicable.                    |                   |                   |
| Explosive properties :                    |                    | Not applicable.                    |                   |                   |
| Corrosive to metals :                     |                    | May be corrosive to metals (H290). |                   |                   |

### 9.2 Other information

None

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None, if handled according to order.

### 10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7). Reactions with acids: development of heat.

### 10.3 Possibility of hazardous reactions

Reactions with acids possible

### 10.4 Conditions to avoid

No information available.

### 10.5 Incompatible materials

Acid

### 10.6 Hazardous decomposition products

None known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute effects

##### Acute oral toxicity

|                  |                   |
|------------------|-------------------|
| Parameter :      | LD50              |
| Exposure route : | Oral              |
| Species :        | Rat               |
| Effective dose : | > 2000 mg/kg      |
| Method :         | OECD 401          |
| Parameter :      | ATEmix calculated |

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Exposure route : Oral  
Effective dose : 15151 mg/kg  
Parameter : ATE ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Oral  
Effective dose : 500 mg/kg  
Parameter : ATE ( DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9 )  
Exposure route : Oral  
Effective dose : 500 mg/kg  
Parameter : ATE ( POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3 )  
Exposure route : Oral  
Effective dose : 500 mg/kg  
Parameter : ATE ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )  
Exposure route : Oral  
Effective dose : 500 mg/kg

### Practical experience/human evidence

Causes severe skin burns and eye damage.

### Acute dermal toxicity

Parameter : LD50  
Exposure route : Dermal  
Species : Rat  
Effective dose : > 2000 mg/kg  
Method : OECD 402  
Parameter : ATEmix calculated  
Exposure route : Dermal  
Effective dose : not relevant

### Acute inhalation toxicity

Parameter : ATEmix calculated  
Exposure route : Inhalative (vapour)  
Effective dose : 333,3 mg/l  
Parameter : LC50 ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : > 1,1 mg/l  
Method : OECD 403  
Parameter : LC50 ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : 1000 - 5000 mg/l  
Exposure time : 6 h  
Parameter : LC50 ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : > 5 mg/l  
Exposure time : 4 h  
Parameter : LC50 ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )  
Exposure route : Inhalation  
Species : Rat  
Effective dose : > 4,25 mg/l  
Exposure time : 4 h  
Method : OECD 403

### Irritant and corrosive effects

Rabbit's eye: no irritation. 2 % solution. Method : OECD 405.

### Sensitisation

Guinea-pig: non-sensitizing (2 % solution). Method : OECD 406.

### CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

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No information available.

### 11.5 Additional information

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP] as well as in-house investigations.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity

##### Acute (short-term) fish toxicity

|                        |  |
|------------------------|--|
| Parameter :            | LC50 ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )                 |
| Species :              | Oncorhynchus mykiss (Rainbow trout)                                    |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | > 100 mg/l   |
| Exposure time :        | 96 h   |
| Method :               | OECD 203   |
| Parameter :            | LC50 ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )      |
| Species :              | Oncorhynchus mykiss (Rainbow trout)                                    |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | 0,35 mg/l  |
| Exposure time :        | 96 h   |
| Parameter :            | LC50 ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )      |
| Species :              | Lepomis macrochirus (Bluegill)   |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | 0,55 mg/l  |
| Exposure time :        | 48 h   |
| Parameter :            | LC50 ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )      |
| Species :              | Fish   |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | 0,1 - 1 mg/l   |
| Exposure time :        | 96 h   |
| Parameter :            | LC50 ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )        |
| Species :              | Lepomis macrochirus (Bluegill)   |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | 951 mg/l   |
| Exposure time :        | 96 h   |
| Parameter :            | LC50 ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )        |
| Species :              | Leuciscus idus (golden orfe)   |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | 2040 mg/l  |
| Exposure time :        | 96 h   |
| Parameter :            | LC50 ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )        |
| Species :              | Fish   |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | > 100 mg/l   |
| Exposure time :        | 96 h   |
| Parameter :            | LC50 ( DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9 ) |
| Species :              | Pimephales promelas (fathead minnow)                                   |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | 0,28 mg/l  |
| Exposure time :        | 96 h   |
| Parameter :            | LC50 ( POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3 )                     |
| Species :              | Gambusia affinis (Mosquito fish)                                       |
| Evaluation parameter : | Acute (short-term) fish toxicity                                       |
| Effective dose :       | 80 mg/l  |

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Exposure time : 96 h  
Parameter : LC50 ( POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3 )  
Species : Poecilia reticulata (Guppy)  
Evaluation parameter : Acute (short-term) fish toxicity  
Effective dose : 165 mg/l  
Exposure time : 24 h  
Parameter : LC50 ( TRISODIUM NITRILOTRIACETATE ; CAS No. : 5064-31-3 )  
Species : Pimephales promelas (fathead minnow)  
Evaluation parameter : Acute (short-term) fish toxicity  
Effective dose : > 100 mg/l  
Exposure time : 96 h  
Parameter : LC50 ( EUCALYPTOL ; CAS No. : 470-82-6 )  
Species : Pimephales promelas (fathead minnow)  
Evaluation parameter : Acute (short-term) fish toxicity  
Effective dose : 102 mg/l  
Exposure time : 96 h

### Chronic (long-term) fish toxicity

Parameter : NOEC  
Species : Poecilia reticulata (Guppy)  
Evaluation parameter : Chronic (long-term) fish toxicity  
Effective dose : 1,1 mg/l  
Exposure time : 96 h  
Method : OECD 203

### Acute (short-term) daphnia toxicity

Parameter : EC50  
Species : Daphnia magna (Big water flea)  
Evaluation parameter : Acute (short-term) daphnia toxicity  
Effective dose : 1,1 mg/l  
Exposure time : 48 h  
Method : OECD 202

### Chronic (long-term) daphnia toxicity

Parameter : NOEC  
Species : Daphnia magna (Big water flea)  
Evaluation parameter : Chronic (long-term) daphnia toxicity  
Effective dose : 0,26 mg/l  
Exposure time : 48 h  
Method : OECD 202

### Acute (short-term) algae toxicity

Parameter : ErC50  
Species : Desmodesmus subspicatus  
Evaluation parameter : Inhibition of growth rate  
Effective dose : 4,42 mg/l  
Exposure time : 72 h  
Method : OECD 201

### Chronic (long-term) algae toxicity

Parameter : NOEC  
Species : Desmodesmus subspicatus  
Evaluation parameter : Chronic (long-term) algae toxicity  
Effective dose : 1,25 mg/l  
Exposure time : 96 h  
Method : OECD 201

### Bacteria toxicity

Parameter : EC50 ( POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3 )  
Evaluation parameter : Bacteria toxicity  
Effective dose : 22 mg/l

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Exposure time : 0,25 h  
Parameter : EC50 ( OXYDIPROPANOL ; CAS No. : 25265-71-8 )  
Species : Pseudomonas putida  
Evaluation parameter : Bacteria toxicity  
Effective dose : > 100000 mg/l  
Exposure time : 16 h  
Parameter : EC50 ( DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9 )  
Evaluation parameter : Bacteria toxicity  
Effective dose : 7,75  
Exposure time : 3 h  
Method : OECD 209  
Parameter : EC50 ( TETRASODIUM DIPHOSPHATE ; CAS No. : 7320-34-5 )  
Evaluation parameter : Bacteria toxicity  
Effective dose : > 1000 mg/l  
Exposure time : 3 h  
Parameter : EC10 ( OXYDIPROPANOL ; CAS No. : 25265-71-8 )  
Species : Pseudomonas putida  
Evaluation parameter : Bacteria toxicity  
Effective dose : > 1000 mg/l  
Exposure time : 16 h

### Sediment toxicity

#### Toxicity to soil macroorganisms

##### Acute earthworm toxicity

Parameter : LC50 ( SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8 )  
Species : Acute earthworm toxicity  
Effective dose : 156 mg/kg  
Exposure time : 336 h  
Method : OECD 207

### Terrestrial toxicity

#### Toxicity to birds

##### Bird reproduction toxicity

Parameter : Bird reproduction toxicity ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Species : Colinus virginianus (bobwhite quail)  
Evaluation parameter : Acute and subchronic bird toxicity  
Effective dose : 1300 ppm  
Exposure time : 192 h  
Parameter : Bird reproduction toxicity ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3 )  
Species : Anas platyrhynchos (maillard duck)  
Evaluation parameter : Acute and subchronic bird toxicity  
Effective dose : > 2500 ppm  
Exposure time : 192 h

### Effects in sewage plants

Technically correct releases of minimal concentrations to adapted biological sewage plants, will not disturb the biodegradability of activated sludge.

## 12.2 Persistence and degradability

### Abiotic degradation

No data available.

### Biodegradation

The product is easily biodegradable according to OECD criteria. Method : OECD 301 D.

## 12.3 Bioaccumulative potential

No information available.

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### 12.4 Mobility in soil

#### Known or predicted distribution to environmental compartments

There are no data available on the preparation itself.

#### Adsorption/Desorption

### 12.5 Results of PBT and vPvB assessment

No information available.

### 12.6 Other adverse effects

No information available.

### 12.7 Additional ecotoxicological information

Prevent from flowing into surface water/ground water.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product/Packaging disposal

##### Waste codes/waste designations according to EWC/AVV

##### Waste code product

Concentrate/larger quantities: 18 01 06\* (disinfectant).

##### Waste treatment options

##### Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

##### Appropriate disposal / Package

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

## SECTION 14: Transport information

### 14.1 UN number

UN 1719

### 14.2 UN proper shipping name

#### Land transport (ADR/RID)

CAUSTIC ALKALI LIQUID, N.O.S. ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE · POTASSIUM HYDROXIDE )

#### Sea transport (IMDG)

CAUSTIC ALKALI LIQUID, N.O.S. ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE · POTASSIUM HYDROXIDE )

#### Air transport (ICAO-TI / IATA-DGR)

CAUSTIC ALKALI LIQUID, N.O.S. ( DIOCTYL-DIMETHYL AMMONIUM CHLORIDE · POTASSIUM HYDROXIDE )

### 14.3 Transport hazard class(es)

#### Land transport (ADR/RID)

Class(es) : 8  
Classification code : C5  
Hazard identification number (Kemler No.) : 80  
Tunnel restriction code : E  
Special provisions : LQ 5 | · E 1  
Hazard label(s) : 8

#### Sea transport (IMDG)

Class(es) : 8  
EmS-No. : F-A / S-B  
Special provisions : LQ 5 | · E 1  
Hazard label(s) : 8

#### Air transport (ICAO-TI / IATA-DGR)

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**Class(es) :** 8 / -  
**Special provisions :** E 1  
**Hazard label(s) :** 8

### 14.4 Packing group

III

### 14.5 Environmental hazards

**Land transport (ADR/RID) :** No  
**Sea transport (IMDG) :** No  
**Air transport (ICAO-TI / IATA-DGR) :** No

### 14.6 Special precautions for user

None

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

## SECTION 15: Regulatory information

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

#### National regulations

##### Restrictions of occupation

According to directive 94/33/EC, juveniles are only allowed to handle this product as long as all effects of dangerous substances are prevented.

### 15.2 Chemical safety assessment

For this mixture a chemical safety assessment has not been carried out.

## SECTION 16: Other information

### 16.1 Indication of changes

02. Labelling according to Regulation (EC) No. 1272/2008 [CLP] - Hazard components for labelling · 03. Hazardous ingredients · 14. Transport hazard class(es) - Land transport (ADR/RID) · 14. Transport hazard class(es) - Sea transport (IMDG) · 14. Transport hazard class(es) - Air transport (ICAO-TI / IATA-DGR)

Environmental hazards

### 16.2 Abbreviations and acronyms

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimates

CAS = Chemical Abstracts Service

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

CMR = Carcinogen, Mutagen or Reproductive toxicant

CO<sub>2</sub> = Carbon dioxide

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

EC = European Commission

EC50 = Half maximal effective concentration

EN = European Standard (Norm)

EU = European Union

EUH statement = CLP-specific Hazard statement

EWC = European Waste Catalogue

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

H statement = GHS Hazard statement

IATA = International Air Transport Association ICAO-TI = International Civil Aviation Organization-Technical Instructions

IMDG = International Maritime Dangerous Goods

LC50 = Median lethal concentration

LD50 = Median lethal dose

LogPow = Logarithm of the octanol/water partition coefficient

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MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
NOEC/NOEL = No observed effect concentration/level  
OECD = Organisation for Economic Co-operation and Development  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RMM = Risk Management Measure  
RRN = REACH Registration Number  
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure  
STOT-SE = Specific Target Organ Toxicity - Single Exposure  
SVHC = Substances of Very High Concern  
TLV/STEL = Threshold limit value/short-term exposure limit  
TLV/TWA = Threshold limit value/time weighted average  
UN = United Nations  
VOC = Volatile Organic Compound  
vPvB = Very Persistent and Very Bioaccumulative

### 16.3 Key literature references and sources for data

None

### 16.4 Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

No information available.

### 16.5 Relevant H- and EUH-phrases (Number and full text)

|      |  |
|------|--|
| H226 | Flammable liquid and vapour.                                       |
| H290 | May be corrosive to metals.  |
| H302 | Harmful if swallowed.  |
| H314 | Causes severe skin burns and eye damage.                           |
| H317 | May cause an allergic skin reaction.                               |
| H318 | Causes serious eye damage.   |
| H319 | Causes serious eye irritation.                                     |
| H332 | Harmful if inhaled.  |
| H351 | Suspected of causing cancer.                                       |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life.  |

### 16.6 Training advice

None

### 16.7 Additional information

Notice the directions for use on the label.

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The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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