Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)

Trade name :	Orotol® plus Disinfection of suction system		
Revision :	04.06.2019	**Version (Revision) :**	5.0.0 (4.0.1)
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SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Orotol® plus Disinfection of suction system

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]

PC0 - PC 0 - 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

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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)
NZ: National Poison Centre (New Zealand) 0800 764 766 Poisons Hotline (24 hours/7days)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

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

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.

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 [or shower].
P403+P233	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 :	≥ 5 - < 10 %
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 :	≥ 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

DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; REACH registration No. : 012119970550-39 ; EC No. : 287-089-1; CAS No. : 85409-22-9

Weight fraction :	≥ 0,5 - < 1 %
Classification 1272/2008 [CLP] :	Skin Corr. 1B ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302 Aquatic Acute 1 ; H400 Aquatic Chronic 1 ; H410

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

Weight fraction :	≥ 0,5 - < 1 %
Classification 1272/2008 [CLP] :	Met. Corr. 1 ; H290 Skin Corr. 1A ; H314 Eye Dam. 1 ; H318 Acute Tox. 4 ; H302

EUCALYPTOL ; REACH registration No. : 01-2119967772-24 ; EC No. : 207-431-5; CAS No. : 470-82-6

Weight fraction :	< 0,1 %
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 (CO2) Extinguishing powder Water spray Water mist The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Full 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.

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/m³

DNEL/DMEL and PNEC values

There are no data available on the preparation itself.

DNEL/DMEL

Limit value type :	DNEL Consumer (systemic) (TETRAPOTASSIUM 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) (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Oral
Exposure frequency :	Long-term (repeated)
Limit value :	> 70 mg/kg
Safety factor :	24 h
Limit value type :	DNEL Consumer (systemic) (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Inhalation
Exposure frequency :	Long-term (repeated)
Limit value :	10,87 mg/m³
Limit value type :	DNEL worker (systemic) (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Inhalation

Exposure frequency :	Long-term (repeated)
Limit value :	2,79 mg/m³
Limit value type :	DNEL worker (systemic) (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Inhalation
Exposure frequency :	Long-term (repeated)
Limit value :	44,08 mg/m³
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/m³
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) (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	1 mg/m³
Limit value type :	DNEL worker (local) (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	1 mg/m³

PNEC

Limit value type :	PNEC (Aquatic, freshwater) (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Limit value :	0,05 mg/l
Limit value type :	PNEC (Aquatic, intermittent release) (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Limit value :	0,5 mg/l
Limit value type :	PNEC (Aquatic, marine water) (TETRAPOTASSIUM DIPHOSPHATE; CAS No. : 7320-34-5)
Limit value :	0,005 mg/l
Limit value type :	PNEC (Sewage treatment plant) (TETRAPOTASSIUM 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

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 respirative 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
Colour : yellow
Odour : Lemon

Safety relevant basis data

Melting point/melting range :	(1013 hPa)		not determined	
Initial boiling point and boiling range :	(1013 hPa)	approx.	100	°C
Decomposition temperature :	(1013 hPa)		not determined	
Flash point :			not applicable	
Ignition temperature :			not applicable	
Lower explosion limit :			not applicable	
Upper explosion limit :			not applicable	
Density :	(20 °C)		1,084 - 1,09	g/cm^3
Water solubility :	(20 °C)		100	Wt %
pH :			12,3 - 12,9	
pH :	(20 °C / 20 g/l)		10 - 10,4	
log P O/W :			not determined	
Odour threshold :			not determined	

Maximum VOC content (EC) : 6,6 Wt %
Oxidising liquids : Not applicable.
Explosive properties : Not applicable.
Corrosive to metals : May be corrosive to metals.

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 :	ATEmix calculated
Exposure route :	Oral
Effective dose :	not relevant
Parameter :	LD50 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Oral
Species :	Mouse
Effective dose :	> 2000 mg/kg
Parameter :	LD50 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Oral
Species :	Rat
Effective dose :	2440 mg/kg
Parameter :	LD50 (DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3)
Exposure route :	Oral
Species :	Rat
Effective dose :	300 - 2000 mg/kg
Parameter :	LD50 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Exposure route :	Oral
Species :	Rat
Effective dose :	approx. 344 mg/kg
Parameter :	LD50 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Exposure route :	Oral
Species :	Rat
Effective dose :	795 mg/kg
Method :	OECD 401
Parameter :	LD50 (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)

Exposure route :	Oral
Species :	Rat
Effective dose :	365 mg/kg
Parameter :	LD50 (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)
Exposure route :	Oral
Species :	Rat
Effective dose :	273 mg/kg
Parameter :	LD50 (EUCALYPTOL ; CAS No. : 470-82-6)
Exposure route :	Oral
Species :	Rat
Effective dose :	2480 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

Practical experience/human evidence

Causes severe skin burns and eye damage.

Acute dermal toxicity

Parameter :	ATEmix calculated
Exposure route :	Dermal
Effective dose :	not relevant
Parameter :	LD50 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	> 2000 mg/kg
Method :	OECD 402
Parameter :	LD50 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	> 4640 mg/kg
Parameter :	LD50 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	approx. 3340 mg/kg

Acute inhalation toxicity

Parameter :	ATEmix calculated
Exposure route :	Inhalation (vapour)
Effective dose :	not relevant
Parameter :	LC50 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Exposure route :	Inhalation
Species :	Rat
Effective dose :	> 1,1 mg/l
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)

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 (TETRAPOTASSIUM 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 (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 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Species :	Oncorhynchus mykiss (Rainbow trout)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	0,85 mg/l
Exposure time :	96 h
Method :	OECD 203
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
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 (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 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)

Species :	Oncorhynchus mykiss (Rainbow trout)
Evaluation parameter :	Chronic (long-term) fish toxicity
Effective dose :	100 mg/l
Exposure time :	96 h
Method :	OECD 203
Parameter :	NOEC (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Species :	Pimephales promelas (fathead minnow)
Evaluation parameter :	Chronic (long-term) fish toxicity
Effective dose :	0,032 mg/l
Exposure time :	816 h

Acute (short-term) daphnia toxicity

Parameter :	EC50 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	> 100 mg/l
Exposure time :	48 h
Method :	OECD 202
Parameter :	EC50 (DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	> 0,01 - 0,1 mg/l
Exposure time :	48 h
Parameter :	EC50 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	0,016 mg/l
Exposure time :	48 h

Chronic (long-term) daphnia toxicity

Parameter :	NOEC (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Chronic (long-term) daphnia toxicity
Effective dose :	0,0042 mg/l
Exposure time :	504 h

Acute (short-term) algae toxicity

Parameter :	EC50 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Species :	Desmodesmus subspicatus
Evaluation parameter :	Acute (short-term) algae toxicity
Effective dose :	> 100 mg/l
Exposure time :	72 h
Method :	OECD 201
Parameter :	IC50 (DIOCTYL-DIMETHYL AMMONIUM CHLORIDE ; CAS No. : 5538-94-3)
Species :	Algae
Evaluation parameter :	Acute (short-term) algae toxicity
Effective dose :	> 0,01 - 0,1 mg/l
Exposure time :	72 h
Parameter :	EC50 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Species :	Pseudokirchneriella subcapitata
Evaluation parameter :	Acute (short-term) algae toxicity
Effective dose :	0,02 mg/l
Exposure time :	72 h
Method :	OECD 201

Chronic (long-term) algae toxicity

Parameter :	NOEC (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Species :	Algae
Evaluation parameter :	Chronic (long-term) algae toxicity
Effective dose :	> 100 mg/l

Exposure time : 72 h
Method : OECD 201

Bacteria toxicity

Parameter : EC50 (TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5)
Evaluation parameter : Bacteria toxicity
Effective dose : > 1000 mg/l
Exposure time : 3 h

Parameter : EC50 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Evaluation parameter : Bacteria toxicity
Effective dose : 7,75 mg/l
Exposure time : 3 h
Method : OECD 209

Parameter : EC50 (POTASSIUM HYDROXIDE ; CAS No. : 1310-58-3)
Evaluation parameter : Bacteria toxicity
Effective dose : 22 mg/l
Exposure time : 15 min

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.

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)

Sea transport (IMDG)

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

Air transport (ICAO-TI / IATA-DGR)

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

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 l · E 1
Hazard label(s) :	8

Sea transport (IMDG)

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

Air transport (ICAO-TI / IATA-DGR)

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

15. Restrictions on use

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_2 = 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
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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

16.6 Training advice

None

16.7 Additional information

Notice the directions for use on the label.

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.