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

Trade name :	Orotol® plus Disinfection of suction systems		
Revision date :	04.01.2023	**Version (Revision) :**	7.0.0 (6.0.1)
Print date :	27.03.2023		

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

1.1 Product identifier

Orotol® plus Disinfection of suction systems

Unique Formula Identifier : 6HQ8-Q5CG-130P-2RS1

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.

Products Category [PC]

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

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, 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]

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

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

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

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

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

DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; 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 [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

The mixture does not contain any substances that have endocrine disrupting properties. The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

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 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

DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; REACH No. : 01-2120767055-53 ; EC No. : 226-901-0; CAS No. : 5538-94-3

Weight fraction :	≥ 3 - < 5 %
Classification 1272/2008 [CLP] :	Acute Tox. 2 ; H310 Acute Tox. 3 ; H301 Skin Corr. 1B ; H314 Eye Dam. 1 ; H318 Aquatic Acute 1 ; H400 Aquatic Chronic 1 ; H410
Specific Conc. Limits :	(M Chronic=1) • (M Acute=10)

DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; REACH No. : - ; 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
Specific Conc. Limits :	(M Chronic=1) • (M Acute=10)

POTASSIUM HYDROXIDE ; REACH 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
Specific Conc. Limits :	Skin Corr. 1A ; H314: C ≥ 5 % • Eye Dam. 1 ; H318: C ≥ 2 % • Skin Corr. 1B ; H314: C ≥ 2 % • Skin Corr. 1C ; H314: C ≥ 2 % • Eye Irrit. 2 ; H319: C ≥ 0,5 % • Skin Irrit. 2 ; H315: C ≥ 0,5 %

HEXYL CINNAMAL ; REACH No. : 01-2119533092-50 ; EC No. : 202-983-3; CAS No. : 101-86-0

Weight fraction :	< 0,02 %
Classification 1272/2008 [CLP] :	Skin Sens. 1B ; H317 Aquatic Acute 1 ; H400 Aquatic Chronic 2 ; H411
Specific Conc. Limits :	(M Acute=1)

Additional information

For full text of Hazard- and EU Hazard-statements: 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.

Following 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

If unconscious but breathing normally, place in recovery position and seek medical advice.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO2) Extinguishing powder Water spray jet 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 (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 and in a well-ventilated place.

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^3

DNEL-/PNEC-values

There are no data available on the preparation itself.

DNEL/DMEL

TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5

Limit value type :	DNEL Consumer (systemic)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	0,68 mg/l
Limit value type :	DNEL Consumer (systemic)
Exposure route :	Oral

Exposure frequency :	Long-term
Limit value :	> 70 mg/kg
Assessment factor :	24 h
Limit value type :	DNEL Consumer (systemic)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	10,87 mg/m³
Limit value type :	DNEL worker (systemic)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	2,79 mg/m³
Limit value type :	DNEL worker (systemic)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	44,08 mg/m³

DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; CAS No. : 5538-94-3

Limit value type :	DNEL/DMEL (Consumer)
Exposure route :	Oral
Exposure frequency :	Long-term
Limit value :	7,5 mg/kg
Assessment factor :	24 h
Limit value type :	DNEL/DMEL (Consumer)
Exposure route :	Dermal
Limit value :	7,5 mg/kg
Assessment factor :	24 h
Limit value type :	DNEL/DMEL (Industrial)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	18,79 mg/m³
Limit value type :	DNEL/DMEL (Industrial)
Exposure route :	Dermal
Exposure frequency :	Long-term
Limit value :	2,67 mg/kg

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

Limit value type :	DNEL Consumer (local)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	1 mg/m³
Limit value type :	DNEL worker (local)
Exposure route :	Inhalation
Exposure frequency :	Long-term
Limit value :	1 mg/m³

HEXYL CINNAMAL ; CAS No. : 101-86-0

Limit value type :	DNEL worker (local)
Exposure route :	Inhalation
Exposure frequency :	Short-term
Limit value :	6,28 mg/m³
Limit value type :	DNEL worker (local)
Exposure route :	Dermal
Exposure frequency :	Long-term
Limit value :	525 µg/cm²
Limit value type :	DNEL worker (local)
Exposure route :	Dermal
Exposure frequency :	Short-term
Limit value :	525 µg/cm²

Limit value type : DNEL worker (systemic)
Exposure route : Inhalation
Exposure frequency : Long-term
Limit value : 0,078 mg/m³
Limit value type : DNEL worker (systemic)
Exposure route : Dermal
Exposure frequency : Long-term
Limit value : 18,2 mg/kg bw
Assessment factor : 24 h

PNEC

TETRAPOTASSIUM DIPHOSPHATE ; CAS No. : 7320-34-5
Limit value type : PNEC (Aquatic, freshwater)
Limit value : 0,05 mg/l
Limit value type : PNEC (Aquatic, intermittent release)
Limit value : 0,5 mg/l
Limit value type : PNEC (Aquatic, marine water)
Limit value : 0,005 mg/l
Limit value type : PNEC (Sewage treatment plant)
Limit value : 50 mg/l

DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; CAS No. : 5538-94-3
Limit value type : PNEC (Aquatic, freshwater)
Limit value : 0,001 mg/l
Limit value type : PNEC (Aquatic, marine water)
Limit value : 0,00001 mg/l
Limit value type : PNEC (Sewage treatment plant)
Limit value : 0,5 mg/l

DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9
Limit value type : PNEC (Aquatic, freshwater)
Limit value : 0,00034 mg/l
Limit value type : PNEC (Aquatic, marine water)
Limit value : 0,0342 ppm
Limit value type : PNEC (Sediment, freshwater)
Limit value : 5,61 mg/kg
Limit value type : PNEC (Sediment, marine water)
Limit value : 0,561 mg/kg
Limit value type : PNEC (Sewage treatment plant)
Limit value : 0,273 mg/l

HEXYL CINNAMAL ; CAS No. : 101-86-0
Limit value type : PNEC (Aquatic, freshwater)
Exposure time : Short-term
Limit value : 0,001 mg/l
Limit value type : PNEC (Aquatic, marine water)
Exposure time : Short-term
Limit value : 0 mg/l
Limit value type : PNEC (Sediment, freshwater)
Exposure time : Short-term
Limit value : 3,2 mg/kg
Limit value type : PNEC (Sediment, marine water)
Exposure time : Short-term
Limit value : 0,064 mg/kg
Limit value type : PNEC (Soil)
Exposure time : Short-term
Limit value : 0,398 mg/kg
Limit value type : PNEC (Sewage treatment plant)
Exposure time : Short-term

Limit value : 10 mg/l

8.2 Exposure controls

Personal protection equipment

Eye/face protection

Eye glasses with side protection 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 information

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.

Other protection measures

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 characteristics

Melting point/freezing point :	(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		
Auto-ignition temperature :			not applicable		
Lower explosion limit :			not applicable		
Upper explosion limit :			not applicable		
Vapour pressure :	(50 °C)		not determined		
Density :	(20 °C)	approx.	1,09	g/cm³	
Solvent separation test :	(20 °C)	<	3	%	
Water solubility :	(20 °C)		100	Weight-%	
pH :			12,5 - 13,5		
pH :	(20 °C / 20 g/l)		10 - 11		
log P O/W :			not determined		
Flow time :	(20 °C)	<	20	s	DIN-cup 4 mm
Odour threshold :			not determined		
Maximum VOC content (EC) :			6,6	Weight-%	
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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity
Based on available data, the classification criteria are not met.

Acute oral toxicity

Parameter :	LD50
Exposure route :	Oral
Species :	Rat
Effective dose :	> 2000 mg/kg
Method :	OECD 401
Parameter :	ATEmix
Exposure route :	Oral
Effective dose :	not relevant
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

Acute dermal toxicity

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

Acute inhalation toxicity

Parameter :	ATEmix
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

Corrosion

Causes severe skin burns and eye damage. Rabbit´s eye: no irritation. 2 % solution. Method : OECD 405.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met. Guinea-pig: non-sensitizing (2 % solution). Method : OECD 406.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

The mixture does not contain any substances that have endocrine disrupting properties.

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

Harmful to aquatic life with long lasting effects.

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 (DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; 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 (DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; 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 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)

Species :	Poecilia reticulata (Guppy)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	2 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 :	2 mg/l
Exposure time :	96 h
Parameter :	LC50 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Species :	Danio rerio (zebrafish)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	10 - 100 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

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) toxicity to crustacea

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) toxicity to aquatic invertebrate

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) toxicity to algae and cyanobacteria

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) toxicity to aquatic algae and cyanobacteria

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

Toxicity to microorganisms

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

Parameter : EC50 (DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; CAS No. : 5538-94-3)
Species : Bacteria toxicity
Effective dose : 22 mg/l
Exposure time : 3 h
Method : OECD 209

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 (DODECYLDIMETHYLBENZYLAMMONIUM CHLORIDE ; CAS No. : 85409-22-9)
Evaluation parameter : Bacteria toxicity
Effective dose : 7,03 mg/l
Exposure time : 21 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 (DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; 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 (DIMETHYLDIOCTYLAMMONIUMCHLORIDE ; 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

Sewage treatment plant

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
Distribution
There are no data available on the preparation itself.

12.5 Results of PBT and vPvB assessment
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Endocrine disrupting properties
The mixture does not contain any substances that have endocrine disrupting properties.

12.7 Other adverse effects
No information available.

12.8 Additional ecotoxicological information
Prevent from flowing into surface water/ground water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Directive 2008/98/EC (Waste Framework Directive)
After intended use

Disposal operations

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

Recovery operations

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

Waste codes/waste designations according to EWC/AVV

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

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. (DIMETHYLDIOCTYLAMMONIUMCHLORIDE · POTASSIUM HYDROXIDE)

Sea transport (IMDG)

CAUSTIC ALKALI LIQUID, N.O.S. (DIMETHYLDIOCTYLAMMONIUMCHLORIDE · POTASSIUM HYDROXIDE)

Air transport (ICAO-TI / IATA-DGR)

CAUSTIC ALKALI LIQUID, N.O.S. (DIMETHYLDIOCTYLAMMONIUMCHLORIDE · 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 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 · IMDG-Code segregation group 18 - Alkalis
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 Maritime transport in bulk according to IMO instruments
not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU legislation
Authorisations and/or restrictions on use
Restrictions on use
Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)
Use restriction according to REACH annex XVII, no. : 3, 40, 75
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. Label elements · 03. Hazardous ingredients · 15. Restrictions on use

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]

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

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

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
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.
H411	Toxic to aquatic life with long lasting effects.

16.6 Training advice

None

16.7 Additional information

Follow the instructions 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.

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

Trade name :	MD 555 cleaner Special cleaner for suction system		
Revision date :	16.12.2022	**Version (Revision) :**	4.0.0 (3.0.0)
Print date :	16.12.2022		

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

1.1 Product identifier

MD 555 cleaner Special cleaner for suction system

Unique Formula Identifier : 3UYT-6YW2-6G0T-V1WT

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

Relevant identified uses

MD 555 cleaner is a non-foaming special cleaner for dental suction systems including drainage lines.

Products Category [PC]

PC 35 - Washing and cleaning products

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

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, 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]

Skin Irrit. 2 ; H315 - Skin corrosion/irritation : Category 2 ; Causes skin irritation.

Eye Irrit. 2 ; H319 - Serious eye damage/eye irritation : Category 2 ; Causes serious eye irritation.

Classification procedure

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP].

2.2 Label elements

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

Hazard pictograms

Exclamation mark (GHS07)

Signal word

Warning

Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.

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.
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

The mixture does not contain any substances that have endocrine disrupting properties. The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description

MD 555 contains organic and inorganic acids, foam-free surfactants, dyes and auxiliary agents in aqueous solution.

Hazardous ingredients

CITRIC ACID MONOHYDRATE ; REACH No. : 01-2119457026-42 ; EC No. : 201-069-1; CAS No. : 5949-29-1

Weight fraction :	≥ 20 - < 25 %
Classification 1272/2008 [CLP] :	Eye Irrit. 2 ; H319 STOT SE 3 ; H335

PHOSPHORIC ACID ; REACH No. : 01-2119485924-24 ; EC No. : 231-633-2; CAS No. : 7664-38-2

Weight fraction :	≥ 15 - < 20 %
Classification 1272/2008 [CLP] :	Met. Corr. 1 ; H290 Skin Corr. 1B ; H314 Eye Dam. 1 ; H318
Specific Conc. Limits :	Eye Dam. 1 ; H318: C ≥ 25 % • Skin Corr. 1B ; H314: C ≥ 25 % • Skin Corr. 1C ; H314: C ≥ 25 % • Eye Irrit. 2 ; H319: C ≥ 10 % • Skin Irrit. 2 ; H315: C ≥ 10 %

Additional information

For full text of Hazard- and EU Hazard-statements: 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.

Following 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 serious eye irritation. Causes skin irritation.

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 jet 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 (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 and in a well-ventilated place.

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
PHOSPHORIC ACID ; CAS No. : 7664-38-2

Limit value type (country of origin) : STEL (EC)
- Limit value : 2 mg/m³
- Version : 20.06.2019

Limit value type (country of origin) : TWA (EC)
- Limit value : 1 mg/m³
- Version : 20.06.2019

Limit value type (country of origin) : TLV/STEL (EC)
- Limit value : 2 mg/m³
- Version :

Limit value type (country of origin) : TLV/TWA (EC)
- Limit value : 1 mg/m³
- Version :

Limit value type (country of origin) : TLV/STEL (GB)
- Limit value : 2 mg/m³
- Version :

Limit value type (country of origin) : TLV/TWA (GB)
- Limit value : 1 mg/m³
- Version :

DNEL-/PNEC-values
There are no data available on the preparation itself.

DNEL/DMEL

PHOSPHORIC ACID ; CAS No. : 7664-38-2

Limit value type : DNEL Consumer (local)
- Exposure route : Inhalation
- Exposure frequency : Long-term
- Limit value : 0,73 mg/m³

Limit value type : DNEL worker (local)
- Exposure route : Inhalation
- Exposure frequency : Long-term
- Limit value : 2,92 mg/m³

Limit value type : DNEL worker (systemic)
- Exposure route : Inhalation
- Exposure frequency : Long-term
- Limit value : 1 mg/m³

PNEC

CITRIC ACID MONOHYDRATE ; CAS No. : 5949-29-1

Limit value type : PNEC (Aquatic, freshwater)
- Limit value : 0,44 mg/l

Limit value type : PNEC (Aquatic, marine water)
- Limit value : 0,044 mg/l

Limit value type : PNEC (Sediment, freshwater)
- Limit value : 3,46 mg/kg

Limit value type : PNEC (Sediment, marine water)

Limit value :	34,6 mg/kg
Limit value type :	PNEC (Soil)
Limit value :	33,1 mg/kg
Limit value type :	PNEC (Sewage treatment plant)
Limit value :	> 1000 mg/l

8.2 Exposure controls

Personal protection equipment

Eye/face protection

Eye glasses with side protection 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 information

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.

Other protection measures

Provide adequate ventilation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Liquid

Colour : light red

Odour : odourless

Safety characteristics

Melting point/freezing point :	(1013 hPa)		No data available		
Initial boiling point and boiling range :	(1013 hPa)	approx.	100	°C	
Decomposition temperature :	(1013 hPa)		not applicable		
Flash point :			not applicable		
Auto-ignition temperature :			not applicable		
Lower explosion limit :			not applicable		
Upper explosion limit :			not applicable		
Vapour pressure :	(50 °C)		No data available		
Density :	(20 °C)	approx.	1,2	g/cm^3	
Solvent separation test :	(20 °C)	<	3	%	
Water solubility :	(20 °C)		100	Weight-%	
pH value :	(20 °C / 50 g/l)		1,5 - 2,5		
pH value :	(20 °C / 100 g/l)	<	1		
log P O/W :			No data available		
Flow time :	(20 °C)	<	12	s	DIN-cup 4 mm
Odour threshold :			not applicable		
Maximum VOC content (EC) :			0	Weight-%	

Oxidising liquids :	Not applicable.
Explosive properties :	Not applicable.
Corrosive to metals :	Not 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). Exothermal reaction with alkalis.

10.3 Possibility of hazardous reactions

Exothermal reaction with alkalis.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

Alkali (lye), concentrated.

10.6 Hazardous decomposition products

None known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on available data, the classification criteria are not met.

Acute oral toxicity

Parameter :	ATEmix calculated
Exposure route :	Oral
Effective dose :	not relevant
Parameter :	LD50 (PHOSPHORIC ACID ; CAS No. : 7664-38-2)
Exposure route :	Oral
Species :	Rat
Effective dose :	1530 mg/kg
Parameter :	LD50 (CITRIC ACID ; CAS No. : 77-92-9)
Exposure route :	Oral
Species :	Rat
Effective dose :	9999,99 mg/kg

Practical experience/human evidence

Eye contact: irritation.

Acute dermal toxicity

Parameter :	ATEmix calculated
Exposure route :	Dermal
Effective dose :	not relevant
Parameter :	LD50 (PHOSPHORIC ACID ; CAS No. : 7664-38-2)
Exposure route :	Dermal
Species :	Rabbit
Effective dose :	2740 mg/kg

Acute inhalation toxicity

Parameter :	ATEmix calculated
Exposure route :	Inhalation (vapour)
Effective dose :	not relevant

Parameter :	LD50 (PHOSPHORIC ACID ; CAS No. : 7664-38-2)
Exposure route :	Inhalation
Species :	Rabbit
Effective dose :	1,689 mg/l

Corrosion

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

The mixture does not contain any substances that have endocrine disrupting properties.

Additional information

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP].

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Based on available data, the classification criteria are not met.

Acute (short-term) fish toxicity

Parameter :	LC50 (PHOSPHORIC ACID ; CAS No. : 7664-38-2)
Species :	Fish
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	3 - 3,5 mg/l
Exposure time :	96 h
Parameter :	LC0 (PHOSPHORIC ACID ; CAS No. : 7664-38-2)
Species :	Fish
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	100 - 1000 mg/l

Acute (short-term) toxicity to crustacea

Parameter :	EC50 (PHOSPHORIC ACID ; CAS No. : 7664-38-2)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity
Effective dose :	> 100 mg/l
Method :	OECD 202

Toxicity to microorganisms

Parameter :	EC0 (CITRIC ACID MONOHYDRATE ; CAS No. : 5949-29-1)
Evaluation parameter :	Bacteria toxicity
Effective dose :	10000 mg/l

12.2 Persistence and degradability

Abiotic degradation

No data available.

Biodegradation

The surfactants contained in this mixture comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

Distribution

There are no data available on the preparation itself.

12.5 Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Endocrine disrupting properties

The mixture does not contain any substances that have endocrine disrupting properties.

12.7 Other adverse effects

No information available.

12.8 Additional ecotoxicological information

Prevent from flowing into surface water/ground water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Directive 2008/98/EC (Waste Framework Directive)

After intended use

Disposal operations

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

Recovery operations

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

Waste codes/waste designations according to EWC/AVV

Concentrate/larger quantities: 20 01 14* acids.

SECTION 14: Transport information

14.1 UN number

No dangerous good in sense of these transport regulations.

14.2 UN proper shipping name

No dangerous good in sense of these transport regulations.

14.3 Transport hazard class(es)

No dangerous good in sense of these transport regulations.

14.4 Packing group

No dangerous good in sense of these transport regulations.

14.5 Environmental hazards

No dangerous good in sense of these transport regulations.

14.6 Special precautions for user
None

14.7 Maritime transport in bulk according to IMO instruments
not applicable

SECTION 15: Regulatory information

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

Authorisations and/or restrictions on use

Restrictions on use

Regulation (EC) No. 1907/2006 (REACH), Annex XVII (restrictions)

Use restriction according to REACH annex XVII, no. : 3, 75

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
14. UN proper shipping name - Land transport (ADR/RID) · 14. UN proper shipping name - Sea transport (IMDG) · 14. UN proper shipping name - Air transport (ICAO-TI / IATA-DGR) · 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) · 15. Restrictions on use

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
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DMEL = Derived Minimal Effect Level
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EC50 = Half maximal effective concentration
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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
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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]

The classification was carried out according to the calculation method of Regulation No. (EC) 1272/2008 [CLP].

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

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

16.6 Training advice

None

16.7 Additional information

Follow the instructions 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.