

Safety Data Sheet

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

Trade name : Orotol® Disinfection of suction systems
Revision : 12.05.2015
Print date : 12.05.2015

Version (Revision) : 2.0.0 (1.0.0)

1.1 Product identifier

Orotol® Disinfection of suction systems

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

Relevant identified uses

Orotol® 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 AG, Höpfigheimer Straße 17, 74321 Bietigheim-Bissingen, Germany

Tel: +49 7142 705-0, Fax: +49 7142 705-500, info@duerr.de

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)

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 : Category 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.

Classification according to Directive 67/548/EEC or 1999/45/EC

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. · Irritating to eyes and skin.

R 52/53 · Xi ; R 36/38

2.2 Label elements

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

Hazard pictograms



Corrosion (GHS05)

Signal word

Danger

Hazard components for labelling

NA-4-CHLORO-3-METHYLPHENOLATE ; CAS No. : 15733-22-9
SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8
NA-2-BENZYL-4-CHLOROPHENOLATE ; CAS No. : 3184-65-4

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

P262 Do not get in eyes, on skin, or on clothing.
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.

Labelling (67/548/EEC or 1999/45/EC)

Hazard symbols and hazard statements of dangerous substances and preparations



Xi ; Irritant

R-phrases

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
36/38 Irritating to eyes and skin.

S-phrases

37 Wear suitable gloves.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice .

2.3 Other hazards

None

3.2 Mixtures

Description

Orotol® contains halogenated alkyl- and arylphenols, complexing agents, solubilizers, benzyl benzoate, amyl cinnamal, fragrances and auxiliary agents in aqueous solution.

Hazardous ingredients

NA-4-CHLORO-3-METHYLPHENOLATE ; EC No. : 239-825-8 ; CAS No. : 15733-22-9

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

Classification 67/548/EEC : C ; R34 Xn ; R21/22

Classification 1272/2008 [CLP] : Acute Tox. 3 ; H311 Skin Corr. 1B ; H314 Acute Tox. 4 ; H302

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

Weight fraction : $\geq 1 - < 5 \%$
Classification 67/548/EEC : Xi ; R41 Xn ; R20/22 Xi ; R38
Classification 1272/2008 [CLP] : Eye Dam. 1 ; H318 Acute Tox. 4 ; H302 Acute Tox. 4 ; H332 Skin Irrit. 2 ; H315

NA-2-BENZYL-4-CHLOROPHENOLATE ; CAS No. : 3184-65-4

Weight fraction : $\geq 1 - < 2,5 \%$
Classification 67/548/EEC : N ; R50/53 C ; R34
Classification 1272/2008 [CLP] : Skin Corr. 1B ; H314 Aquatic Acute 1 ; H400 Aquatic Chronic 1 ; H410

NA-2-PHENYLPHENOLATE ; EC No. : 205-055-6; CAS No. : 6152-33-6

Weight fraction : $\geq 1 - < 2 \%$
Classification 67/548/EEC : N ; R50 Xi ; R36/37/38
Classification 1272/2008 [CLP] : Skin Irrit. 2 ; H315 Eye Irrit. 2 ; H319 STOT SE 3 ; H335 Aquatic Acute 1 ; H400

BENZYL BENZOATE ; REACH registration No. : - ; EC No. : 204-402-9; CAS No. : 120-51-4

Weight fraction : $< 0,1 \%$
Classification 67/548/EEC : N ; R51/53 Xn ; R22
Classification 1272/2008 [CLP] : Acute Tox. 4 ; H302 Aquatic Chronic 2 ; H411

α -AMYL CINNAMALDEHYDE (AMYL CINNAMAL) ; EC No. : 204-541-5; CAS No. : 122-40-7

Weight fraction : $< 0,05 \%$
Classification 67/548/EEC : Xi ; R36/37/38
Classification 1272/2008 [CLP] : Skin Irrit. 2 ; H315 Eye Irrit. 2 ; H319 STOT SE 3 ; H335

Additional information

Full text of R-, 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: Fire-fighting 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.

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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.

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

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

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8.1 Control parameters

Occupational exposure limit values

(2-METHOXYMETHYLETHOXY)PROPANOL ; CAS No. : 34590-94-8

Limit value type (country of origin) : TWA (EC)
Limit value : 50 ppm / 308 mg/m³
Remark : H
Version : 08.06.2000
Limit value type (country of origin) : TLV/TWA (EC)
Limit value : 50 ppm / 308 mg/m³
Remark : H
Limit value type (country of origin) : TLV/TWA (GB)
Limit value : 50 ppm / 308 mg/m³

DNEL/DMEL and PNEC values

There are no data available on the preparation itself.

DNEL/DMEL

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/m³
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/m³
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/m³
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/m³
Limit value type : DNEL Consumer (systemic) (SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 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/m³
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/m³
Limit value type : DNEL worker (systemic) (SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8)
Exposure route : Inhalation
Exposure frequency : Long-term (repeated)

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Limit value : 2,5 mg/m³
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/m³

PNEC

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)
Exposure route : Water (Including sewage plant)
Limit value : 57 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 : brown

Odour : Phenol

Safety relevant basis data

Melting point/melting range :	(1013 hPa)	No data available
Initial boiling point and boiling range :	(1013 hPa)	ca. 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)	1,04 - 1,06 g/cm ³
Solvent separation test :	(20 °C)	3 %
Water solubility :	(20 °C)	100 Wt %
pH value :		12 - 13
pH value :	(20 °C / 50 g/l)	10 - 11
log P O/W :		No data available
Flow time :	(20 °C)	12 s
Odour threshold :		No data available
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

No information available.

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 :	Mouse
Effective dose :	ca. 12 g/kg
Method :	OECD 401

Practical experience/human evidence

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Causes severe skin burns and eye damage.

Irritant and corrosive effects

Causes severe skin burns and eye damage.

Sensitisation

No data available.

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

There are no data available on the preparation itself.

Acute (short-term) fish toxicity

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 (NA-2-PHENYLPHENOLATE ; CAS No. : 6152-33-6)
Species :	Oncorhynchus mykiss (Rainbow trout)
Evaluation parameter :	Acute (short-term) fish toxicity
Effective dose :	4 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 :	EC50 (NA-2-PHENYLPHENOLATE ; CAS No. : 6152-33-6)
Species :	Algae
Evaluation parameter :	Acute (short-term) algae toxicity
Effective dose :	1,35 mg/l
Exposure time :	72 h

Chronic (long-term) fish toxicity

Parameter :	NOEC (SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8)
Species :	Brachydanio rerio (zebra-fish)
Evaluation parameter :	Chronic (long-term) fish toxicity
Effective dose :	>= 25,7 mg/l
Exposure time :	840 h
Method :	OECD 210
Parameter :	NOEC (NA-2-PHENYLPHENOLATE ; CAS No. : 6152-33-6)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Chronic (long-term) daphnia toxicity
Effective dose :	0,009 mg/l
Exposure time :	504 h

Acute (short-term) daphnia toxicity

Parameter :	EC50 (SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8)
Species :	Daphnia magna (Big water flea)
Evaluation parameter :	Acute (short-term) daphnia toxicity

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Effective dose : 140 mg/l
Exposure time : 48 h
Parameter : EC50 (NA-2-PHENYLPHENOLATE ; CAS No. : 6152-33-6)
Species : Daphnia magna (Big water flea)
Evaluation parameter : Acute (short-term) daphnia toxicity
Effective dose : 2,7 mg/l
Exposure time : 48 h

Chronic (long-term) daphnia toxicity

Parameter : NOEC (SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8)
Species : Daphnia magna (Big water flea)
Evaluation parameter : Chronic (long-term) daphnia toxicity
Effective dose : 25 mg/l
Exposure time : 504 h

Acute (short-term) algae toxicity

Parameter : EC50 (SODIUM ETHYLENEDIAMINETETRAACETATE ; CAS No. : 64-02-8)
Species : Algae
Evaluation parameter : Acute (short-term) algae toxicity
Effective dose : > 300 mg/l
Exposure time : 72 h

12.2 Persistence and degradability

Abiotic degradation

No data available.

Biodegradation

All active agents are biodegradable at the dilution rates arising in the sewage system.

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.

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

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14.1 UN number

UN 1719

14.2 UN proper shipping name

Land transport (ADR/RID)

CAUSTIC ALKALI LIQUID, N.O.S. (SODIUMPHENOLATES)

Sea transport (IMDG)

CAUSTIC ALKALI LIQUID, N.O.S. (SODIUMPHENOLATES)

Air transport (ICAO-TI / IATA-DGR)

CAUSTIC ALKALI LIQUID, N.O.S. (SODIUMPHENOLATES)

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 I · LQ 7 · E 1
Hazard label(s) : 8

Sea transport (IMDG)

Class(es) : 8
EmS-No. : F-A / S-B
Special provisions : LQ 5 I · 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 73/78 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. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

15.2 Chemical Safety Assessment

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

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SECTION 16: Other information

16.1 Indication of changes

02. Labelling according to Regulation (EC) No. 1272/2008 [CLP] · 02. Labelling according to Regulation (EC) No. 1272/2008 [CLP] - Hazard components for labelling · 02. Special rules for supplemental label elements for certain mixtures · 02. Labelling (67/548/EEC or 1999/45/EC) · 02. Labelling (67/548/EEC or 1999/45/EC) - Hazard components for labelling · 02. Special provisions concerning the labelling of certain mixtures

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
CO₂ = 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 Relevant R-, H- and EUH-phrases (Number and full text)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.

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H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory 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.
H412	Harmful to aquatic life with long lasting effects.
R20/22	Harmful by inhalation and if swallowed.
R21/22	Harmful in contact with skin and if swallowed.
R22	Harmful if swallowed.
R34	Causes burns.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R50	Very toxic to aquatic organisms.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.5 Training advice

None

16.6 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.
