

safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



Benzalkonium chloride 80 %

article number: **2999**
Version: **1.0 en**

date of compilation: 2015-07-16

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

1.1 Product identifier

Identification of the substance	Benzalkonium chloride
Article number	2999
Registration number (REACH)	not relevant (mixture)

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

Relevant identified uses of the substance or mixture and uses advised against	laboratory chemical
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1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0

Telefax: +49 (0) 721 - 56 06 149

e-mail: sicherheit@carlroth.de

Website: www.carlroth.de

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

e-mail (competent person) : sicherheit@carlroth.de

1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	(Acute Tox. 4)	H302
3.2	skin corrosion/irritation	(Skin Corr. 1B)	H314
3.3	serious eye damage/eye irritation	(Eye Dam. 1)	H318
4.1A	hazardous to the aquatic environment - acute hazard	(Aquatic Acute 1)	H400
4.1C	hazardous to the aquatic environment - chronic hazard	(Aquatic Chronic 1)	H410

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Remarks

For full text of H-phrases: see SECTION 16.

2.2 Label elements

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

Signal word

Danger

Pictograms



Hazard statements

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Precautionary statements - prevention

P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - response

P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

Hazardous ingredients for labelling:

Benzyl-C12-14-alkyldimethylammonium chlorides

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



H314 Causes severe skin burns and eye damage.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
contains: Benzyl-C12-14-alkyldimethylammonium chlorides

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2.3 Other hazards

There is no additional information.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture

Composition/information on ingredients.

Name of substance	Identifier	wt%	Classification acc. to 1272/2008/EC	Pictograms
Benzyl-C12-14-alkyldimethylammonium chlorides	EC No 939-350-2 REACH Reg. No 01-2119970550-39-xxxx	80	Acute Tox. 4 / H302 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	
(2-methoxymethylethoxy)propanol	CAS No 34590-94-8 EC No 252-104-2 REACH Reg. No 01-2119450011-60	8 - 12		

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

After contact with skin, wash immediately with plenty of water. Call a physician in any case.

Following 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. Protect uninjured eye.

Following ingestion

Rinse mouth with water (only if the person is conscious). Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). Call a doctor.

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4.2 Most important symptoms and effects, both acute and delayed

Corrosion, Vomiting, Risk of blindness, Gastric perforation, Risk of serious damage to eyes

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

Hazardous combustion products

In case of fire may be liberated: May produce toxic fumes of carbon monoxide if burning.

5.3 Advice for firefighters

Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provision of sufficient ventilation. Handle and open container with care.

Advice on general occupational hygiene

Do not to eat, drink and smoke in work areas. Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

Not required.

• Ventilation requirements

Use local and general ventilation.

• Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

not relevant

Country	Name of agent	CAS No	Notation	Identifier	TWA [mg/m ³]	STEL [mg/m ³]	Source
EU	(2-methoxymethylethoxy)propanol (DPM)	34590-94-8		IOELV	308		2000/39/EC
UK	(2-methoxymethylethoxy)propanol	34590-94-8		WEL	308		EH40/2005

Notation

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

Relevant DNELs/DMELs/PNECs and other threshold levels

• relevant DNELs of components of the mixture

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Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Benzyl-C12-14-alkyldimethylammonium chlorides		DNEL	5,7 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Benzyl-C12-14-alkyldimethylammonium chlorides		DNEL	3,96 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
(2-methoxymethylethoxy)propanol	34590-94-8	DNEL	65 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
(2-methoxymethylethoxy)propanol	34590-94-8	DNEL	310 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects

• relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
Benzyl-C12-14-alkyldimethylammonium chlorides		PNEC	0,0009 mg/l	freshwater	short-term (single instance)
Benzyl-C12-14-alkyldimethylammonium chlorides		PNEC	0,00096 mg/l	marine water	short-term (single instance)
Benzyl-C12-14-alkyldimethylammonium chlorides		PNEC	0,4 mg/l	sewage treatment plant (STP)	short-term (single instance)
Benzyl-C12-14-alkyldimethylammonium chlorides		PNEC	12,27 mg/kg	freshwater sediment	short-term (single instance)
Benzyl-C12-14-alkyldimethylammonium chlorides		PNEC	13,09 mg/kg	marine sediment	short-term (single instance)
Benzyl-C12-14-alkyldimethylammonium chlorides		PNEC	7 mg/kg	soil	short-term (single instance)
Benzyl-C12-14-alkyldimethylammonium chlorides		PNEC	0,00016 mg/l	water	continuous
(2-methoxymethylethoxy)propanol	34590-94-8	PNEC	7,02	marine sediment	continuous
(2-methoxymethylethoxy)propanol	34590-94-8	PNEC	1,9	marine water	continuous
(2-methoxymethylethoxy)propanol	34590-94-8	PNEC	190	air	continuous
(2-methoxymethylethoxy)propanol	34590-94-8	PNEC	70,2	freshwater sediment	continuous
(2-methoxymethylethoxy)propanol	34590-94-8	PNEC	19	freshwater	continuous

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Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
(2-methoxymethylethoxy)prop anol	34590-94-8	PNEC	4.168	sewage treatment plant (STP)	continuous
(2-methoxymethylethoxy)prop anol	34590-94-8	PNEC	2,74	soil	continuous

8.2 Exposure controls

Individual protection measures (personal protective equipment)



Eye/face protection

Use safety goggle with side protection. Wear face protection.

Skin protection

• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

• type of material

NR: natural rubber, latex

• material thickness

0,65 mm.

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection

Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown). Respiratory protection necessary at: Aerosol or mist formation.

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

Environmental exposure controls

Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid (fluid)
Colour	colourless - light yellow
Odour	characteristic
Odour threshold	No data available

Other physical and chemical parameters

pH (value)	7 - 9 in 50 g/l water at 20 °C
Melting point/freezing point	not determined
Initial boiling point and boiling range	>100 °C at 1.013 hPa
Flash point	>100 °C (closed cup)
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	1,1 vol%
• upper explosion limit (UEL)	14 vol%
Explosion limits of dust clouds	not relevant
Vapour pressure	This information is not available.
Density	0,97 g/cm ³ at 20 °C
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	soluble
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	207 °C

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Viscosity

• dynamic viscosity 500 mPa s at 20 °C

Explosive properties none

Oxidising properties none

9.2 Other information

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

In case of warming: Vapours can form explosive mixtures with air

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser

10.4 Conditions to avoid

Keep away from heat.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

Acute toxicity

• Acute toxicity estimate (ATE)

Exposure route	ATE
oral	625

• Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Benzyl-C12-14-alkyldimethylammonium chlorides		oral	500

Skin corrosion/irritation

Causes severe skin burns and eye damage.

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Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

• Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

• If inhaled

data are not available

• If on skin

causes severe skin burns and eye damage

Other information

None.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)

Very toxic to aquatic organisms.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Benzyl-C12-14-alkyldimethylammonium chlorides		LC50	1,7 mg/l	fish	96 hours
Benzyl-C12-14-alkyldimethylammonium chlorides		ErC50	0,26 mg/l	algae	72 hours
(2-methoxymethylethoxy)propyl alcohol	34590-94-8	EC50	1.919 mg/l	daphnia magna	48 hours
(2-methoxymethylethoxy)propyl alcohol	34590-94-8	LC50	>1.000 mg/l	Poecilia reticulata	96 hours

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Aquatic toxicity (chronic)

May cause long-term adverse effects in the aquatic environment.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Benzyl-C12-14-alkyldimethylammonium chlorides		EC50	11 mg/l	microorganisms	30 min

12.2 Process of degradability

Data are not available.

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time
(2-methoxymethylethoxy)propanol	34590-94-8	biotic/abiotic	96 %	28 d

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
(2-methoxymethylethoxy)propanol	34590-94-8		0,00099	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Strongly hazardous to water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulation.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

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Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	UN number	1760
14.2	UN proper shipping name	CORROSIVE LIQUID, N.O.S.
	Hazardous ingredients	Benzyl-C12-14-alkyldimethylammonium chlorides
14.3	Transport hazard class(es)	
	Class	8 (corrosive substances)
14.4	Packing group	II (substance presenting medium danger)
14.5	Environmental hazards	hazardous to the aquatic environment (Benzyl-C12-14-alkyldimethylammonium chlorides)
14.6	Special precautions for user	
	Provisions for dangerous goods (ADR) should be complied within the premises.	
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code	
	The cargo is not intended to be carried in bulk.	
14.8	Information for each of the UN Model Regulations	
	• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)	
	UN number	1760
	Proper shipping name	CORROSIVE LIQUID, N.O.S.
	Particulars in the transport document	UN1760, CORROSIVE LIQUID, N.O.S., (Benzyl-C12-14-alkyldimethylammonium chlorides , solution), 8, II, (E), environmentally hazardous
	Class	8
	Classification code	C9
	Packing group	II
	Danger label(s)	8 + "fish and tree"

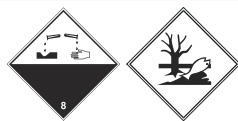
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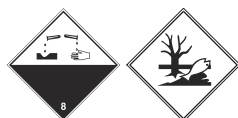
article number: 2999



Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	80

• International Maritime Dangerous Goods Code (IMDG)

UN number	1760
Proper shipping name	CORROSIVE LIQUID, N.O.S.
Particulars in the shipper's declaration	UN1760, CORROSIVE LIQUID, N.O.S., (Benzyl-C12-14-alkyldimethylammonium chlorides , solution), 8, II, MARINE POLLUTANT
Class	8
Marine pollutant	yes (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	8 + "fish and tree"



Special provisions (SP)	274
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	B

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SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients are listed.

- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**

None of the ingredients are listed.

- **Regulation 850/2004/EC on persistent organic pollutants (POP)**

None of the ingredients are listed.

- **Restrictions according to REACH, Annex XVII**

None of the ingredients are listed.

- **List of substances subject to authorisation (REACH, Annex XIV)**

None of the ingredients are listed.

- **Seveso Directive**

96/82/EC (Seveso II)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes)		Notes
9a	dangerous for the environment (R50)	100	200	26)

Notation

26) Risk phrases R50: 'very toxic to aquatic organisms' (including R50/53)

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100	200	56)

Notation

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

- **Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)**

VOC content 0 %

- **Directive on industrial emissions (VOCs, 2010/75/EU)**

VOC content 0 %

- **Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II**

None of the ingredients are listed.

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Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
Acute Tox.	acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	hazardous to the aquatic environment - acute hazard
Aquatic Chronic	hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	BioConcentration Factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	chemical oxygen demand
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits, Table 1: List of approved workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EmS	Emergency Schedule
Eye Dam.	seriously damaging to the eye
Eye Irrit.	irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
log KOW	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic

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Abbr.	Descriptions of used abbreviations
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H302	harmful if swallowed
H314	causes severe skin burns and eye damage
H318	causes serious eye damage
H400	very toxic to aquatic life
H410	very toxic to aquatic life with long lasting effects

Disclaimer

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.