

Page 1 of 20  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 20.11.2023 / 0004  
Replacing version dated / version: 15.11.2023 / 0003  
Valid from: 20.11.2023  
PDF print date: 20.11.2023  
Top Star  
Art.: 132999

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

#### 1.1 Product identifier

**Top Star**  
**Art.: 132999**

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

**Relevant identified uses of the substance or mixture:**

Cleaner

**Uses advised against:**

No information available at present.

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

Koch-Chemie GmbH  
Einsteinstrasse 42  
59423 Unna  
Telefon: +49 (0) 2303 / 9 86 70 - 0  
Fax: +49 (0) 2303 / 9 86 70 - 26  
info@koch-chemie.com  
www.koch-chemie.com

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

#### 1.4 Emergency telephone number

**Emergency information services / official advisory body:**

IRL

National Poisons Information Centre, Beaumont Hospital, Dublin 9, Ireland, Tel.:  
+353 (0)1 809 2166 (Public Poisons Info Line, 8am-10pm, 7 days a week)  
+353 (0)1 809 2566 (Info for Healthcare Professionals ONLY, 24 h, 7 days a week)

**Telephone number of the company in case of emergencies:**

+1 872 5888271 (KCC)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) 1272/2008 (CLP)**

Hazard class	Hazard category	Hazard statement
Skin Sens.	1	H317-May cause an allergic skin reaction.
Aquatic Chronic	3	H412-Harmful to aquatic life with long lasting effects.

#### 2.2 Label elements

**Labeling according to Regulation (EC) 1272/2008 (CLP)**



## Warning

H317-May cause an allergic skin reaction. H412-Harmful to aquatic life with long lasting effects.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.  
 P261-Avoid breathing vapours or spray. P273-Avoid release to the environment. P280-Wear protective gloves.  
 P333+P313-If skin irritation or rash occurs: Get medical advice / attention.  
 P501-Dispose of contents / container to an approved waste disposal facility.

2-Octyl-2H-isothiazol-3-one

## 2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

n.a.

### 3.2 Mixtures

2-Butoxyethanol	Substance for which an EU exposure limit value applies.
Registration number (REACH)	01-2119475108-36-XXXX
Index	603-014-00-0
EINECS, ELINCS, NLP, REACH-IT List-No.	203-905-0
CAS	111-76-2
content %	1-<5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 3, H331 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Specific Concentration Limits and ATE	ATE (oral): 1200 mg/kg ATE (as inhalation, Vapours): 3 mg/l

Bronopol (INN)	
Registration number (REACH)	---
Index	603-085-00-8
EINECS, ELINCS, NLP, REACH-IT List-No.	200-143-0
CAS	52-51-7
content %	0,01-<0,1

Page 3 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

<b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>	Acute Tox. 3, H301 Acute Tox. 3, H331 Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 2, H411
<b>2-Octyl-2H-isothiazol-3-one</b>	
<b>Registration number (REACH)</b>	---
<b>Index</b>	613-112-00-5
<b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>	247-761-7
<b>CAS</b>	26530-20-1
<b>content %</b>	0,0015-<0,01
<b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>	EUH071 Acute Tox. 2, H330 Acute Tox. 3, H301 Acute Tox. 3, H311 Skin Corr. 1, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)
<b>Specific Concentration Limits and ATE</b>	Skin Sens. 1A, H317: $\geq 0,0015\%$ ATE (oral): 125 mg/kg ATE (dermal): 311 mg/kg ATE (as inhalation, Mist): 0,27 mg/l/4h

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.  
 The substances named in this section are given with their actual, appropriate classification!  
 For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.  
 The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!  
 Never pour anything into the mouth of an unconscious person!

#### Inhalation

Supply person with fresh air and consult doctor according to symptoms.

#### Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

#### Eye contact

Remove contact lenses.  
 Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### Ingestion

Rinse the mouth thoroughly with water.  
 Give copious water to drink - consult doctor immediately.

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.  
 In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.  
 reddening of the skin  
 Allergic reaction

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

Page 4 of 20  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 20.11.2023 / 0004  
Replacing version dated / version: 15.11.2023 / 0003  
Valid from: 20.11.2023  
PDF print date: 20.11.2023  
Top Star  
Art.: 132999

Symptomatic treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Adapt to the nature and extent of fire.  
Water jet spray / alcohol resistant foam / CO<sub>2</sub> / dry extinguisher.

#### Unsuitable extinguishing media

None known

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

In case of fire the following can develop:

Oxides of carbon

Toxic gases

### 5.3 Advice for firefighters

For personal protective equipment see Section 8.  
In case of fire and/or explosion do not breathe fumes.  
Protective respirator with independent air supply.  
According to size of fire  
Full protection, if necessary.  
Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

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

#### 6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.  
Ensure sufficient ventilation, remove sources of ignition.  
Avoid dust formation with solid or powder products.  
Leave the danger zone if possible, use existing emergency plans if necessary.  
Avoid contact with eyes or skin.  
If applicable, caution - risk of slipping.

#### 6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

### 6.2 Environmental precautions

If leakage occurs, dam up.  
Resolve leaks if this possible without risk.  
Prevent surface and ground-water infiltration, as well as ground penetration.  
Prevent from entering drainage system.  
If accidental entry into drainage system occurs, inform responsible authorities.

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

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.

Fill the absorbed material into lockable containers.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

Ensure good ventilation.  
Avoid contact with eyes or skin.  
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.  
Observe directions on label and instructions for use.

GB IRL M

Page 5 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

Use working methods according to operating instructions.

### 7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

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

Keep out of access to unauthorised individuals.

Store product closed and only in original packing.

Not to be stored in gangways or stair wells.

Store at room temperature.

Store in a dry place.

### 7.3 Specific end use(s)

No information available at present.

Observe the instructions for good working practice and the recommendations for risk assessment.

Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries,

depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

GB	Chemical Name	2-Butoxyethanol	
	WEL-TWA: 25 ppm (123 mg/m <sup>3</sup> ) (WEL), 20 ppm (98 mg/m <sup>3</sup> ) (EU)	WEL-STEL: 50 ppm (246 mg/m <sup>3</sup> ) (WEL, EU)	---
	Monitoring procedures:	<ul style="list-style-type: none"> <li>- Compur - KITA-190 U(C) (548 873)</li> <li>- DFG Meth.-Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) - 2014, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 32-2 (2004)</li> <li>- NIOSH 1403 (ALCOHOLS IV) - 2003</li> <li>- NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996</li> <li>- OSHA 83 (2-Butoxyethanol (Butyl Cellosolve)) - 1990</li> </ul>	
	BMGV: 240 mmol butoxyacetic acid/mol creatinine in urine, post shift (BMGV)	Other information: Sk (WEL)	

IRL	Chemical Name	2-Butoxyethanol	
	OELV-8h: 20 ppm (98 mg/m <sup>3</sup> ) (OELV-8h, EU)	OELV-15min: 50 ppm (246 mg/m <sup>3</sup> ) (OELV-15min, EU)	---
	Monitoring procedures:	<ul style="list-style-type: none"> <li>- Compur - KITA-190 U(C) (548 873)</li> <li>- DFG Meth.-Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) - 2014, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 32-2 (2004)</li> <li>- NIOSH 1403 (ALCOHOLS IV) - 2003</li> <li>- NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996</li> <li>- OSHA 83 (2-Butoxyethanol (Butyl Cellosolve)) - 1990</li> </ul>	
	BLV: 200 mg/g creatinine (Butoxyacetic acid (BAA) in urine, h) (ACGIH-BEI)	Other information: Sk, IOELV	

M	Chemical Name	2-Butoxyethanol	
	OELV-8h: 20 ppm (98 mg/m <sup>3</sup> ) (OELV-8h, UE)	OELV-ST: 50 ppm (246 mg/m <sup>3</sup> ) (OELV-ST, UE)	---
	Monitoring procedures:	<ul style="list-style-type: none"> <li>- Compur - KITA-190 U(C) (548 873)</li> <li>- DFG Meth.-Nr. 2 (D) (Loesungsmittelgemische 3), DFG (E) (Solvent mixtures 3) - 2014, 2002 - EU project BC/CEN/ENTR/000/2002-16 card 32-2 (2004)</li> <li>- NIOSH 1403 (ALCOHOLS IV) - 2003</li> <li>- NIOSH 2549 (VOLATILE ORGANIC COMPOUNDS (SCREENING)) - 1996</li> <li>- OSHA 83 (2-Butoxyethanol (Butyl Cellosolve)) - 1990</li> </ul>	
	BMGV: 240 mmol butoxyacetic acid/mol creatinine in urine, post shift (BMGV)	Other information: Skin	

**2-Butoxyethanol**

Page 6 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	8,8	mg/l	
	Environment - marine		PNEC	0,88	mg/l	
	Environment - sediment, freshwater		PNEC	34,6	mg/kg dw	
	Environment - soil		PNEC	2,8	mg/kg dw	
	Environment - sewage treatment plant		PNEC	463	mg/l	
	Environment - sediment, marine		PNEC	3,46	mg/kg dw	
	Environment - sporadic (intermittent) release		PNEC	9,1	mg/l	
	Environment - soil		PNEC	2,33	mg/kg	
	Environment - oral (animal feed)		PNEC	20	mg/kg	
Consumer	Human - inhalation	Long term, local effects	DNEL	123	mg/m3	
Consumer	Human - dermal	Short term, systemic effects	DNEL	44,5	mg/kg bw/d	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	426	mg/m3	
Consumer	Human - oral	Short term, systemic effects	DNEL	13,4	mg/kg bw/d	
Consumer	Human - inhalation	Short term, local effects	DNEL	147	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	38	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	49	mg/m3	
Consumer	Human - oral	Long term, systemic effects	DNEL	3,2	mg/kg bw/d	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	89	mg/kg bw/d	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	663	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	246	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	75	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	98	mg/m3	

Bronopol (INN)						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,01	mg/l	
	Environment - marine		PNEC	0,0008	mg/kg	
	Environment - sewage treatment plant		PNEC	0,43	mg/l	
	Environment - sediment, freshwater		PNEC	0,041	mg/kg dw	
	Environment - sediment, marine		PNEC	0,00328	mg/kg dw	
	Environment - soil		PNEC	0,5	mg/kg dw	
	Environment - sporadic (intermittent) release		PNEC	0,0025	mg/l	

Page 7 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

Consumer	Human - inhalation	Long term, systemic effects	DNEL	0,6	mg/m3	
Consumer	Human - inhalation	Long term, local effects	DNEL	0,6	mg/m3	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,7	mg/kg bw/day	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,18	mg/kg bw/day	
Consumer	Human - dermal	Long term, local effects	DNEL	0,004	mg/cm2	
Consumer	Human - dermal	Short term, local effects	DNEL	0,004	mg/cm2	
Consumer	Human - dermal	Short term, systemic effects	DNEL	2,1	mg/kg bw/day	
Consumer	Human - inhalation	Short term, local effects	DNEL	0,6	mg/m3	
Consumer	Human - oral	Short term, systemic effects	DNEL	0,5	mg/kg bw/day	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	10,5	mg/m3	
Workers / employees	Human - inhalation	Short term, local effects	DNEL	2,5	mg/m3	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	6	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, local effects	DNEL	0,008	mg/cm2	
Workers / employees	Human - dermal	Short term, local effects	DNEL	0,008	mg/cm2	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	3,5	mg/m3	
Workers / employees	Human - inhalation	Long term, local effects	DNEL	2,5	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2	mg/kg bw/day	

Polyethylene glycol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	273	mg/l	
	Environment - marine		PNEC	27,3	mg/l	
	Environment - sediment, freshwater		PNEC	1030	mg/kg	
	Environment - sediment, marine		PNEC	103	mg/kg	
	Environment - soil		PNEC	46,4	mg/kg	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	112	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	40,2	mg/m3	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).  
 (8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).  
 (8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value

Page 8 of 20  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 20.11.2023 / 0004  
Replacing version dated / version: 15.11.2023 / 0003  
Valid from: 20.11.2023  
PDF print date: 20.11.2023  
Top Star  
Art.: 132999

EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.  
\*\* = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.  
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

**IRL** OELV-8h = Occupational Exposure Limit Value (8-hour reference period). (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.  
(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). |  
OELV-15min = Occupational Exposure Limit Value (15-minute reference period). (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction.  
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |  
BLV = Biological limit value |  
Other information: Carc1A, Carc1B = carcinogenic substance, Cat. 1A or 1B. Muta1A, Muta1B = mutagenic substance, Cat. 1A or 1B. Repr1A, Repr1B = Substances known to be toxic for reproduction, Cat. 1A or 1B. Sk = can be absorbed through skin. Asphx = asphyxiant. Sen = Respiratory sensitizer. BOELV = Binding Occupational Exposure Limit Values. IOELV = Indicative Occupational Exposure Limit Values.  
(13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

**M** OELV-8h = Occupational Exposure Limit Value - 8 h (8-hour reference period as a time-weighted average)  
[9] = Inhalable fraction (S.L.424.24), [10] = Respirable fraction (S.L.424.24).  
(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). |  
OELV-ST = Occupational Exposure Limit Value - Short-term (15-minute reference period)  
(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU).  
[8] = Short-term exposure limit value in relation to a reference period of 1 minute. (S.L.424.24), [9] = Inhalable fraction (S.L.424.24), [10] = Respirable fraction (S.L.424.24) |  
BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) |  
Other information: Skin = Possibility of a significant uptake through the skin.  
[11] = When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds. (S.L.424.24), [12] = The mist is defined as the thoracic fraction. (S.L.424.24), [13] = Established in accordance with the Annex to Directive 91/322/EEC. (S.L.424.24), [14] = During exposure monitoring for mercury and its divalent inorganic compounds, account should be taken of relevant biological monitoring techniques that complement the OELV. (S.L.424.24).  
(EU13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (EU14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

### 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:



Page 9 of 20  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 20.11.2023 / 0004  
Replacing version dated / version: 15.11.2023 / 0003  
Valid from: 20.11.2023  
PDF print date: 20.11.2023  
Top Star  
Art.: 132999

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Chemical resistant protective gloves (EN ISO 374).

If applicable

Protective gloves in butyl rubber (EN ISO 374).

Protective Neoprene® / polychloroprene gloves (EN ISO 374).

Protective nitrile gloves (EN ISO 374).

Minimum layer thickness in mm:

0,5

Permeation time (penetration time) in minutes:

480

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Protective hand cream recommended.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:

If OES or MEL is exceeded.

Filter A (EN 14387), code colour brown

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls

No information available at present.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	White
Odour:	Characteristic
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	There is no information available on this parameter.
Flammability:	There is no information available on this parameter.
Lower explosion limit:	There is no information available on this parameter.
Upper explosion limit:	There is no information available on this parameter.
Flash point:	There is no information available on this parameter.
Auto-ignition temperature:	There is no information available on this parameter.
Decomposition temperature:	There is no information available on this parameter.
pH:	7
Kinematic viscosity:	There is no information available on this parameter.
Solubility:	Mixable
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	There is no information available on this parameter.
Density and/or relative density:	0,99 g/ml
Relative vapour density:	There is no information available on this parameter.

Page 10 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

Particle characteristics: Does not apply to liquids.  
**9.2 Other information**  
 No information available at present.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

None known

### 10.5 Incompatible materials

None known

### 10.6 Hazardous decomposition products

No decomposition when used as directed.

## SECTION 11: Toxicological information

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

Possibly more information on health effects, see Section 2.1 (classification).

#### Top Star

Art.: 132999

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:	ATE	>20	mg/l/4h			calculated value
Acute toxicity, by inhalation:	ATE	>5	mg/l/4h			calculated value
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

#### 2-Butoxyethanol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	1200	mg/kg			
Acute toxicity, by dermal route:	LD50	2275	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	ATE	3	mg/l			Vapours
Skin corrosion/irritation:				Rabbit	Regulation (EC) 440/2008 B.4 (DERMAL IRRITATION/CORROSION)	Skin Irrit. 2, Product removes fat.

Page 11 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Carcinogenicity:				Rat	OECD 451 (Carcinogenicity Studies)	Negative
Carcinogenicity:	NOAEC	125	ppm	Mouse	OECD 451 (Carcinogenicity Studies)	Negative
Reproductive toxicity:	NOAEL	720	mg/kg bw/d			
Aspiration hazard: Symptoms:						No acidosis, ataxia, breathing difficulties, respiratory distress, drowsiness, unconsciousness, annoyance, coughing, headaches, gastrointestinal disturbances, insomnia, mucous membrane irritation, dizziness, nausea
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	<69	mg/kg bw/d	Rat	OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	
Specific target organ toxicity - repeated exposure (STOT-RE), dermal:	NOAEL	>150	mg/kg bw/d	Rabbit	OECD 411 (Subchronic Dermal Toxicity - 90-day Study)	

**Bronopol (INN)**

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	193-211	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	



Page 13 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							The surfactant(s) contained in this mixture complies(compl y) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							Does not apply to mixtures.
12.7. Other adverse effects:							No information available on other adverse effects on the environment.
Other information:							DOC-elimination degree(complex ing organic substance)>= 80%/28d: n.a.
Other information:	AOX				%		According to the recipe, contains no AOX.

**2-Butoxyethanol**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1474	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	

Page 14 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

12.1. Toxicity to fish:	NOEC/NOEL	21d	>100	mg/l	Brachydanio rerio	OECD 204 (Fish, Prolonged Toxicity Test - 14-Day Study)	
12.1. Toxicity to daphnia:	EC50	48h	1550	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	100	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	EC50	72h	1840	mg/l	Pseudokirchnerie lla subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	286	mg/l	Pseudokirchnerie lla subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	95	%		OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)	Readily biodegradable
12.2. Persistence and degradability:		28d	>99	%		OECD 302 B (Inherent Biodegradability - Zahn-Wellens/EMPA Test)	Readily biodegradable
12.3. Bioaccumulative potential:	BCF		3,2				Slight
12.3. Bioaccumulative potential:	Log Pow		0,81			OECD 107 (Partition Coefficient (n-octanol/water) - Shake Flask Method)	Not to be expected
12.4. Mobility in soil:	H (Henry)		0,0000016	atm*m3/mol			
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10	16h	>700	mg/l	Pseudomonas putida	DIN 38412 T.8	

**Bronopol (INN)**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	41,2	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	LC50	49d	39,1	mg/l	Oncorhynchus mykiss	OECD 210 (Fish, Early-Life Stage Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,27	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to daphnia:	EC50	48h	1,4	mg/l	Daphnia magna		

Page 15 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

12.1. Toxicity to algae:	EC50	72h	0,4 - 2,8	mg/l	Pseudokirchnerie lla subcapitata		
12.2. Persistence and degradability:			2,4	h			Product may hydrolyse., Half-life 50 °C, pH 7
OECD 111							
12.2. Persistence and degradability:		28d	70-80	%	activated sludge	OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Readily biodegradable
12.2. Persistence and degradability:	DOC	45d	50	%		OECD 302 B (Inherent Biodegradability - Zahn-Wellens/EMPA Test)	Biodegradable
12.3. Bioaccumulative potential:	BCF		3,16				Low
12.3. Bioaccumulative potential:	Log Pow		0,18				Not accepted due to the log Pow - value.
12.4. Mobility in soil:							Not to be expected
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC20	3h	2	mg/l	Pseudomonas putida	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Other organisms:	LC50	14d	>500	mg/l	Eisenia foetida	OECD 207 (Earthworm, Acute Toxicity Tests)	
Other information:	COD		600	mg/g			
Other information:	Koc		5				

**2-Octyl-2H-isothiazol-3-one**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,047	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to fish:	NOEC/NOEL	35d	0,0085	mg/l	Pimephales promelas		
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	0,003	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	EC50	48h	0,32	mg/l	Daphnia magna		
12.1. Toxicity to algae:	ErC10	48h	0,00022 4	mg/l	Navicula pelliculosa	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	72h	0,00129	mg/l	Navicula pelliculosa	OECD 201 (Alga, Growth Inhibition Test)	

Page 16 of 20  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 20.11.2023 / 0004  
 Replacing version dated / version: 15.11.2023 / 0003  
 Valid from: 20.11.2023  
 PDF print date: 20.11.2023  
 Top Star  
 Art.: 132999

12.2. Persistence and degradability:			25	%			Not readily biodegradable
Toxicity to bacteria:	EC50		30,2	mg/l	activated sludge		
Toxicity to bacteria:	EC20	3h	7,3	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

20 01 29 detergents containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

E.g. dispose at suitable refuse site.

#### For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Untampered packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

15 01 02 plastic packaging

## SECTION 14: Transport information

### General statements

#### Transport by road/by rail (ADR/RID)

14.1. UN number or ID number: Not applicable

14.2. UN proper shipping name:

Not applicable

14.3. Transport hazard class(es): Not applicable

14.4. Packing group: Not applicable

14.5. Environmental hazards: Not applicable

Tunnel restriction code: Not applicable

Classification code: Not applicable

LQ: Not applicable

Transport category: Not applicable

#### Transport by sea (IMDG-code)

14.1. UN number or ID number: Not applicable

14.2. UN proper shipping name:

Not applicable

14.3. Transport hazard class(es): Not applicable

14.4. Packing group: Not applicable

14.5. Environmental hazards: Not applicable

Marine Pollutant: Not applicable

EmS: Not applicable

Segregation: Not applicable



### Transport by air (IATA)

14.1. UN number or ID number: Not applicable

14.2. UN proper shipping name:

Not applicable

14.3. Transport hazard class(es): Not applicable

14.4. Packing group: Not applicable

14.5. Environmental hazards: Not applicable

### 14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

### 14.7. Maritime transport in bulk according to IMO instruments

Non-dangerous material according to Transport Regulations.

## SECTION 15: Regulatory information

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

Observe restrictions:

Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!

Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!

Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC): 4,3 %

#### REGULATION (EC) No 648/2004

less than 5 %

non-ionic surfactants

perfumes

LIMONENE

2-BROMO-2-NITROPROPANE-1,3-DIOL

OCTYLISOTHIAZOLINONE

Treated goods as per Regulation (EU) No. 528/2012 must display specific information on the label.

Please note Article 58 paragraph (3) subparagraph 2 of Regulation (EU) No. 528/2012.

Approval of the biocidal active substance may mean that special conditions are required for marketing the treated goods.

These are indicated in the approval of the active substance.

National requirements/regulations on safety and health protection must be applied when using work equipment.

### 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

## SECTION 16: Other information

Revised sections: 3, 11, 12, 16

These details refer to the product as it is delivered.

Employee instruction/training in handling hazardous materials is required.

### Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Skin Sens. 1, H317	Classification according to calculation procedure.
Aquatic Chronic 3, H412	Classification according to calculation procedure.

Page 18 of 20  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 20.11.2023 / 0004  
Replacing version dated / version: 15.11.2023 / 0003  
Valid from: 20.11.2023  
PDF print date: 20.11.2023  
Top Star  
Art.: 132999

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.

H330 Fatal if inhaled.  
H317 May cause an allergic skin reaction.  
H314 Causes severe skin burns and eye damage.  
H301 Toxic if swallowed.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
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.  
EUH071 Corrosive to the respiratory tract.

Skin Sens. — Skin sensitization  
Aquatic Chronic — Hazardous to the aquatic environment - chronic  
Acute Tox. — Acute toxicity - inhalation  
Acute Tox. — Acute toxicity - oral  
Skin Irrit. — Skin irritation  
Eye Irrit. — Eye irritation  
Acute Tox. — Acute toxicity - dermal  
Eye Dam. — Serious eye damage  
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation  
Aquatic Acute — Hazardous to the aquatic environment - acute  
Skin Corr. — Skin corrosion

#### Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.  
Guidelines for the preparation of safety data sheets as amended (ECHA).  
Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).  
Safety data sheets for the constituent substances.  
ECHA Homepage - Information about chemicals.  
GESTIS Substance Database (Germany).  
German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).  
EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.  
National Lists of Occupational Exposure Limits for each country as amended.  
Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

#### Any abbreviations and acronyms used in this document:

acc., acc. to according, according to  
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)  
AOX Adsorbable organic halogen compounds  
approx. approximately  
Art., Art. no. Article number  
ASTM ASTM International (American Society for Testing and Materials)  
ATE Acute Toxicity Estimate  
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)  
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)  
BCF Bioconcentration factor  
BSEF The International Bromine Council  
bw body weight  
CAS Chemical Abstracts Service

Page 19 of 20  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 20.11.2023 / 0004  
Replacing version dated / version: 15.11.2023 / 0003  
Valid from: 20.11.2023  
PDF print date: 20.11.2023  
Top Star  
Art.: 132999

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)  
CMR carcinogenic, mutagenic, reproductive toxic  
DMEL Derived Minimum Effect Level  
DNEL Derived No Effect Level  
DOC Dissolved organic carbon  
dw dry weight  
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance  
EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)  
EC European Community  
ECHA European Chemicals Agency  
ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect  
EEC European Economic Community  
EINECS European Inventory of Existing Commercial Chemical Substances  
ELINCS European List of Notified Chemical Substances  
EN European Norms  
EPA United States Environmental Protection Agency (United States of America)  
ErCx, EµCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)  
etc. et cetera  
EU European Union  
EVAL Ethylene-vinyl alcohol copolymer  
Fax. Fax number  
gen. general  
GHS Globally Harmonized System of Classification and Labelling of Chemicals  
GWP Global warming potential  
Koc Adsorption coefficient of organic carbon in the soil  
Kow octanol-water partition coefficient  
IARC International Agency for Research on Cancer  
IATA International Air Transport Association  
IBC (Code) International Bulk Chemical (Code)  
IMDG-code International Maritime Code for Dangerous Goods  
incl. including, inclusive  
IUCLID International Uniform Chemical Information Database  
IUPAC International Union for Pure Applied Chemistry  
LC50 Lethal Concentration to 50 % of a test population  
LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)  
Log Koc Logarithm of adsorption coefficient of organic carbon in the soil  
Log Kow, Log Pow Logarithm of octanol-water partition coefficient  
LQ Limited Quantities  
MARPOL International Convention for the Prevention of Marine Pollution from Ships  
n.a. not applicable  
n.av. not available  
n.c. not checked  
n.d.a. no data available  
NIOSH National Institute for Occupational Safety and Health (USA)  
NLP No-longer-Polymer  
NOEC, NOEL No Observed Effect Concentration/Level  
OECD Organisation for Economic Co-operation and Development  
org. organic  
OSHA Occupational Safety and Health Administration (USA)  
PBT persistent, bioaccumulative and toxic  
PE Polyethylene  
PNEC Predicted No Effect Concentration  
ppm parts per million  
PVC Polyvinylchloride  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)  
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

Page 20 of 20  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 20.11.2023 / 0004  
Replacing version dated / version: 15.11.2023 / 0003  
Valid from: 20.11.2023  
PDF print date: 20.11.2023  
Top Star  
Art.: 132999

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)  
SVHC Substances of Very High Concern  
Tel. Telephone  
TOC Total organic carbon  
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods  
VOC Volatile organic compounds  
vPvB very persistent and very bioaccumulative  
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.  
No responsibility.

These statements were made by:

**Chemical Check GmbH, Chemical Check Platz 1-7, D-32839 Steinheim, Tel.: +49 5233 94 17 0, Fax: +49 5233 94 17 90**

© by Chemical Check GmbH Gefahrstoffberatung. The copying or changing of this document is forbidden except with consent of the Chemical Check GmbH Gefahrstoffberatung.