










# FLYLEAF

## Article: 20H4 ROTI® Prep Plant DNA for molecular biology

Date of compilation: 2023-03-29

### 1 Composition/information on ingredients

#### Bill of materials

| Name of substance       | Identifier                                     | Number of pieces | Classification acc. to GHS  | Pictograms  | Page      |
|-------------------------|--|------------------|---|---|-----------|
| Proteinase K            | CAS No<br>39450-01-6<br><br>EC No<br>254-457-8 | 1                | Skin Irrit. 2 / H315<br>Eye Irrit. 2 / H319<br>Resp. Sens. 1 / H334<br>Skin Sens. 1A / H317<br>STOT SE 3 / H335 |     | 5 – 17    |
| Lysis Buffer LSP        |  | 1                | Eye Irrit. 2 / H319   |    | 18 – 32   |
| Precipitation Buffer PB |  | 1                | Skin Irrit. 2 / H315<br>Eye Irrit. 2 / H319   |    | 33 – 48   |
| Lysis Buffer LSN        |  | 1                | Eye Irrit. 2 / H319<br>Aquatic Acute 1 / H400<br>Aquatic Chronic 3 / H412                                       |   | 49 – 67   |
| Lysis Buffer LSV        |  | 1                | Eye Dam. 1 / H318   |    | 68 – 83   |
| Binding Buffer BSN      |  | 1                | Flam. Liq. 2 / H225<br>Eye Irrit. 2 / H319<br>STOT SE 3 / H336  |   | 84 – 101  |
| Washing Buffer WST      |  | 1                |   |   | 102 – 112 |
| Elution Buffer EB       |  | 1                |   |   | 113 – 123 |

# Article: 20H4 ROTI® Prep Plant DNA

## 2 Hazards identification

### 2.1 Label elements

**Signal word** Danger

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

#### **Pictograms**

Danger.



#### **Hazard statement(s)**

|      |   |
|------|---|
| H225 | Highly flammable liquid and vapour  |
| H315 | Causes skin irritation  |
| H317 | May cause an allergic skin reaction                                       |
| H318 | Causes serious eye damage   |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H335 | May cause respiratory irritation  |
| H336 | May cause drowsiness or dizziness   |
| H410 | Very toxic to aquatic life with long lasting effects                      |

#### **Precautionary statements**

##### **Precautionary statements - prevention**

P280 Wear protective gloves/protective clothing/eye protection/face protection

**Hazardous ingredients for labelling:** Sodium dodecyl sulphate, Proteinase K, 2-Propanol, Acetic acid ... %,

## 3 Transport information

### 3.1 UN number or ID number

|             |         |
|-------------|---------|
| ADR/RID/ADN | UN 3316 |
| IMDG-Code   | UN 3316 |
| ICAO-TI     | UN 3316 |

### 3.2 UN proper shipping name

|             |              |
|-------------|--------------|
| ADR/RID/ADN | CHEMICAL KIT |
| IMDG-Code   | CHEMICAL KIT |
| ICAO-TI     | Chemical kit |

### 3.3 Transport hazard class(es)

|             |   |
|-------------|---|
| ADR/RID/ADN | 9 |
| IMDG-Code   | 9 |
| ICAO-TI     | 9 |

### 3.4 Packing group

|             |    |
|-------------|----|
| ADR/RID/ADN | II |
| IMDG-Code   | II |

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- ICAO-TI II
- 3.5 Environmental hazards** hazardous to the aquatic environment
- 3.6 Special precautions for user**

Provisions for dangerous goods (ADR) should be complied within the premises.

**3.7 Maritime transport in bulk according to IMO instruments**

The cargo is not intended to be carried in bulk.

**3.8 Information for each of the UN Model Regulations**

**Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information**

|                                       |   |
|---------------------------------------|---|
| Proper shipping name                  | CHEMICAL KIT  |
| Particulars in the transport document | UN3316, CHEMICAL KIT, 9, II, (E), environmentally hazardous |
| Classification code                   | M11   |
| Environmental hazards                 | yes (hazardous to the aquatic environment)                  |
| Special provisions (SP)               | 251, 340  |
| Excepted quantities (EQ)              | -> SP340  |
| Limited quantities (LQ)               | -> SP251  |
| Transport category (TC)               | 2   |
| Tunnel restriction code (TRC)         | E   |
| <b>Emergency Action Code</b>          | 2Z  |

**International Maritime Dangerous Goods Code (IMDG) - Additional information**

|  |   |
|--|---|
| Proper shipping name                     | CHEMICAL KIT                                  |
| Particulars in the shipper's declaration | UN3316, CHEMICAL KIT, 9, II, MARINE POLLUTANT |
| Marine pollutant                         | yes (hazardous to the aquatic environment)    |
| Danger label(s)                          | 9, "Fish and tree"                            |



|                          |                 |
|--------------------------|-----------------|
| Special provisions (SP)  | 251, 340        |
| Excepted quantities (EQ) | -> SP340        |
| Limited quantities (LQ)  | -> SP251        |
| EmS                      | F-A, <u>S-P</u> |
| Stowage category         | A               |

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

|  |  |
|--|--|
| Proper shipping name                     | Chemical kit                               |
| Particulars in the shipper's declaration | UN3316, Chemical kit, 9, II                |
| Environmental hazards                    | yes (hazardous to the aquatic environment) |
| Danger label(s)                          | 9  |





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|                          |           |
|--------------------------|-----------|
| Special provisions (SP)  | A44, A163 |
| Excepted quantities (EQ) | E0        |
| Limited quantities (LQ)  | 1 kg      |

# Safety data sheet Safety data sheet

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



## Proteinase K

article number:  
Version: **5.0 en**  
Replaces version of: 2021-12-22  
Version: (4)

date of compilation: 2015-10-26  
Revision: 2023-01-27

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

### 1.1 Product identifier

Identification of the substance **Proteinase K**  
Article number  
EC number 254-457-8  
CAS number 39450-01-6

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

Relevant identified uses: Laboratory chemical  
Laboratory and analytical use  
Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

### 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

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class                      | Cat-egory | Hazard class and category | Hazard statement |
|---------|-----------------------------------|-----------|---------------------------|------------------|
| 3.2     | Skin corrosion/irritation         | 2         | Skin Irrit. 2             | H315             |
| 3.3     | Serious eye damage/eye irritation | 2         | Eye Irrit. 2              | H319             |
| 3.4R    | Respiratory sensitisation         | 1         | Resp. Sens. 1             | H334             |

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| Section | Hazard class  | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 3.4S    | Skin sensitisation  | 1A        | Skin Sens. 1A             | H317             |
| 3.8R    | Specific target organ toxicity - single exposure (respiratory tract irritation) | 3         | STOT SE 3                 | H335             |

For full text of abbreviations: see SECTION 16

## 2.2 Label elements

### Labelling

#### Signal word

**Danger**

#### Pictograms

GHS07, GHS08



#### Hazard statements

H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H319 Causes serious eye irritation  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
H335 May cause respiratory irritation

#### Precautionary statements

##### Precautionary statements - prevention

P260 Do not breathe dust  
P280 Wear protective gloves/eye protection

##### Precautionary statements - response

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor

## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance Proteinase K  
CAS No 39450-01-6  
EC No 254-457-8

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## Proteinase K

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures



##### General notes

Take off contaminated clothing.

##### Following inhalation

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

##### Following skin contact

Rinse skin with water/shower. After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician. In case of skin irritation, consult a physician.

##### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

##### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation, Cough, Dyspnoea, Allergic reactions (such as skin rashes, hives, asthma or anaphylactic shock)

#### 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 firefighting measures to the fire surroundings  
water, foam, dry extinguishing powder, ABC-powder

##### Unsuitable extinguishing media

water jet

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

Combustible.

##### Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), May produce toxic fumes of carbon monoxide if burning.

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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### SECTION 6: Accidental release measures

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



##### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe dust.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

##### Advice on how to contain a spill

Covering of drains. Take up mechanically.

##### Advice on how to clean up a spill

Take up mechanically. Control of dust.

##### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 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.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Provision of sufficient ventilation. Avoid dust formation.

##### Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

##### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Keep in a cool place.

##### Incompatible substances or mixtures

Observe hints for combined storage.

##### Protect against external exposure, such as

high temperatures, humidity, UV-radiation/sunlight

##### Consideration of other advice:

##### Ventilation requirements

Use local and general ventilation.

#### 7.3 Specific end use(s)

No information available.



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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of agent | CAS No | Identifier | TWA [mg/m <sup>3</sup> ] | STEL [mg/m <sup>3</sup> ] | Ceiling-C [mg/m <sup>3</sup> ] | Notation | Source    |
|---------|---------------|--------|------------|--------------------------|---------------------------|--------------------------------|----------|-----------|
| GB      | dust          |        | WEL        | 10                       |                           |                                | i        | EH40/2005 |
| GB      | dust          |        | WEL        | 4                        |                           |                                | r        | EH40/2005 |

##### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

i Inhalable fraction

r Respirable fraction

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 (unless otherwise specified)

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

##### • type of material

NBR (Nitrile rubber)

##### • material thickness

>0,11 mm

##### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

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### • other protection measures

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

### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |   |
|--|---|
| Physical state   | solid   |
| Form   | powder  |
| Colour   | whitish   |
| Odour  | characteristic  |
| Melting point/freezing point                             | not determined  |
| Boiling point or initial boiling point and boiling range | not determined  |
| Flammability   | this material is combustible, but will not ignite readily |
| Lower and upper explosion limit                          | not determined  |
| Flash point  | not applicable  |
| Auto-ignition temperature                                | not determined  |
| Decomposition temperature                                | not relevant  |
| pH (value)   | 6,2 – 6,8 (20 °C) (aqueous solution of the substance)     |
| Kinematic viscosity                                      | not relevant  |
| <u>Solubility(ies)</u>                                   |   |
| Water solubility   | (soluble)   |
| <u>Partition coefficient</u>                             |   |
| Partition coefficient n-octanol/water (log value):       | this information is not available                         |
| Vapour pressure  | not determined  |
| <u>Density and/or relative density</u>                   |   |
| Density  | not determined  |

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|                                |   |
|--------------------------------|---|
| Relative vapour density        | information on this property is not available |
| Particle characteristics       | No data available.                            |
| <u>Other safety parameters</u> |   |
| Oxidising properties           | none  |

### 9.2 Other information

|   |   |
|---|---|
| Information with regard to physical hazard classes: | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics:                       | There is no additional information.                         |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

### 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

UV-radiation/sunlight. Keep away from heat. Contact with air/oxygen.

### 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

#### Classification acc. to GHS

#### Acute toxicity

Shall not be classified as acutely toxic.

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

#### Germ cell mutagenicity

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Shall not be classified as germ cell mutagenic.

### **Carcinogenicity**

Shall not be classified as carcinogenic.

### **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

### **Specific target organ toxicity - single exposure**

May cause respiratory irritation.

### **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**

Data are not available.

### **• If in eyes**

Causes serious eye irritation

### **• If inhaled**

Irritation to respiratory tract, May produce an allergic reaction, cough, Dyspnoea

### **• If on skin**

causes skin irritation, May produce an allergic reaction, pruritis, localised redness

### **• Other information**

none

## **11.2 Endocrine disrupting properties**

Not listed.

## **11.3 Information on other hazards**

There is no additional information.

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment.

### **12.2 Persistence and degradability**

Data are not available.

### **12.3 Bioaccumulative potential**

Data are not available.

### **12.4 Mobility in soil**

Data are not available.

### **12.5 Results of PBT and vPvB assessment**

Data are not available.

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### 12.6 Endocrine disrupting properties

Not listed.

### 12.7 Other adverse effects

Data are not available.

## 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 regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

### 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.

#### Properties of waste which render it hazardous

- HP 4** irritant - skin irritation and eye damage
- HP 5** specific target organ toxicity (STOT)/aspiration toxicity
- HP 13** sensitising

### 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 or ID number   | not subject to transport regulations                                  |
| 14.2 UN proper shipping name  | not assigned  |
| 14.3 Transport hazard class(es)   | none  |
| 14.4 Packing group  | not assigned  |
| 14.5 Environmental hazards  | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user   | There is no additional information.                                   |
| 14.7 Maritime transport in bulk according to IMO instruments                              | The cargo is not intended to be carried in bulk.                      |
| 14.8 <u>Information for each of the UN Model Regulations</u>                              |   |
| <b>International Maritime Dangerous Goods Code (IMDG) - Additional information</b>        | Not subject to IMDG.  |
| <b>International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information</b> | Not subject to ICAO-IATA.   |

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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)

###### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

###### Deco-Paint Directive

|             |     |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

###### Industrial Emissions Directive (IED)

|             |     |
|-------------|-----|
| VOC content | 0 % |
|-------------|-----|

###### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

###### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

###### Water Framework Directive (WFD)

not listed

###### Regulation on the marketing and use of explosives precursors

not listed

###### Regulation on drug precursors

not listed

###### Regulation on substances that deplete the ozone layer (ODS)

not listed

###### Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

###### Regulation on persistent organic pollutants (POP)

not listed

###### National regulations(GB)

###### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

###### Restrictions according to GB REACH, Annex 17

not listed

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### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory | Status              |
|---------|-----------|---------------------|
| CN      | IECSC     | substance is listed |
| EU      | ECSI      | substance is listed |
| JP      | ISHA-ENCS | substance is listed |
| NZ      | NZIoC     | substance is listed |
| TW      | TCSI      | substance is listed |

#### Legend

|           |   |
|-----------|---|
| ECSI      | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC     | Inventory of Existing Chemical Substances Produced or Imported in China |
| ISHA-ENCS | Inventory of Existing and New Chemical Substances (ISHA-ENCS)           |
| NZIoC     | New Zealand Inventory of Chemicals                                      |
| TCSI      | Taiwan Chemical Substance Inventory                                     |

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)  | Actual entry (text/value)   | Safety-relevant |
|---------|--|---|-----------------|
| 2.2     | Labelling of packages where the contents do not exceed 125 ml:<br>Signal word: Danger  |   | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table) | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table) | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table) | yes             |
| 14.8    | Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information:<br>Not subject to ADR, RID and ADN. |   | yes             |
| 15.1    | Restrictions according to REACH, Annex XVII  |   | yes             |
| 15.1    |  | Dangerous substances with restrictions (REACH, Annex XVII):<br>change in the listing (table)    | yes             |
| 15.1    | List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list:<br>Not listed.                                       |   | yes             |
| 15.1    |  | National regulations(GB)  | yes             |

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| Section | Former entry (text/value) | Actual entry (text/value)  | Safety-relevant |
|---------|---------------------------|--|-----------------|
| 15.1    |                           | List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list: not listed | yes             |
| 15.1    |                           | Restrictions according to GB REACH, Annex 17: not listed   | yes             |

### Abbreviations and acronyms

| Abbr.     | Descriptions of used abbreviations  |
|-----------|---|
| ADR       | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)                         |
| CAS       | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)  |
| Ceiling-C | Ceiling value   |
| DGR       | Dangerous Goods Regulations (see IATA/DGR)  |
| 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 ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> ) |
| EINECS    | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS    | European List of Notified Chemical Substances   |
| GB REACH  | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)  |
| GHS       | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IATA      | International Air Transport Association   |
| IATA/DGR  | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO      | International Civil Aviation Organization   |
| IMDG      | International Maritime Dangerous Goods Code   |
| NLP       | No-Longer Polymer   |
| PBT       | Persistent, Bioaccumulative and Toxic   |
| 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)               |
| STEL      | Short-term exposure limit   |
| TWA       | Time-weighted average   |
| VOC       | Volatile Organic Compounds  |
| vPvB      | Very Persistent and very Bioaccumulative  |
| WEL       | Workplace exposure limit  |

### Key literature references and sources for data



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Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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

| Code | Text   |
|------|--|
| H315 | Causes skin irritation.  |
| H317 | May cause an allergic skin reaction.                                       |
| H319 | Causes serious eye irritation.   |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation.  |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

# Safety data sheet

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



## Lysis Buffer LSP

article number:  
Version: **2.0 en**  
Replaces version of: 2023-03-07  
Version: (1)

date of compilation: 2023-03-07  
Revision: 2023-03-29

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

### 1.1 Product identifier

Identification of the substance

**Lysis Buffer LSP**

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

Relevant identified uses:

Laboratory and analytical use  
Laboratory chemical

Uses advised against:

Do not use for private purposes (household).  
Food, drink and animal feedingstuffs.

### 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](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):**

**[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class                      | Cat-egory | Hazard class and category | Hazard statement |
|---------|-----------------------------------|-----------|---------------------------|------------------|
| 3.3     | Serious eye damage/eye irritation | 2         | Eye Irrit. 2              | H319             |

For full text of abbreviations: see SECTION 16

### 2.2 Label elements

**Labelling**

**Signal word**

**Warning**

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### Pictograms

GHS07



### Hazard statements

H319 Causes serious eye irritation

### Precautionary statements

#### **Precautionary statements - prevention**

P280 Wear protective gloves/eye protection

#### **Precautionary statements - response**

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

## 2.3 Other hazards

### **Results of PBT and vPvB assessment**

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

### **Endocrine disrupting properties**

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not relevant (mixture)

### 3.2 Mixtures

#### **Description of the mixture**

| Name of substance      | Identifier                                   | Wt%  | Classification acc. to GHS   | Pictograms | Notes |
|------------------------|--|------|--|------------|-------|
| Sodium dodecyl sulfate | CAS No<br>151-21-3<br><br>EC No<br>205-788-1 | <2,5 | Acute Tox. 4 / H302<br>Skin Irrit. 2 / H315<br>Eye Dam. 1 / H318<br>Aquatic Chronic 3 / H412 |            |       |

| Name of substance      | Identifier                                   | Specific Conc. Limits | M-Factors | ATE       | Exposure route |
|------------------------|--|-----------------------|-----------|-----------|----------------|
| Sodium dodecyl sulfate | CAS No<br>151-21-3<br><br>EC No<br>205-788-1 | -                     | -         | 977 mg/kg | oral           |

For full text of abbreviations: see SECTION 16

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures



##### General notes

Take off contaminated clothing.

##### Following inhalation

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

##### Following skin contact

Rinse skin with water/shower.

##### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

##### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation

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

none

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



##### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

water jet

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

Non-combustible.

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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### SECTION 6: Accidental release measures

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



##### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

##### Advice on how to contain a spill

Covering of drains.

##### Advice on how to clean up a spill

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

##### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 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.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

No special measures are necessary.

##### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

#### 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:

##### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

#### 7.3 Specific end use(s)

No information available.

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

| Relevant DNELs of components of the mixture |          |           |                       |                                    |                   |                            |
|---|----------|-----------|-----------------------|------------------------------------|-------------------|----------------------------|
| Name of substance                           | CAS No   | End-point | Threshold level       | Protection goal, route of exposure | Used in           | Exposure time              |
| Sodium dodecyl sulfate                      | 151-21-3 | DNEL      | 285 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - systemic effects |
| Sodium dodecyl sulfate                      | 151-21-3 | DNEL      | 4.060 mg/kg bw/day    | human, dermal                      | worker (industry) | chronic - systemic effects |

| Relevant PNECs of components of the mixture |          |           |                 |                       |                              |                              |
|---|----------|-----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance                           | CAS No   | End-point | Threshold level | Organism              | Environmental compartment    | Exposure time                |
| Sodium dodecyl sulfate                      | 151-21-3 | PNEC      | 0,176 mg/l      | aquatic organisms     | freshwater                   | short-term (single instance) |
| Sodium dodecyl sulfate                      | 151-21-3 | PNEC      | 0,018 mg/l      | aquatic organisms     | marine water                 | short-term (single instance) |
| Sodium dodecyl sulfate                      | 151-21-3 | PNEC      | 1,35 mg/l       | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| Sodium dodecyl sulfate                      | 151-21-3 | PNEC      | 6,97 mg/kg      | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| Sodium dodecyl sulfate                      | 151-21-3 | PNEC      | 0,697 mg/kg     | aquatic organisms     | marine sediment              | short-term (single instance) |
| Sodium dodecyl sulfate                      | 151-21-3 | PNEC      | 1,29 mg/kg      | terrestrial organisms | soil                         | short-term (single instance) |

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



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### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

### • type of material

NBR (Nitrile rubber)

### • material thickness

>0,11 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



Respiratory protection necessary at: Aerosol or mist formation. Usually no personal respirative protection necessary.

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |                     |
|--|---------------------|
| Physical state   | liquid              |
| Colour   | light yellow        |
| Odour  | characteristic      |
| Melting point/freezing point                             | not determined      |
| Boiling point or initial boiling point and boiling range | 100 °C at 1.013 hPa |
| Flammability   | non-combustible     |
| Lower and upper explosion limit                          | not determined      |
| Flash point  | not determined      |
| Auto-ignition temperature                                | not determined      |
| Decomposition temperature                                | not relevant        |
| pH (value)   | 7 (20 °C)           |
| Kinematic viscosity                                      | not determined      |

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### Solubility(ies)

Water solubility miscible in any proportion

### Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure 23 hPa at 20 °C

### Density and/or relative density

Density ~1 g/cm<sup>3</sup> at 20 °C

Relative vapour density information on this property is not available

Particle characteristics not relevant (liquid)

### Other safety parameters

Oxidising properties none

## 9.2 Other information

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics:

Miscibility completely miscible with water

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 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

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.



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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to GHS

##### Acute toxicity

Shall not be classified as acutely toxic.

##### Acute toxicity estimate (ATE) of components of the mixture

| Name of substance      | CAS No   | Exposure route | ATE       |
|------------------------|----------|----------------|-----------|
| Sodium dodecyl sulfate | 151-21-3 | oral           | 977 mg/kg |

##### Acute toxicity of components of the mixture

| Name of substance      | CAS No   | Exposure route | Endpoint | Value        | Species |
|------------------------|----------|----------------|----------|--------------|---------|
| Sodium dodecyl sulfate | 151-21-3 | oral           | LD50     | 977 mg/kg    | rat     |
| Sodium dodecyl sulfate | 151-21-3 | dermal         | LD50     | >2.000 mg/kg | rat     |

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified 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

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- **If swallowed**

Data are not available.

- **If in eyes**

Causes serious eye irritation

- **If inhaled**

Data are not available.

- **If on skin**

Data are not available.

- **Other information**

none

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

| Aquatic toxicity (acute) of components of the mixture |          |          |           |         |               |
|---|----------|----------|-----------|---------|---------------|
| Name of substance                                     | CAS No   | Endpoint | Value     | Species | Exposure time |
| Sodium dodecyl sulfate                                | 151-21-3 | LC50     | 29 mg/l   | fish    | 96 h          |
| Sodium dodecyl sulfate                                | 151-21-3 | ErC50    | >120 mg/l | algae   | 72 h          |

| Aquatic toxicity (chronic) of components of the mixture |          |          |          |                |               |
|---|----------|----------|----------|----------------|---------------|
| Name of substance                                       | CAS No   | Endpoint | Value    | Species        | Exposure time |
| Sodium dodecyl sulfate                                  | 151-21-3 | EC50     | 135 mg/l | microorganisms | 3 h           |

### 12.2 Persistence and degradability

| Degradability of components of the mixture |          |                           |                  |      |        |        |
|--|----------|---------------------------|------------------|------|--------|--------|
| Name of substance                          | CAS No   | Process                   | Degradation rate | Time | Method | Source |
| Sodium dodecyl sulfate                     | 151-21-3 | biotic/abiotic            | 90 %             | 28 d |        |        |
| Sodium dodecyl sulfate                     | 151-21-3 | carbon dioxide generation | 95 %             | 28 d |        | ECHA   |

### 12.3 Bioaccumulative potential

Data are not available.

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### Bioaccumulative potential of components of the mixture

| Name of substance      | CAS No   | BCF | Log KOW        | BOD5/COD |
|------------------------|----------|-----|----------------|----------|
| Sodium dodecyl sulfate | 151-21-3 |     | ≤-2,03 (20 °C) |          |

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

#### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.

#### 12.7 Other adverse effects

Data are not available.

## 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 regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

### 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 or ID number                                  | not subject to transport regulations                                  |
| 14.2 UN proper shipping name                                 | not assigned  |
| 14.3 Transport hazard class(es)                              | none  |
| 14.4 Packing group   | not assigned  |
| 14.5 Environmental hazards                                   | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user                            | There is no additional information.                                   |
| 14.7 Maritime transport in bulk according to IMO instruments | The cargo is not intended to be carried in bulk.                      |

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### 14.8 Information for each of the UN Model Regulations

#### International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

#### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

## 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)

##### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

##### Deco-Paint Directive

|  |           |
|--|-----------|
| VOC content                                | 2,4 %     |
| VOC content (Water content was discounted) | 1.112 g/l |

##### Industrial Emissions Directive (IED)

|  |       |
|--|-------|
| VOC content                                | 0 %   |
| VOC content (Water content was discounted) | 0 g/l |

#### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

#### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

#### Water Framework Directive (WFD)

| List of pollutants (WFD) |                            |        |           |         |
|--------------------------|----------------------------|--------|-----------|---------|
| Name of substance        | Name acc. to inventory     | CAS No | Listed in | Remarks |
| Sodium dodecyl sulfate   | Metals and their compounds |        | a)        |         |

#### Legend

A) Indicative list of the main pollutants

#### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

#### Regulation on drug precursors

none of the ingredients are listed

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### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### National regulations(GB)

### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

none of the ingredients are listed

### Restrictions according to GB REACH, Annex 17

none of the ingredients are listed

| Dangerous substances with restrictions (GB REACH, Annex 17) |  |        |    |
|---|--|--------|----|
| Name of substance   | Name acc. to inventory   | CAS No | No |
| Lysis Buffer LSP  | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC |        | 3  |

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory  | Status                                 |
|---------|------------|--|
| AU      | AIIC       | all ingredients are listed             |
| CA      | DSL        | all ingredients are listed             |
| CN      | IECSC      | all ingredients are listed             |
| EU      | ECSI       | all ingredients are listed             |
| EU      | REACH Reg. | all ingredients are listed             |
| JP      | CSCL-ENCS  | all ingredients are listed             |
| KR      | KECI       | all ingredients are listed             |
| MX      | INSQ       | all ingredients are listed             |
| NZ      | NZIoC      | all ingredients are listed             |
| PH      | PICCS      | all ingredients are listed             |
| TR      | CICR       | not all ingredients are listed         |
| TW      | TCSI       | all ingredients are listed             |
| US      | TSCA       | all ingredients are listed as "ACTIVE" |

#### Legend

|           |   |
|-----------|---|
| AIIC      | Australian Inventory of Industrial Chemicals                            |
| CICR      | Chemical Inventory and Control Regulation                               |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL       | Domestic Substances List (DSL)  |
| ECSI      | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC     | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ      | National Inventory of Chemical Substances                               |

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### Legend

|            |   |
|------------|---|
| KECI       | Korea Existing Chemicals Inventory                                |
| NZIoC      | New Zealand Inventory of Chemicals                                |
| PICCS      | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances                                       |
| TCSI       | Taiwan Chemical Substance Inventory                               |
| TSCA       | Toxic Substance Control Act                                       |

## 15.2 Chemical Safety Assessment

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

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)  | Actual entry (text/value)  | Safety-relevant |
|---------|--|--|-----------------|
| 2.3     | Results of PBT and vPvB assessment:<br>This mixture does not contain any substances that are assessed to be a PBT or a vPvB. | Results of PBT and vPvB assessment:<br>Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$ . | yes             |
| 15.1    |  | Dangerous substances with restrictions (GB REACH, Annex 17):<br>change in the listing (table)                      | yes             |

### Abbreviations and acronyms

| Abbr.           | Descriptions of used abbreviations  |
|-----------------|---|
| Acute Tox.      | Acute toxicity  |
| ADR             | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)                     |
| 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)  |
| COD             | Chemical oxygen demand  |
| DGR             | Dangerous Goods Regulations (see IATA/DGR)  |
| DNEL            | Derived No-Effect Level   |
| EC50            | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval  |
| 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) |
| EINECS          | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS          | European List of Notified Chemical Substances   |
| ErC50           | $\equiv$ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control     |
| Eye Dam.        | Seriously damaging to the eye   |
| Eye Irrit.      | Irritant to the eye   |

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| Abbr.       | Descriptions of used abbreviations  |
|-------------|---|
| GB REACH    | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)  |
| GHS         | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IATA        | International Air Transport Association   |
| IATA/DGR    | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO        | International Civil Aviation Organization   |
| 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  |
| LC50        | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval                       |
| LD50        | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval  |
| log KOW     | n-Octanol/water   |
| NLP         | No-Longer Polymer   |
| PBT         | Persistent, Bioaccumulative and Toxic   |
| 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

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

| Code | Text   |
|------|--|
| H302 | Harmful if swallowed.                              |
| H315 | Causes skin irritation.                            |
| H318 | Causes serious eye damage.                         |
| H319 | Causes serious eye irritation.                     |
| H412 | Harmful to aquatic life with long lasting effects. |

# Safety data sheet

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



## Lysis Buffer LSP

article number:

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### **Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.



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## Precipitation Buffer PB

article number:  
Version: **2.0 en**  
Replaces version of: 2023-03-07  
Version: (1)

date of compilation: 2023-03-07  
Revision: 2023-03-29

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

### 1.1 Product identifier

Identification of the substance

**Precipitation Buffer PB**

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

Relevant identified uses:

Laboratory and analytical use  
Laboratory chemical

Uses advised against:

Do not use for private purposes (household).  
Food, drink and animal feedingstuffs.

### 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](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):**

**[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class                      | Cat-egory | Hazard class and category | Hazard statement |
|---------|-----------------------------------|-----------|---------------------------|------------------|
| 3.2     | Skin corrosion/irritation         | 2         | Skin Irrit. 2             | H315             |
| 3.3     | Serious eye damage/eye irritation | 2         | Eye Irrit. 2              | H319             |

For full text of abbreviations: see SECTION 16

### 2.2 Label elements

**Labelling**

**Signal word**

**Warning**

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### Pictograms

GHS07



### Hazard statements

H315 Causes skin irritation  
H319 Causes serious eye irritation

### Precautionary statements

#### Precautionary statements - prevention

P280 Wear protective gloves/eye protection

#### Precautionary statements - response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

### 2.3 Other hazards

This material is combustible, but will not ignite readily.

#### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .



## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not relevant (mixture)

### 3.2 Mixtures

#### Description of the mixture

| Name of substance | Identifier  | Wt%       | Classification acc. to GHS                                       | Pictograms  | Notes                   |
|-------------------|---|-----------|--|---|-------------------------|
| Acetic acid ... % | CAS No<br>64-19-7<br><br>EC No<br>200-580-7<br><br>Index No<br>607-002-00-6 | 10 - < 25 | Flam. Liq. 3 / H226<br>Skin Corr. 1A / H314<br>Eye Dam. 1 / H318 |   | B(a)<br>GHS-HC<br>IOELV |

#### Notes

B(a): The classification refers to an aqueous solution

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

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| Name of substance | Identifier                                  | Specific Conc. Limits  | M-Factors | ATE | Exposure route |
|-------------------|---|--|-----------|-----|----------------|
| Acetic acid ... % | CAS No<br>64-19-7<br><br>EC No<br>200-580-7 | Skin Corr. 1A; H314: C ≥ 90 %<br>Skin Corr. 1B; H314: 25 % ≤ C < 90 %<br>Skin Irrit. 2; H315: 10 % ≤ C < 25 %<br>Eye Dam. 1; H318: C ≥ 25 %<br>Eye Irrit. 2; H319: 10 % ≤ C < 25 % | -         | -   |                |

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

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

#### Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

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

Ingredients of the mixture combustible. The product itself does not burn.

#### Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## 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. Do not breathe vapour/spray.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

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

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 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.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

No special measures are necessary.

#### Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

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

Protect from sunlight.

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### Incompatible substances or mixtures

Observe hints for combined storage.

### Consideration of other advice:

### 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)

| Country | Name of agent | CAS No  | Identifier | TWA [ppm] | TWA [mg/m <sup>3</sup> ] | STEL [ppm] | STEL [mg/m <sup>3</sup> ] | Ceiling-C [ppm] | Ceiling-C [mg/m <sup>3</sup> ] | Notation | Source      |
|---------|---------------|---------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|-------------|
| EU      | acetic acid   | 64-19-7 | IOELV      | 10        | 25                       | 20         | 50                        |                 |                                |          | 2017/164/EU |
| GB      | acetic acid   | 64-19-7 | WEL        | 10        | 25                       | 20         | 50                        |                 |                                |          | EH40/2005   |

#### Notation

Ceiling-C  
STEL

Ceiling value is a limit value above which exposure should not occur

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 (unless otherwise specified)

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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. The times are approximate values from measurements at 22 °C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply

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only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

- **type of material**

Butyl caoutchouc (butyl rubber)

- **material thickness**

0,5 mm

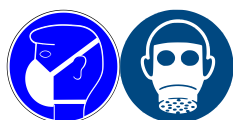
- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

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

### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: ABEK (combined filters against gases and vapours, colour code: Brown/Grey/Yellow/Green).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |                            |
|--|----------------------------|
| Physical state   | liquid                     |
| Colour   | colourless                 |
| Odour  | characteristic             |
| Melting point/freezing point                             | not determined             |
| Boiling point or initial boiling point and boiling range | 100 °C at 1.013 hPa        |
| Flammability   | non-combustible            |
| Lower and upper explosion limit                          | not determined             |
| Flash point  | not determined             |
| Auto-ignition temperature                                | not determined             |
| Decomposition temperature                                | not relevant               |
| pH (value)   | <4 (20 °C)                 |
| Kinematic viscosity                                      | not determined             |
| <u>Solubility(ies)</u>                                   |                            |
| Water solubility   | miscible in any proportion |
| <u>Partition coefficient</u>                             |                            |

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|  |   |
|--|---|
| Partition coefficient n-octanol/water (log value): | this information is not available             |
| Vapour pressure                                    | 23 hPa at 20 °C                               |
| <u>Density and/or relative density</u>             |   |
| Density  | ~1,01 g/cm <sup>3</sup> at 20 °C              |
| Relative vapour density                            | information on this property is not available |
| Particle characteristics                           | not relevant (liquid)                         |
| <u>Other safety parameters</u>                     |   |
| Oxidising properties                               | none  |

### 9.2 Other information

|   |   |
|---|---|
| Information with regard to physical hazard classes: | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics:                       |   |
| Miscibility   | completely miscible with water                              |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 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

**Danger of explosion:** Strong alkali, Perchlorates, Permanganates, Hydrogen peroxide,  
**Violent reaction with:** Aldehydes, Alkali (lye), Alcohols, Acetic anhydride, Metals, Nitric acid, Strong oxidiser

### 10.4 Conditions to avoid

Direct light irradiation. Keep away from heat.

### 10.5 Incompatible materials

different metals

#### Release of flammable materials with

Metals (due to the release of hydrogen in an acid/alkaline medium)

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to GHS

##### Acute toxicity

Shall not be classified as acutely toxic.

##### Acute toxicity of components of the mixture

| Name of substance | CAS No  | Exposure route | Endpoint | Value       | Species |
|-------------------|---------|----------------|----------|-------------|---------|
| Acetic acid ... % | 64-19-7 | oral           | LD50     | 3.310 mg/kg | rat     |

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified 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

gastrointestinal complaints

###### • If in eyes

Causes serious eye irritation, Irritating to eyes

###### • If inhaled

slightly irritant



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- **If on skin**

causes skin irritation

- **Other information**

none

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

| Aquatic toxicity (acute) of components of the mixture |         |          |                       |                       |               |
|---|---------|----------|-----------------------|-----------------------|---------------|
| Name of substance                                     | CAS No  | Endpoint | Value                 | Species               | Exposure time |
| Acetic acid ... %                                     | 64-19-7 | LC50     | $>300,8 \text{ mg/l}$ | fish                  | 96 h          |
| Acetic acid ... %                                     | 64-19-7 | EC50     | $>300,8 \text{ mg/l}$ | aquatic invertebrates | 48 h          |
| Acetic acid ... %                                     | 64-19-7 | ErC50    | $>300,8 \text{ mg/l}$ | algae                 | 72 h          |

### 12.2 Persistence and degradability

| Degradability of components of the mixture |         |                |                  |      |        |        |
|--|---------|----------------|------------------|------|--------|--------|
| Name of substance                          | CAS No  | Process        | Degradation rate | Time | Method | Source |
| Acetic acid ... %                          | 64-19-7 | biotic/abiotic | 99 %             | 30 d |        |        |

### 12.3 Bioaccumulative potential

Data are not available.

| Bioaccumulative potential of components of the mixture |         |      |                            |          |
|--|---------|------|----------------------------|----------|
| Name of substance                                      | CAS No  | BCF  | Log KOW                    | BOD5/COD |
| Acetic acid ... %                                      | 64-19-7 | 3,16 | -0,17 (pH value: 7, 25 °C) |          |

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

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### 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 regulations.

##### Sewage disposal-relevant information

Do not empty into drains.

##### 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.

##### Properties of waste which render it hazardous

**HP 4** irritant - skin irritation and eye damage

**HP 8** corrosive

#### 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 or ID number

|           |         |
|-----------|---------|
| ADRRID    | UN 2790 |
| IMDG-Code | UN 2790 |
| ICAO-TI   | UN 2790 |

#### 14.2 UN proper shipping name

|           |                      |
|-----------|----------------------|
| ADRRID    | ACETIC ACID SOLUTION |
| IMDG-Code | ACETIC ACID SOLUTION |
| ICAO-TI   | Acetic acid solution |

#### 14.3 Transport hazard class(es)

|           |   |
|-----------|---|
| ADRRID    | 8 |
| IMDG-Code | 8 |
| ICAO-TI   | 8 |

#### 14.4 Packing group

|           |     |
|-----------|-----|
| ADRRID    | III |
| IMDG-Code | III |
| ICAO-TI   | III |

#### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

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### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

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

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

#### Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) Additional information

|                                       |   |
|---------------------------------------|---|
| Proper shipping name                  | ACETIC ACID SOLUTION                      |
| Particulars in the transport document | UN2790, ACETIC ACID SOLUTION, 8, III, (E) |
| Classification code                   | C3  |
| Danger label(s)                       | 8   |



|                               |          |
|-------------------------------|----------|
| Special provisions (SP)       | 597, 647 |
| Excepted quantities (EQ)      | E1       |
| Limited quantities (LQ)       | 5 L      |
| Transport category (TC)       | 3        |
| Tunnel restriction code (TRC) | E        |
| Hazard identification No      | 80       |
| <b>Emergency Action Code</b>  | 2R       |

#### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

|                            |    |
|----------------------------|----|
| <b>Classification code</b> | C3 |
| <b>Danger label(s)</b>     | 8  |



|                                 |          |
|---------------------------------|----------|
| <b>Special provisions (SP)</b>  | 597, 647 |
| <b>Excepted quantities (EQ)</b> | E1       |
| <b>Limited quantities (LQ)</b>  | 5 L      |
| <b>Transport category (TC)</b>  | 3        |
| <b>Hazard identification No</b> | 80       |

#### International Maritime Dangerous Goods Code (IMDG) - Additional information

|  |                                      |
|--|--------------------------------------|
| Proper shipping name                     | ACETIC ACID SOLUTION                 |
| Particulars in the shipper's declaration | UN2790, ACETIC ACID SOLUTION, 8, III |
| Marine pollutant                         | -                                    |
| Danger label(s)                          | 8                                    |

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|                          |           |
|--------------------------|-----------|
| Excepted quantities (EQ) | E1        |
| Limited quantities (LQ)  | 5 L       |
| EmS                      | F-A, S-B  |
| Stowage category         | A         |
| <b>Segregation group</b> | 1 - Acids |

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

|  |                                      |
|--|--------------------------------------|
| Proper shipping name                     | Acetic acid solution                 |
| Particulars in the shipper's declaration | UN2790, Acetic acid solution, 8, III |
| Danger label(s)                          | 8                                    |



|                          |     |
|--------------------------|-----|
| Excepted quantities (EQ) | E1  |
| Limited quantities (LQ)  | 1 L |

## 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)

##### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

##### Deco-Paint Directive

|  |           |
|--|-----------|
| VOC content                                | 24 %      |
| VOC content (Water content was discounted) | 1.052 g/l |

##### Industrial Emissions Directive (IED)

|  |           |
|--|-----------|
| VOC content                                | 24 %      |
| VOC content (Water content was discounted) | 1.052 g/l |

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

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### Water Framework Directive (WFD)

none of the ingredients are listed

### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

### Regulation on drug precursors

none of the ingredients are listed

### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory  | Status                                 |
|---------|------------|--|
| AU      | AIIC       | all ingredients are listed             |
| CA      | DSL        | all ingredients are listed             |
| CN      | IECSC      | all ingredients are listed             |
| EU      | ECSI       | all ingredients are listed             |
| EU      | REACH Reg. | all ingredients are listed             |
| JP      | CSCL-ENCS  | all ingredients are listed             |
| KR      | KECI       | all ingredients are listed             |
| MX      | INSQ       | all ingredients are listed             |
| NZ      | NZIoC      | all ingredients are listed             |
| PH      | PICCS      | all ingredients are listed             |
| TR      | CICR       | not all ingredients are listed         |
| TW      | TCSI       | all ingredients are listed             |
| US      | TSCA       | all ingredients are listed as "ACTIVE" |

#### Legend

|            |   |
|------------|---|
| AIIC       | Australian Inventory of Industrial Chemicals                            |
| CICR       | Chemical Inventory and Control Regulation                               |
| CSCL-ENCS  | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL        | Domestic Substances List (DSL)  |
| ECSI       | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC      | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ       | National Inventory of Chemical Substances                               |
| KECI       | Korea Existing Chemicals Inventory                                      |
| NZIoC      | New Zealand Inventory of Chemicals                                      |
| PICCS      | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| REACH Reg. | REACH registered substances   |
| TCSI       | Taiwan Chemical Substance Inventory                                     |
| TSCA       | Toxic Substance Control Act   |

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### 15.2 Chemical Safety Assessment

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

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)  | Actual entry (text/value)  | Safety-relevant |
|---------|--|--|-----------------|
| 2.3     | Results of PBT and vPvB assessment:<br>This mixture does not contain any substances that are assessed to be a PBT or a vPvB. | Results of PBT and vPvB assessment:<br>Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$ . | yes             |

### Abbreviations and acronyms

| Abbr.       | Descriptions of used abbreviations   |
|-------------|--|
| 2017/164/EU | Commission Directive establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU |
| ADR         | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)  |
| 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)   |
| Ceiling-C   | Ceiling value  |
| COD         | Chemical oxygen demand   |
| DGR         | Dangerous Goods Regulations (see IATA/DGR)   |
| EC50        | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval                                   |
| 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 ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )                              |
| EINECS      | European Inventory of Existing Commercial Chemical Substances  |
| ELINCS      | European List of Notified Chemical Substances  |
| EmS         | Emergency Schedule   |
| ErC50       | $\equiv$ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control                                      |
| Eye Dam.    | Seriously damaging to the eye  |
| Eye Irrit.  | Irritant to the eye  |
| Flam. Liq.  | Flammable liquid   |
| GHS         | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations  |
| IATA        | International Air Transport Association  |
| IATA/DGR    | Dangerous Goods Regulations (DGR) for the air transport (IATA)   |

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## Precipitation Buffer PB

article number:

| Abbr.       | Descriptions of used abbreviations  |
|-------------|---|
| ICAO        | International Civil Aviation Organization   |
| ICAO-TI     | Technical instructions for the safe transport of dangerous goods by air   |
| IMDG        | International Maritime Dangerous Goods Code   |
| IMDG-Code   | 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  |
| IOELV       | Indicative occupational exposure limit value  |
| LC50        | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval                       |
| LD50        | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval  |
| log KOW     | n-Octanol/water   |
| NLP         | No-Longer Polymer   |
| PBT         | Persistent, Bioaccumulative and Toxic   |
| ppm         | Parts per million   |
| 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  |
| STEL        | Short-term exposure limit   |
| TWA         | Time-weighted average   |
| VOC         | Volatile Organic Compounds  |
| vPvB        | Very Persistent and very Bioaccumulative  |
| WEL         | Workplace exposure limit  |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

| Code | Text                                     |
|------|--|
| H226 | Flammable liquid and vapour.             |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation.                  |
| H318 | Causes serious eye damage.               |

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| Code | Text                           |
|------|--------------------------------|
| H319 | Causes serious eye irritation. |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.



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## Lysis Buffer LSN

article number:  
Version: **3.0 en**  
Replaces version of: 2022-01-11  
Version: (2)

date of compilation: 2015-11-02  
Revision: 2023-03-29

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

### 1.1 Product identifier

Identification of the substance

**Lysis Buffer LSN**

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

Relevant identified uses:

Laboratory chemical  
Laboratory and analytical use

Uses advised against:

Do not use for private purposes (household).  
Food, drink and animal feedingstuffs.

### 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](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):**

**[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class  | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 3.3     | Serious eye damage/eye irritation                     | 2         | Eye Irrit. 2              | H319             |
| 4.1A    | Hazardous to the aquatic environment - acute hazard   | 1         | Aquatic Acute 1           | H400             |
| 4.1C    | Hazardous to the aquatic environment - chronic hazard | 3         | Aquatic Chronic 3         | H412             |

For full text of abbreviations: see SECTION 16

**The most important adverse physicochemical, human health and environmental effects**

Spillage and fire water can cause pollution of watercourses.

### 2.2 Label elements

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### Labelling

#### Signal word

Warning

#### Pictograms

GHS07, GHS09



#### Hazard statements

H319

Causes serious eye irritation

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/eye protection

##### Precautionary statements - response

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not relevant (mixture)

### 3.2 Mixtures

#### Description of the mixture

| Name of substance              | Identifier   | Wt%     | Classification acc. to GHS   | Pictograms | Notes  |
|--------------------------------|--|---------|--|------------|--------|
| Ammonium chloride              | CAS No<br>12125-02-9<br><br>EC No<br>235-186-4<br><br>Index No<br>017-014-00-8 | 10 – 25 | Acute Tox. 4 / H302<br>Eye Irrit. 2 / H319   |            | GHS-HC |
| Cetyltrimethylammonium bromide | CAS No<br>57-09-0<br><br>EC No<br>200-311-3                                    | < 2,5   | Acute Tox. 4 / H302<br>Skin Irrit. 2 / H315<br>Eye Dam. 1 / H318<br>STOT SE 3 / H335<br>STOT RE 2 / H373<br>Aquatic Acute 1 / H400<br>Aquatic Chronic 1 / H410 |            |        |

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## Lysis Buffer LSN

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### Notes

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

| Name of substance              | Identifier                                     | Specific Conc. Limits | M-Factors                 | ATE         | Exposure route |
|--------------------------------|--|-----------------------|---------------------------|-------------|----------------|
| Ammonium chloride              | CAS No<br>12125-02-9<br><br>EC No<br>235-186-4 | -                     | -                         | 1.410 mg/kg | oral           |
| Cetyltrimethylammonium bromide | CAS No<br>57-09-0<br><br>EC No<br>200-311-3    | -                     | M-factor<br>(acute) = 100 | 1.550 mg/kg | oral           |

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

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

#### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation

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

none

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



##### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

water jet

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

Ingredients of the mixture combustible. The product itself does not burn.

##### Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. 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.

### SECTION 6: Accidental release measures

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



##### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

#### 6.2 Environmental precautions

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

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

##### Advice on how to contain a spill

Covering of drains.

##### Advice on how to clean up a spill

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

##### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 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

No special measures are necessary.

#### Measures to protect the environment

Avoid release to the environment.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

#### 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:

#### 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)

| Country | Name of agent     | CAS No     | Identifier | TWA [ppm] | TWA [mg/m <sup>3</sup> ] | STEL [ppm] | STEL [mg/m <sup>3</sup> ] | Ceiling-C [ppm] | Ceiling-C [mg/m <sup>3</sup> ] | Notation | Source    |
|---------|-------------------|------------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|-----------|
| GB      | ammonium chloride | 12125-02-9 | WEL        |           | 10                       |            | 20                        |                 |                                | fume     | EH40/2005 |

##### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

fume As fume

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 (unless otherwise specified)

| Relevant DNELs of components of the mixture |         |          |                        |                                    |                   |                            |
|---|---------|----------|------------------------|------------------------------------|-------------------|----------------------------|
| Name of substance                           | CAS No  | Endpoint | Threshold level        | Protection goal, route of exposure | Used in           | Exposure time              |
| Cetyltrimethylammonium bromide              | 57-09-0 | DNEL     | 0,05 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | acute - local effects      |
| Cetyltrimethylammonium bromide              | 57-09-0 | DNEL     | 0,4 mg/kg bw/day       | human, dermal                      | worker (industry) | chronic - systemic effects |

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| Relevant PNECs of components of the mixture |         |           |                 |                       |                              |                              |
|---|---------|-----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance                           | CAS No  | End-point | Threshold level | Organism              | Environmental compartment    | Exposure time                |
| Cetyltrimethylammonium bromide              | 57-09-0 | PNEC      | 0,022 µg/l      | aquatic organisms     | freshwater                   | short-term (single instance) |
| Cetyltrimethylammonium bromide              | 57-09-0 | PNEC      | 0,002 µg/l      | aquatic organisms     | marine water                 | short-term (single instance) |
| Cetyltrimethylammonium bromide              | 57-09-0 | PNEC      | 0,19 mg/l       | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| Cetyltrimethylammonium bromide              | 57-09-0 | PNEC      | 0,21 mg/kg      | terrestrial organisms | soil                         | short-term (single instance) |

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### • type of material

NBR (Nitrile rubber)

#### • material thickness

>0,11 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.

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### Respiratory protection



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

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |   |
|--|---|
| Physical state   | liquid  |
| Colour   | colourless                                    |
| Odour  | characteristic                                |
| Melting point/freezing point                             | not determined                                |
| Boiling point or initial boiling point and boiling range | 100 °C  |
| Flammability   | non-combustible                               |
| Lower and upper explosion limit                          | not determined                                |
| Flash point  | not determined                                |
| Auto-ignition temperature                                | not determined                                |
| Decomposition temperature                                | not relevant                                  |
| pH (value)   | not determined                                |
| Kinematic viscosity                                      | not determined                                |
| <u>Solubility(ies)</u>                                   |   |
| Water solubility   | miscible in any proportion                    |
| <u>Partition coefficient</u>                             |   |
| Partition coefficient n-octanol/water (log value):       | this information is not available             |
| Vapour pressure  | 23 hPa at 20 °C                               |
| <u>Density and/or relative density</u>                   |   |
| Density  | 1,093 g/cm <sup>3</sup> at 20 °C              |
| Relative vapour density                                  | information on this property is not available |
| Particle characteristics                                 | not relevant (liquid)                         |

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### Other safety parameters

Oxidising properties none

## 9.2 Other information

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics:

Miscibility completely miscible with water

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 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

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 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

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Classification acc. to GHS

#### Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity estimate (ATE) of components of the mixture |            |                |             |
|--|------------|----------------|-------------|
| Name of substance  | CAS No     | Exposure route | ATE         |
| Ammonium chloride  | 12125-02-9 | oral           | 1.410 mg/kg |
| Cetyltrimethylammonium bromide                             | 57-09-0    | oral           | 1.550 mg/kg |



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| Acute toxicity of components of the mixture |            |                |          |              |         |
|---|------------|----------------|----------|--------------|---------|
| Name of substance                           | CAS No     | Exposure route | Endpoint | Value        | Species |
| Ammonium chloride                           | 12125-02-9 | oral           | LD50     | 1.410 mg/kg  | rat     |
| Ammonium chloride                           | 12125-02-9 | dermal         | LD50     | >2.000 mg/kg | rat     |
| Cetyltrimethylammonium bromide              | 57-09-0    | oral           | LD50     | 1.550 mg/kg  | rat     |
| Cetyltrimethylammonium bromide              | 57-09-0    | dermal         | LD50     | 2.150 mg/kg  | rabbit  |

### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

### Serious eye damage/eye irritation

Causes serious eye irritation.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified 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

Data are not available.

#### • If in eyes

Causes serious eye irritation

#### • If inhaled

Data are not available.

#### • If on skin

Data are not available.

#### • Other information

none

## 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

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### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

| Aquatic toxicity (acute) of components of the mixture |            |          |            |                       |               |
|---|------------|----------|------------|-----------------------|---------------|
| Name of substance                                     | CAS No     | Endpoint | Value      | Species               | Exposure time |
| Ammonium chloride                                     | 12125-02-9 | LC50     | 42,91 mg/l | fish                  | 96 h          |
| Ammonium chloride                                     | 12125-02-9 | EC50     | 101 mg/l   | aquatic invertebrates | 48 h          |
| Cetyltrimethylammonium bromide                        | 57-09-0    | LC50     | 0,2 mg/l   | fish                  | 96 h          |
| Cetyltrimethylammonium bromide                        | 57-09-0    | EC50     | 26 µg/l    | aquatic invertebrates | 48 h          |
| Cetyltrimethylammonium bromide                        | 57-09-0    | ErC50    | 4,11 µg/l  | algae                 | 72 h          |

| Aquatic toxicity (chronic) of components of the mixture |            |          |            |                       |               |
|---|------------|----------|------------|-----------------------|---------------|
| Name of substance                                       | CAS No     | Endpoint | Value      | Species               | Exposure time |
| Ammonium chloride                                       | 12125-02-9 | ErC50    | 1.300 mg/l | algae                 | 5 d           |
| Ammonium chloride                                       | 12125-02-9 | EC50     | 2.700 mg/l | algae                 | 18 d          |
| Cetyltrimethylammonium bromide                          | 57-09-0    | EC50     | ≤0,04 mg/l | aquatic invertebrates | 21 d          |

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

| Bioaccumulative potential of components of the mixture |            |             |                           |          |
|--|------------|-------------|---------------------------|----------|
| Name of substance                                      | CAS No     | BCF         | Log KOW                   | BOD5/COD |
| Ammonium chloride                                      | 12125-02-9 |             | -4,37                     |          |
| Cetyltrimethylammonium bromide                         | 57-09-0    | >407 - <741 | 3,18 (pH value: 7, 25 °C) |          |

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.

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### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## 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 regulations.

#### Sewage disposal-relevant information

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

#### 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.

#### Properties of waste which render it hazardous

**HP 6** acute toxicity

**HP 14** ecotoxic

### 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 or ID number

ADRRID UN 3082

IMDG-Code UN 3082

ICAO-TI UN 3082

### 14.2 UN proper shipping name

ADRRID ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

IMDG-Code ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

ICAO-TI Environmentally hazardous substance, liquid, n.o.s.

Technical name (hazardous ingredients) Cetyltrimethylammonium bromide

### 14.3 Transport hazard class(es)

ADRRID 9



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article number:

|   |  |
|---|--|
| IMDG-Code   | 9  |
| ICAO-TI   | 9  |
| <b>14.4 Packing group</b>   |  |
| ADRRID  | III  |
| IMDG-Code   | III  |
| ICAO-TI   | III  |
| <b>14.5 Environmental hazards</b>   | hazardous to the aquatic environment   |
| Environmentally hazardous substance (aquatic environment):  | Cetyltrimethylammonium bromide   |
| <b>14.6 Special precautions for user</b>  |  |
| Provisions for dangerous goods (ADR) should be complied within the premises.  |  |
| <b>14.7 Maritime transport in bulk according to IMO instruments</b>   |  |
| The cargo is not intended to be carried in bulk.  |  |
| <b>14.8 Information for each of the UN Model Regulations</b>  |  |
| <b>Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information</b>   |  |
| Proper shipping name  | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  |
| Particulars in the transport document   | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (contains: Cetyltrimethylammonium bromide), 9, III, (-) |
| Classification code   | M6   |
| Danger label(s)   | 9, "Fish and tree"   |
|   |  |
| Environmental hazards   | yes (hazardous to the aquatic environment)   |
| Special provisions (SP)   | 274, 335, 375, 601   |
| Excepted quantities (EQ)  | E1   |
| Limited quantities (LQ)   | 5 L  |
| Transport category (TC)   | 3  |
| Tunnel restriction code (TRC)   | -  |
| Hazard identification No  | 90   |
| <b>Emergency Action Code</b>  | 3Z   |
| <b>Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information</b>   |  |
| <b>Classification code</b>  | M6   |
| <b>Danger label(s)</b>  | 9<br>Fish and tree   |

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article number:



|                                 |                           |
|---------------------------------|---------------------------|
| <b>Environmental hazards</b>    | Yes<br>Hazardous to water |
| <b>Special provisions (SP)</b>  | 274, 335, 375, 601        |
| <b>Excepted quantities (EQ)</b> | E1                        |
| <b>Limited quantities (LQ)</b>  | 5 L                       |
| <b>Transport category (TC)</b>  | 3                         |
| <b>Hazard identification No</b> | 90                        |

### International Maritime Dangerous Goods Code (IMDG) - Additional information

|  |   |
|--|---|
| Proper shipping name                     | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.   |
| Particulars in the shipper's declaration | UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (contains: Cetyltrimethylammonium bromide), 9, III |
| Marine pollutant                         | YES (hazardous to the aquatic environment), (Cetyltrimethylammonium bromide)                                    |
| Danger label(s)                          | 9, "Fish and tree"  |



|                          |               |
|--------------------------|---------------|
| Special provisions (SP)  | 274, 335, 969 |
| Excepted quantities (EQ) | E1            |
| Limited quantities (LQ)  | 5 L           |
| EmS                      | F-A, S-F      |
| Stowage category         | A             |

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

|  |   |
|--|---|
| Proper shipping name                     | Environmentally hazardous substance, liquid, n.o.s.   |
| Particulars in the shipper's declaration | UN3082, Environmentally hazardous substance, liquid, n.o.s., (contains: Cetyltrimethylammonium bromide), 9, III |
| Environmental hazards                    | YES (hazardous to the aquatic environment)  |
| Danger label(s)                          | 9, "Fish and tree"  |



|                          |                       |
|--------------------------|-----------------------|
| Special provisions (SP)  | A97, A158, A197, A215 |
| Excepted quantities (EQ) | E1                    |
| Limited quantities (LQ)  | 30 kg                 |

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## Lysis Buffer LSN

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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)

##### Seveso Directive

| 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

##### Deco-Paint Directive

|  |       |
|--|-------|
| VOC content                                | 0 %   |
| VOC content (Water content was discounted) | 0 g/l |

##### Industrial Emissions Directive (IED)

|  |       |
|--|-------|
| VOC content                                | 0 %   |
| VOC content (Water content was discounted) | 0 g/l |

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

##### Water Framework Directive (WFD)

| List of pollutants (WFD)       |   |        |           |         |
|--------------------------------|---|--------|-----------|---------|
| Name of substance              | Name acc. to inventory  | CAS No | Listed in | Remarks |
| Ammonium chloride              | Substances which contribute to eutrophication (in particular, nitrates and phosphates)  |        | a)        |         |
| Cetyltrimethylammonium bromide | Organohalogen compounds and substances which may form such compounds in the aquatic environment   |        | a)        |         |
| Cetyltrimethylammonium bromide | Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment |        | a)        |         |

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article number:

### Legend

A) Indicative list of the main pollutants

### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

### Regulation on drug precursors

none of the ingredients are listed

### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### National regulations(GB)

### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

none of the ingredients are listed

### Restrictions according to GB REACH, Annex 17

| Dangerous substances with restrictions (GB REACH, Annex 17) |  |        |    |
|---|--|--------|----|
| Name of substance   | Name acc. to inventory   | CAS No | No |
| Lysis Buffer LSN  | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC |        | 3  |
| Ammonium chloride   | Inorganic ammonium salts   |        | 65 |

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory  | Status                         |
|---------|------------|--------------------------------|
| AU      | AIIC       | all ingredients are listed     |
| CA      | DSL        | all ingredients are listed     |
| CN      | IECSC      | all ingredients are listed     |
| EU      | ECSI       | all ingredients are listed     |
| EU      | REACH Reg. | all ingredients are listed     |
| JP      | CSCL-ENCS  | all ingredients are listed     |
| KR      | KECI       | all ingredients are listed     |
| MX      | INSQ       | all ingredients are listed     |
| NZ      | NZIoC      | all ingredients are listed     |
| PH      | PICCS      | all ingredients are listed     |
| TR      | CICR       | not all ingredients are listed |

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## Lysis Buffer LSN

article number:

| Country | Inventory | Status                                 |
|---------|-----------|--|
| TW      | TCSI      | all ingredients are listed             |
| US      | TSCA      | all ingredients are listed as "ACTIVE" |

### Legend

|            |   |
|------------|---|
| AIIC       | Australian Inventory of Industrial Chemicals                            |
| CICR       | Chemical Inventory and Control Regulation                               |
| CSCL-ENCS  | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL        | Domestic Substances List (DSL)  |
| ECSI       | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC      | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ       | National Inventory of Chemical Substances                               |
| KECI       | Korea Existing Chemicals Inventory                                      |
| NZIoC      | New Zealand Inventory of Chemicals                                      |
| PICCS      | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| REACH Reg. | REACH registered substances   |
| TCSI       | Taiwan Chemical Substance Inventory                                     |
| TSCA       | Toxic Substance Control Act   |

## 15.2 Chemical Safety Assessment

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

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)  | Actual entry (text/value)  | Safety-relevant |
|---------|--|--|-----------------|
| 2.2     | Labelling of packages where the contents do not exceed 125 ml:<br>Signal word: Warning                                       |  | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                        | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                        | yes             |
| 2.3     | Results of PBT and vPvB assessment:<br>This mixture does not contain any substances that are assessed to be a PBT or a vPvB. | Results of PBT and vPvB assessment:<br>Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$ .     | yes             |
| 2.3     |  | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$ . | yes             |
| 14.8    |  | Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information               | yes             |
| 14.8    |  | Classification code:<br>M6   | yes             |
| 14.8    |  | Danger label(s):<br>9<br>Fish and tree   | yes             |
| 14.8    |  | Danger label(s):<br>change in the listing (table)  | yes             |
| 14.8    |  | Environmental hazards:<br>Yes<br>Hazardous to water  | yes             |



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article number:

| Section | Former entry (text/value)  | Actual entry (text/value)   | Safety-relevant |
|---------|--|---|-----------------|
| 14.8    |  | Special provisions (SP):<br>274, 335, 375, 601  | yes             |
| 14.8    |  | Exempted quantities (EQ):<br>E1   | yes             |
| 14.8    |  | Limited quantities (LQ):<br>5 L   | yes             |
| 14.8    |  | Transport category (TC):<br>3   | yes             |
| 14.8    |  | Hazard identification No:<br>90   | yes             |
| 15.1    | Restrictions according to REACH, Annex XVII  |   | yes             |
| 15.1    |  | Dangerous substances with restrictions (REACH, Annex XVII):<br>change in the listing (table)                                    | yes             |
| 15.1    | List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list:<br>None of the ingredients are listed. |   | yes             |
| 15.1    |  | VOC content (Water content was discounted):<br>0 g/l  | yes             |
| 15.1    |  | VOC content (Water content was discounted):<br>0 g/l  | yes             |
| 15.1    |  | National regulations(GB)  | yes             |
| 15.1    |  | List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list:<br>none of the ingredients are listed | yes             |
| 15.1    |  | Restrictions according to GB REACH, Annex 17  | yes             |
| 15.1    |  | Dangerous substances with restrictions (GB REACH, Annex 17):<br>change in the listing (table)                                   | yes             |
| 15.1    |  | National inventories:<br>change in the listing (table)  | yes             |

### Abbreviations and acronyms

| Abbr.           | Descriptions of used abbreviations  |
|-----------------|---|
| Acute Tox.      | Acute toxicity  |
| ADR             | Accord relatif au transport international des marchandises dangereuses par route (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)  |

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| Abbr.      | Descriptions of used abbreviations   |
|------------|--|
| Ceiling-C  | Ceiling value  |
| COD        | Chemical oxygen demand   |
| DGR        | Dangerous Goods Regulations (see IATA/DGR)   |
| DNEL       | Derived No-Effect Level  |
| EC50       | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval   |
| 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 ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )  |
| EINECS     | European Inventory of Existing Commercial Chemical Substances  |
| ELINCS     | European List of Notified Chemical Substances  |
| EmS        | Emergency Schedule   |
| ErC50      | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control   |
| Eye Dam.   | Seriously damaging to the eye  |
| Eye Irrit. | Irritant to the eye  |
| GB REACH   | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)   |
| GHS        | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations  |
| IATA       | International Air Transport Association  |
| IATA/DGR   | Dangerous Goods Regulations (DGR) for the air transport (IATA)   |
| ICAO       | International Civil Aviation Organization  |
| ICAO-TI    | Technical instructions for the safe transport of dangerous goods by air  |
| IMDG       | International Maritime Dangerous Goods Code  |
| IMDG-Code  | 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   |
| LC50       | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval  |
| LD50       | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval   |
| log KOW    | n-Octanol/water  |
| M-factor   | Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present |
| NLP        | No-Longer Polymer  |
| PBT        | Persistent, Bioaccumulative and Toxic  |
| PNEC       | Predicted No-Effect Concentration  |
| ppm        | Parts per million  |

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| Abbr.       | Descriptions of used abbreviations  |
|-------------|---|
| 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  |
| STEL        | Short-term exposure limit   |
| STOT RE     | Specific target organ toxicity - repeated exposure  |
| STOT SE     | Specific target organ toxicity - single exposure  |
| TWA         | Time-weighted average   |
| VOC         | Volatile Organic Compounds  |
| vPvB        | Very Persistent and very Bioaccumulative  |
| WEL         | Workplace exposure limit  |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

| Code | Text   |
|------|--|
| H302 | Harmful if swallowed.  |
| H315 | Causes skin irritation.  |
| H318 | Causes serious eye damage.   |
| H319 | Causes serious eye irritation.                                     |
| H335 | May cause respiratory irritation.                                  |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life.  |
| H410 | Very toxic to aquatic life with long lasting effects.              |
| H412 | Harmful to aquatic life with long lasting effects.                 |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

# Safety data sheet

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



## Lysis Buffer LSV

article number:  
Version: **2.0 en**  
Replaces version of: 2015-10-29  
Version: (1)

date of compilation: 2015-10-29  
Revision: 2023-01-27

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

### 1.1 Product identifier

Identification of the substance **Lysis Buffer LSV**  
Article number

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

Relevant identified uses: Laboratory chemical  
Laboratory and analytical use  
Uses advised against: Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

### 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

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class                      | Cat-egory | Hazard class and category | Hazard statement |
|---------|-----------------------------------|-----------|---------------------------|------------------|
| 3.3     | Serious eye damage/eye irritation | 1         | Eye Dam. 1                | H318             |

For full text of abbreviations: see SECTION 16

### 2.2 Label elements

#### Labelling

**Signal word** **Danger**

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## Lysis Buffer LSV

article number:

### Pictograms

GHS05



### Hazard statements

H318 Causes serious eye damage

### Precautionary statements

#### Precautionary statements - prevention

P280 Wear protective gloves/eye protection

#### Precautionary statements - response

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:** Sodium dodecyl sulphate

## 2.3 Other hazards

### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not relevant (mixture)

### 3.2 Mixtures

#### Description of the mixture

| Name of substance       | Identifier                                   | Wt%        | Classification acc. to GHS   | Pictograms | Notes |
|-------------------------|--|------------|--|------------|-------|
| Sodium dodecyl sulphate | CAS No<br>151-21-3<br><br>EC No<br>205-788-1 | 2,5 - < 10 | Flam. Sol. 2 / H228<br>Acute Tox. 4 / H302<br>Acute Tox. 4 / H332<br>Skin Irrit. 2 / H315<br>Eye Dam. 1 / H318<br>STOT SE 3 / H335<br>Aquatic Chronic 3 / H412 |            |       |

| Name of substance       | Identifier                                   | Specific Conc. Limits | M-Factors | ATE                        | Exposure route                    |
|-------------------------|--|-----------------------|-----------|----------------------------|-----------------------------------|
| Sodium dodecyl sulphate | CAS No<br>151-21-3<br><br>EC No<br>205-788-1 | -                     | -         | 1.200 mg/kg<br>3,9 mg/l/4h | oral<br>inhalation: dust/<br>mist |

For full text of abbreviations: see SECTION 16

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## Lysis Buffer LSV

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures



##### General notes

Take off contaminated clothing.

##### Following inhalation

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

##### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

##### 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.

##### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Risk of blindness, 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 firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

water jet

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

Non-combustible.

##### Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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## Lysis Buffer LSV

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### SECTION 6: Accidental release measures

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



##### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

##### Advice on how to contain a spill

Covering of drains.

##### Advice on how to clean up a spill

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

##### Other information relating to spills and releases

Place in appropriate containers for disposal.

#### 6.4 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.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

No special measures are necessary.

##### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

#### 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:

##### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

#### 7.3 Specific end use(s)

No information available.

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## Lysis Buffer LSV

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

| Relevant DNELs of components of the mixture |          |           |                       |                                    |                   |                            |
|---|----------|-----------|-----------------------|------------------------------------|-------------------|----------------------------|
| Name of substance                           | CAS No   | End-point | Threshold level       | Protection goal, route of exposure | Used in           | Exposure time              |
| Sodium dodecyl sulphate                     | 151-21-3 | DNEL      | 285 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - systemic effects |
| Sodium dodecyl sulphate                     | 151-21-3 | DNEL      | 4.060 mg/kg bw/day    | human, dermal                      | worker (industry) | chronic - systemic effects |

| Relevant PNECs of components of the mixture |          |           |                 |                       |                              |                              |
|---|----------|-----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance                           | CAS No   | End-point | Threshold level | Organism              | Environmental compartment    | Exposure time                |
| Sodium dodecyl sulphate                     | 151-21-3 | PNEC      | 0,176 mg/l      | aquatic organisms     | freshwater                   | short-term (single instance) |
| Sodium dodecyl sulphate                     | 151-21-3 | PNEC      | 0,018 mg/l      | aquatic organisms     | marine water                 | short-term (single instance) |
| Sodium dodecyl sulphate                     | 151-21-3 | PNEC      | 1,35 mg/l       | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| Sodium dodecyl sulphate                     | 151-21-3 | PNEC      | 6,97 mg/kg      | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| Sodium dodecyl sulphate                     | 151-21-3 | PNEC      | 0,697 mg/kg     | aquatic organisms     | marine sediment              | short-term (single instance) |
| Sodium dodecyl sulphate                     | 151-21-3 | PNEC      | 1,29 mg/kg      | terrestrial organisms | soil                         | short-term (single instance) |

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection





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article number:

### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

### • type of material

NBR (Nitrile rubber)

### • material thickness

>0,11 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



Respiratory protection necessary at: Aerosol or mist formation. Usually no personal respirative protection necessary.

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |                 |
|--|-----------------|
| Physical state   | liquid          |
| Colour   | colourless      |
| Odour  | odourless       |
| Melting point/freezing point                             | not determined  |
| Boiling point or initial boiling point and boiling range | 100 °C          |
| Flammability   | non-combustible |
| Lower and upper explosion limit                          | not determined  |
| Flash point  | not determined  |
| Auto-ignition temperature                                | not determined  |
| Decomposition temperature                                | not relevant    |
| pH (value)   | 7 (20 °C)       |
| Kinematic viscosity                                      | not determined  |

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## Lysis Buffer LSV

article number:

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### Solubility(ies)

Water solubility miscible in any proportion

### Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure 23 hPa at 20 °C

### Density and/or relative density

Density 1,01 g/cm<sup>3</sup> at 20 °C

Relative vapour density information on this property is not available

Particle characteristics not relevant (liquid)

### Other safety parameters

Oxidising properties none

## 9.2 Other information

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics:

Miscibility completely miscible with water

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 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

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to GHS

##### Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity estimate (ATE) of components of the mixture |          |                       |             |
|--|----------|-----------------------|-------------|
| Name of substance  | CAS No   | Exposure route        | ATE         |
| Sodium dodecyl sulphate                                    | 151-21-3 | oral                  | 1.200 mg/kg |
| Sodium dodecyl sulphate                                    | 151-21-3 | inhalation: dust/mist | 3,9 mg/l/4h |

| Acute toxicity of components of the mixture |          |                |          |              |         |
|---|----------|----------------|----------|--------------|---------|
| Name of substance                           | CAS No   | Exposure route | Endpoint | Value        | Species |
| Sodium dodecyl sulphate                     | 151-21-3 | oral           | LD50     | 1.200 mg/kg  | rat     |
| Sodium dodecyl sulphate                     | 151-21-3 | dermal         | LD50     | >2.000 mg/kg | rat     |

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified 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.

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### Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**

Data are not available.

- **If in eyes**

Causes serious eye damage, risk of blindness

- **If inhaled**

Data are not available.

- **If on skin**

Data are not available.

- **Other information**

none

### 11.2 Endocrine disrupting properties

None of the ingredients are listed.

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

| Aquatic toxicity (acute) of components of the mixture |          |          |           |         |               |
|---|----------|----------|-----------|---------|---------------|
| Name of substance                                     | CAS No   | Endpoint | Value     | Species | Exposure time |
| Sodium dodecyl sulphate                               | 151-21-3 | LC50     | 29 mg/l   | fish    | 96 h          |
| Sodium dodecyl sulphate                               | 151-21-3 | ErC50    | >120 mg/l | algae   | 72 h          |

| Aquatic toxicity (chronic) of components of the mixture |          |          |          |                |               |
|---|----------|----------|----------|----------------|---------------|
| Name of substance                                       | CAS No   | Endpoint | Value    | Species        | Exposure time |
| Sodium dodecyl sulphate                                 | 151-21-3 | EC50     | 135 mg/l | microorganisms | 3 h           |

### 12.2 Persistence and degradability

| Degradability of components of the mixture |          |                           |                  |      |        |        |
|--|----------|---------------------------|------------------|------|--------|--------|
| Name of substance                          | CAS No   | Process                   | Degradation rate | Time | Method | Source |
| Sodium dodecyl sulphate                    | 151-21-3 | biotic/abiotic            | 90 %             | 28 d |        |        |
| Sodium dodecyl sulphate                    | 151-21-3 | carbon dioxide generation | 95 %             | 28 d |        | ECHA   |

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### 12.3 Bioaccumulative potential

Data are not available.

| Bioaccumulative potential of components of the mixture |          |     |                |          |
|--|----------|-----|----------------|----------|
| Name of substance                                      | CAS No   | BCF | Log KOW        | BOD5/COD |
| Sodium dodecyl sulphate                                | 151-21-3 |     | ≤-2,03 (20 °C) |          |

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Endocrine disrupting properties

None of the ingredients are listed.

### 12.7 Other adverse effects

Data are not available.

## 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 regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

### 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 or ID number       | not subject to transport regulations                                  |
| 14.2 UN proper shipping name      | not assigned  |
| 14.3 Transport hazard class(es)   | none  |
| 14.4 Packing group                | not assigned  |
| 14.5 Environmental hazards        | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 Special precautions for user | There is no additional information.                                   |

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

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

#### International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

#### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

## 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)

##### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

##### Deco-Paint Directive

|             |                       |
|-------------|-----------------------|
| VOC content | 5 - 10 %<br>1.151 g/l |
|-------------|-----------------------|

##### Industrial Emissions Directive (IED)

|  |       |
|--|-------|
| VOC content                                | 0 %   |
| VOC content (Water content was discounted) | 0 g/l |

##### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

##### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

##### Water Framework Directive (WFD)

| List of pollutants (WFD) |                            |        |           |         |
|--------------------------|----------------------------|--------|-----------|---------|
| Name of substance        | Name acc. to inventory     | CAS No | Listed in | Remarks |
| Sodium dodecyl sulphate  | Metals and their compounds |        | a)        |         |

##### Legend

A) Indicative list of the main pollutants

##### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

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### Regulation on drug precursors

none of the ingredients are listed

### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory  | Status                                 |
|---------|------------|--|
| AU      | AIIC       | all ingredients are listed             |
| CA      | DSL        | all ingredients are listed             |
| CN      | IECSC      | all ingredients are listed             |
| EU      | ECSI       | all ingredients are listed             |
| EU      | REACH Reg. | all ingredients are listed             |
| JP      | CSCL-ENCS  | all ingredients are listed             |
| KR      | KECI       | all ingredients are listed             |
| MX      | INSQ       | all ingredients are listed             |
| NZ      | NZIoC      | all ingredients are listed             |
| PH      | PICCS      | all ingredients are listed             |
| TR      | CICR       | not all ingredients are listed         |
| TW      | TCSI       | all ingredients are listed             |
| US      | TSCA       | all ingredients are listed as "ACTIVE" |

#### Legend

|            |   |
|------------|---|
| AIIC       | Australian Inventory of Industrial Chemicals                            |
| CICR       | Chemical Inventory and Control Regulation                               |
| CSCL-ENCS  | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL        | Domestic Substances List (DSL)  |
| ECSI       | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC      | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ       | National Inventory of Chemical Substances                               |
| KECI       | Korea Existing Chemicals Inventory                                      |
| NZIoC      | New Zealand Inventory of Chemicals                                      |
| PICCS      | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| REACH Reg. | REACH registered substances   |
| TCSI       | Taiwan Chemical Substance Inventory                                     |
| TSCA       | Toxic Substance Control Act   |

## 15.2 Chemical Safety Assessment

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

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### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)   | Actual entry (text/value)  | Safety-relevant |
|---------|---|--|-----------------|
| 2.1     |   | Classification acc. to GHS:<br>change in the listing (table)   | yes             |
| 2.1     | Remarks:<br>For full text of H-phrases: see SECTION 16.   |  | yes             |
| 2.2     |   | Pictograms:<br>change in the listing (table)   | yes             |
| 2.2     |   | Precautionary statements - prevention:<br>change in the listing (table)  | yes             |
| 2.2     | Labelling of packages where the contents do not exceed 125 ml:<br>Signal word: Danger                               |  | yes             |
| 2.2     |   | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                              | yes             |
| 2.2     |   | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                              | yes             |
| 2.2     |   | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                              | yes             |
| 2.2     |   | Hazardous ingredients for labelling:<br>Sodium dodecyl sulphate  | yes             |
| 2.3     | Other hazards:<br>There is no additional information.   | Other hazards  | yes             |
| 2.3     |   | Results of PBT and vPvB assessment:<br>This mixture does not contain any substances that are assessed to be a PBT or a vPvB. | yes             |
| 14.2    | UN proper shipping name:<br>not relevant  | UN proper shipping name:<br>not assigned   | yes             |
| 14.3    | Transport hazard class(es):<br>not relevant   | Transport hazard class(es):<br>none  | yes             |
| 14.3    | Class:<br>-   |  | yes             |
| 14.4    | Packing group:<br>not relevant  | Packing group:<br>not assigned   | yes             |
| 14.5    | Environmental hazards:<br>none (non-environmentally hazardous acc. to the dangerous goods regulations)              | Environmental hazards:<br>non-environmentally hazardous acc. to the dangerous goods regulations                              | yes             |
| 14.8    | • Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN):<br>Not subject to ADR, RID and ADN. |  | yes             |
| 14.8    |   | International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information:<br>Not subject to ICAO-IATA.             | yes             |



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article number:

| Section | Former entry (text/value)   | Actual entry (text/value)   | Safety-relevant |
|---------|---|---|-----------------|
| 15.1    | • Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC):<br>None of the ingredients are listed.                |   | yes             |
| 15.1    | • Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS):<br>None of the ingredients are listed.                            |   | yes             |
| 15.1    | • Regulation 850/2004/EC on persistent organic pollutants (POP):<br>None of the ingredients are listed.                                       |   | yes             |
| 15.1    | • Restrictions according to REACH, Annex XVII:<br>None of the ingredients are listed.   |   | yes             |
| 15.1    | • List of substances subject to authorisation (REACH, Annex XIV):<br>None of the ingredients are listed.                                      |   | yes             |
| 15.1    |   | Seveso Directive  | yes             |
| 15.1    |   | 2012/18/EU (Seveso III):<br>change in the listing (table)   | yes             |
| 15.1    | VOC content:<br>5 - 10 %  |   | yes             |
| 15.1    |   | VOC content:<br>5 - 10 %<br>1.151 g/l   | yes             |
| 15.1    | VOC content:<br>0 %   |   | yes             |
| 15.1    |   | VOC content:<br>0 %   | yes             |
| 15.1    |   | VOC content (Water content was discounted):<br>0 g/l  | yes             |
| 15.1    | Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD):<br>None of the ingredients are listed. | Water Framework Directive (WFD)   | yes             |
| 15.1    |   | List of pollutants (WFD):<br>change in the listing (table)  | yes             |
| 15.1    |   | Regulation on the marketing and use of explosives precursors:<br>none of the ingredients are listed             | yes             |
| 15.1    |   | Regulation on drug precursors:<br>none of the ingredients are listed  | yes             |
| 15.1    |   | Regulation on substances that deplete the ozone layer (ODS):<br>none of the ingredients are listed              | yes             |
| 15.1    |   | Regulation concerning the export and import of hazardous chemicals (PIC):<br>none of the ingredients are listed | yes             |
| 15.1    |   | Regulation on persistent organic pollutants (POP):<br>none of the ingredients are listed                        | yes             |

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article number:

| Section | Former entry (text/value) | Actual entry (text/value)  | Safety-relevant |
|---------|---------------------------|--|-----------------|
| 15.1    |                           | Other information:<br>Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. | yes             |
| 15.1    |                           | National inventories   | yes             |
| 15.1    |                           | National inventories:<br>change in the listing (table)   | yes             |

### Abbreviations and acronyms

| Abbr.           | Descriptions of used abbreviations  |
|-----------------|---|
| Acute Tox.      | Acute toxicity  |
| ADR             | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)                     |
| 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)  |
| COD             | Chemical oxygen demand  |
| DGR             | Dangerous Goods Regulations (see IATA/DGR)  |
| DNEL            | Derived No-Effect Level   |
| EC50            | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval  |
| 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) |
| EINECS          | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS          | European List of Notified Chemical Substances   |
| ErC50           | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control            |
| Eye Dam.        | Seriously damaging to the eye   |
| Eye Irrit.      | Irritant to the eye   |
| Flam. Sol.      | Flammable solid   |
| GHS             | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IATA            | International Air Transport Association   |
| IATA/DGR        | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO            | International Civil Aviation Organization   |
| IMDG            | International Maritime Dangerous Goods Code   |

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| Abbr.       | Descriptions of used abbreviations  |
|-------------|---|
| 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  |
| LC50        | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval                       |
| LD50        | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval  |
| log KOW     | n-Octanol/water   |
| NLP         | No-Longer Polymer   |
| PBT         | Persistent, Bioaccumulative and Toxic   |
| 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  |
| STOT SE     | Specific target organ toxicity - single exposure  |
| VOC         | Volatile Organic Compounds  |
| vPvB        | Very Persistent and very Bioaccumulative  |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

| Code | Text   |
|------|--|
| H228 | Flammable solid.                                   |
| H302 | Harmful if swallowed.                              |
| H315 | Causes skin irritation.                            |
| H318 | Causes serious eye damage.                         |
| H332 | Harmful if inhaled.                                |
| H335 | May cause respiratory irritation.                  |
| H412 | Harmful to aquatic life with long lasting effects. |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

# Safety data sheet Safety data sheet

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



## Binding Buffer BSN

article number:  
Version: **4.0 en**  
Replaces version of: 2022-03-16  
Version: (3)

date of compilation: 2015-10-26  
Revision: 2023-03-29

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

### 1.1 Product identifier

Identification of the substance

**Binding Buffer BSN**

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

Relevant identified uses:

Laboratory chemical  
Laboratory and analytical use

Uses advised against:

Do not use for private purposes (household).  
Food, drink and animal feedingstuffs.

### 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](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):**

**[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class  | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 2.6     | Flammable liquid  | 2         | Flam. Liq. 2              | H225             |
| 3.3     | Serious eye damage/eye irritation   | 2         | Eye Irrit. 2              | H319             |
| 3.8D    | Specific target organ toxicity - single exposure (narcotic effects, drowsiness) | 3         | STOT SE 3                 | H336             |

For full text of abbreviations: see SECTION 16

**The most important adverse physicochemical, human health and environmental effects**

The product is combustible and can be ignited by potential ignition sources.

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### 2.2 Label elements

#### Labelling

#### Signal word

Danger

#### Pictograms

GHS02, GHS07



#### Hazard statements

H225 Highly flammable liquid and vapour  
H319 Causes serious eye irritation  
H336 May cause drowsiness or dizziness

#### Precautionary statements

##### Precautionary statements - prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P280 Wear protective gloves/eye protection

##### Precautionary statements - response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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

**Hazardous ingredients for labelling:** 2-Propanol

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

not relevant (mixture)

### 3.2 Mixtures

#### Description of the mixture

| Name of substance | Identifier  | Wt%        | Classification acc. to GHS                                     | Pictograms | Notes  |
|-------------------|---|------------|--|------------|--------|
| 2-Propanol        | CAS No<br>67-63-0<br><br>EC No<br>200-661-7<br><br>Index No | 50 - < 100 | Flam. Liq. 2 / H225<br>Eye Irrit. 2 / H319<br>STOT SE 3 / H336 |            | GHS-HC |

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| Name of substance | Identifier   | Wt% | Classification acc. to GHS | Pictograms | Notes |
|-------------------|--------------|-----|----------------------------|------------|-------|
|                   | 603-117-00-0 |     |                            |            |       |

### Notes

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

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

#### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Vomiting, Irritation, Dizziness, Drowsiness, Narcosis

### 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 firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

#### Unsuitable extinguishing media

water jet

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## Binding Buffer BSN

article number:

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

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

#### Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), May produce toxic fumes of carbon monoxide if burning.

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## 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. Do not breathe vapour/spray. Avoidance of ignition sources.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Danger of explosion.

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

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

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

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 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.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation.

#### Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

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Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage

of vapours into cellars, flues and ditches.

### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

### 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:

Ground/bond container and receiving equipment.

#### 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)

| Country | Name of agent | CAS No  | Identifier | TWA [ppm] | TWA [mg/m <sup>3</sup> ] | STEL [ppm] | STEL [mg/m <sup>3</sup> ] | Ceiling-C [ppm] | Ceiling-C [mg/m <sup>3</sup> ] | Notation | Source    |
|---------|---------------|---------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|-----------|
| GB      | propan-2-ol   | 67-63-0 | WEL        | 400       | 999                      | 500        | 1.250                     |                 |                                |          | EH40/2005 |

#### Notation

Ceiling-C  
STEL

Ceiling value is a limit value above which exposure should not occur  
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 (unless otherwise specified)



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| Relevant DNELs of components of the mixture |         |           |                         |                                    |                   |                            |
|---|---------|-----------|-------------------------|------------------------------------|-------------------|----------------------------|
| Name of substance                           | CAS No  | End-point | Threshold level         | Protection goal, route of exposure | Used in           | Exposure time              |
| 2-Propanol                                  | 67-63-0 | DNEL      | 500 mg/m <sup>3</sup>   | human, inhalatory                  | worker (industry) | chronic - systemic effects |
| 2-Propanol                                  | 67-63-0 | DNEL      | 1.000 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | acute - systemic effects   |
| 2-Propanol                                  | 67-63-0 | DNEL      | 888 mg/kg bw/day        | human, dermal                      | worker (industry) | chronic - systemic effects |

| Relevant PNECs of components of the mixture |         |           |                 |                       |                              |                              |
|---|---------|-----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance                           | CAS No  | End-point | Threshold level | Organism              | Environmental compartment    | Exposure time                |
| 2-Propanol                                  | 67-63-0 | PNEC      | 140,9 mg/l      | aquatic organisms     | freshwater                   | short-term (single instance) |
| 2-Propanol                                  | 67-63-0 | PNEC      | 140,9 mg/l      | aquatic organisms     | marine water                 | short-term (single instance) |
| 2-Propanol                                  | 67-63-0 | PNEC      | 2.251 mg/l      | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| 2-Propanol                                  | 67-63-0 | PNEC      | 552 mg/kg       | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| 2-Propanol                                  | 67-63-0 | PNEC      | 552 mg/kg       | aquatic organisms     | marine sediment              | short-term (single instance) |
| 2-Propanol                                  | 67-63-0 | PNEC      | 28 mg/kg        | terrestrial organisms | soil                         | short-term (single instance) |

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as

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a guide.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

0,4 mm

- **breakthrough times of the glove material**

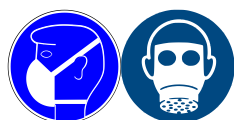
>480 minutes (permeation: level 6)

- **other protection measures**

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

Flame-retardant protective clothing.

### Respiratory protection



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

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |  |
|--|--|
| Physical state   | liquid   |
| Colour   | colourless   |
| Odour  | characteristic   |
| Melting point/freezing point                             | not determined   |
| Boiling point or initial boiling point and boiling range | 82 °C  |
| Flammability   | flammable liquid in accordance with GHS criteria   |
| Lower and upper explosion limit                          | 50 g/m <sup>3</sup> (LEL) - 330 g/m <sup>3</sup> (UEL) /<br>2 vol% (LEL) - 13,4 vol% (UEL) |
| Flash point  | 21 °C  |
| Auto-ignition temperature                                | 425 °C   |
| Decomposition temperature                                | not relevant   |
| pH (value)   | 5 (20 °C)  |
| Kinematic viscosity                                      | not determined   |
| <u>Solubility(ies)</u>                                   |  |
| Water solubility   | miscible in any proportion   |

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### Partition coefficient

Partition coefficient n-octanol/water (log value): this information is not available

Vapour pressure 43 hPa at 20 °C

### Density and/or relative density

Density 0,843 g/cm<sup>3</sup> at 20 °C

Relative vapour density information on this property is not available

Particle characteristics not relevant (liquid)

### Other safety parameters

Oxidising properties none

## 9.2 Other information

Information with regard to physical hazard classes: There is no additional information.

Other safety characteristics:

Miscibility completely miscible with water

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The mixture contains reactive substance(s). Risk of ignition. Vapours may form explosive mixtures with air.

#### **If heated**

Risk of ignition.

### 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

**Exothermic reaction with:** strong oxidiser, Iron, Nitric acid, Strong acid, Aldehydes, Aluminium, Amines,

**Danger of explosion:** Chlorates, Nitro compound, Hydrogen peroxide, Phosgene

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5 Incompatible materials

plastic and rubber

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5. Peroxides.

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to GHS

##### Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity of components of the mixture |         |                    |          |              |         |
|---|---------|--------------------|----------|--------------|---------|
| Name of substance                           | CAS No  | Exposure route     | Endpoint | Value        | Species |
| 2-Propanol                                  | 67-63-0 | inhalation: vapour | LC50     | 37,5 mg/l/4h | rat     |
| 2-Propanol                                  | 67-63-0 | oral               | LD50     | 5.045 mg/kg  | rat     |
| 2-Propanol                                  | 67-63-0 | dermal             | LD50     | 12.800 mg/kg | rabbit  |

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

##### 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

Data are not available.

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- **If in eyes**

Causes serious eye irritation

- **If inhaled**

dizziness, fatigue, narcosis

- **If on skin**

repeated exposure may cause skin dryness or cracking

- **Other information**

Other adverse effects: Headache, Dyspnoea, Narcosis, Vertigo

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

| Aquatic toxicity (acute) of components of the mixture |         |          |             |         |               |
|---|---------|----------|-------------|---------|---------------|
| Name of substance                                     | CAS No  | Endpoint | Value       | Species | Exposure time |
| 2-Propanol  | 67-63-0 | LC50     | 10.000 mg/l | fish    | 96 h          |

### 12.2 Persistence and degradability

| Degradability of components of the mixture |         |                  |                  |      |                                   |        |
|--|---------|------------------|------------------|------|-----------------------------------|--------|
| Name of substance                          | CAS No  | Process          | Degradation rate | Time | Method                            | Source |
| 2-Propanol                                 | 67-63-0 | biotic/abiotic   | 95 %             | 21 d | modifizierter OECD Screening Test |        |
| 2-Propanol                                 | 67-63-0 | oxygen depletion | 53 %             | 5 d  |                                   | ECHA   |

### 12.3 Bioaccumulative potential

Data are not available.

| Bioaccumulative potential of components of the mixture |         |     |         |          |
|--|---------|-----|---------|----------|
| Name of substance                                      | CAS No  | BCF | Log KOW | BOD5/COD |
| 2-Propanol   | 67-63-0 |     | 0,05    |          |

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

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### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## 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 regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### 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.

#### Properties of waste which render it hazardous

**HP 3** flammable

### 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 or ID number

|           |         |
|-----------|---------|
| ADRRID    | UN 1219 |
| IMDG-Code | UN 1219 |
| ICAO-TI   | UN 1219 |

### 14.2 UN proper shipping name

|           |             |
|-----------|-------------|
| ADRRID    | ISOPROPANOL |
| IMDG-Code | ISOPROPANOL |
| ICAO-TI   | Isopropanol |

### 14.3 Transport hazard class(es)

|           |   |
|-----------|---|
| ADRRID    | 3 |
| IMDG-Code | 3 |
| ICAO-TI   | 3 |

### 14.4 Packing group

|        |    |
|--------|----|
| ADRRID | II |
|--------|----|

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|  |   |
|--|---|
| IMDG-Code  | II  |
| ICAO-TI  | II  |
| <b>14.5 Environmental hazards</b>  | non-environmentally hazardous acc. to the dangerous goods regulations |
| <b>14.6 Special precautions for user</b>                                     |   |
| Provisions for dangerous goods (ADR) should be complied within the premises. |   |
| <b>14.7 Maritime transport in bulk according to IMO instruments</b>          |   |
| The cargo is not intended to be carried in bulk.                             |   |

## 14.8 Information for each of the UN Model Regulations

### Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information

|   |  |
|---|--|
| Proper shipping name  | ISOPROPANOL  |
| Particulars in the transport document   | UN1219, ISOPROPANOL, 3, II, (D/E)<br>Special provision 640not relevant |
| Classification code   | F1   |
| Danger label(s)   | 3  |
|  |  |
| Special provisions (SP)   | 601  |
| Excepted quantities (EQ)  | E2   |
| Limited quantities (LQ)   | 1 L  |
| Transport category (TC)   | 2  |
| Tunnel restriction code (TRC)   | D/E  |
| Hazard identification No  | 33   |
| <b>Emergency Action Code</b>  | 2YE  |

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information

|   |     |
|---|-----|
| <b>Classification code</b>  | F1  |
| <b>Danger label(s)</b>  | 3   |
|  |     |
| <b>Special provisions (SP)</b>  | 601 |
| <b>Excepted quantities (EQ)</b>   | E2  |
| <b>Limited quantities (LQ)</b>  | 1 L |
| <b>Transport category (TC)</b>  | 2   |
| <b>Hazard identification No</b>   | 33  |

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### International Maritime Dangerous Goods Code (IMDG) - Additional information

|   |                                       |
|---|---------------------------------------|
| Proper shipping name  | ISOPROPANOL                           |
| Particulars in the shipper's declaration  | UN1219, ISOPROPANOL, 3, II, 21°C c.c. |
| Marine pollutant  | -                                     |
| Danger label(s)   | 3                                     |
|  |                                       |
| Special provisions (SP)   | -                                     |
| Excepted quantities (EQ)  | E2                                    |
| Limited quantities (LQ)   | 1 L                                   |
| EmS   | F-E, S-D                              |
| Stowage category  | B                                     |

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

|   |                            |
|---|----------------------------|
| Proper shipping name  | Isopropanol                |
| Particulars in the shipper's declaration  | UN1219, Isopropanol, 3, II |
| Danger label(s)   | 3                          |
|  |                            |
| Special provisions (SP)   | A180                       |
| Excepted quantities (EQ)  | E2                         |
| Limited quantities (LQ)   | 1 L                        |

## 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)

##### Seveso Directive

#### 2012/18/EU (Seveso III)

| No  | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements |        | Notes |
|-----|---------------------------------------|---|--------|-------|
| P5c | flammable liquids (cat. 2, 3)         | 5.000   | 50.000 | 51)   |

##### Notation

51) Flammable liquids, categories 2 or 3 not covered by P5a and P5b

##### Deco-Paint Directive



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|  |           |
|--|-----------|
| VOC content                                | 70 %      |
| VOC content (Water content was discounted) | 790,5 g/l |

### Industrial Emissions Directive (IED)

|  |           |
|--|-----------|
| VOC content                                | 70 %      |
| VOC content (Water content was discounted) | 790,5 g/l |

### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

### Water Framework Directive (WFD)

| List of pollutants (WFD) |   |        |           |         |
|--------------------------|---|--------|-----------|---------|
| Name of substance        | Name acc. to inventory  | CAS No | Listed in | Remarks |
| 2-Propanol               | Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment |        | a)        |         |

#### Legend

A) Indicative list of the main pollutants

### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

### Regulation on drug precursors

none of the ingredients are listed

### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### National regulations(GB)

### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

none of the ingredients are listed

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### Restrictions according to GB REACH, Annex 17

| Dangerous substances with restrictions (GB REACH, Annex 17) |  |        |    |
|---|--|--------|----|
| Name of substance   | Name acc. to inventory   | CAS No | No |
| Binding Buffer BSN  | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC |        | 3  |
| 2-Propanol  | flammable / pyrophoric   |        | 40 |

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory  | Status                                 |
|---------|------------|--|
| AU      | AIIC       | all ingredients are listed             |
| CA      | DSL        | all ingredients are listed             |
| CN      | IECSC      | all ingredients are listed             |
| EU      | ECSI       | all ingredients are listed             |
| EU      | REACH Reg. | all ingredients are listed             |
| JP      | CSCL-ENCS  | all ingredients are listed             |
| JP      | ISHA-ENCS  | not all ingredients are listed         |
| KR      | KECI       | all ingredients are listed             |
| MX      | INSQ       | all ingredients are listed             |
| NZ      | NZIoC      | all ingredients are listed             |
| PH      | PICCS      | all ingredients are listed             |
| TR      | CICR       | not all ingredients are listed         |
| TW      | TCSI       | all ingredients are listed             |
| US      | TSCA       | all ingredients are listed as "ACTIVE" |

#### Legend

|            |   |
|------------|---|
| AIIC       | Australian Inventory of Industrial Chemicals                            |
| CICR       | Chemical Inventory and Control Regulation                               |
| CSCL-ENCS  | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL        | Domestic Substances List (DSL)  |
| ECSI       | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC      | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ       | National Inventory of Chemical Substances                               |
| ISHA-ENCS  | Inventory of Existing and New Chemical Substances (ISHA-ENCS)           |
| KECI       | Korea Existing Chemicals Inventory                                      |
| NZIoC      | New Zealand Inventory of Chemicals                                      |
| PICCS      | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| REACH Reg. | REACH registered substances   |
| TCSI       | Taiwan Chemical Substance Inventory                                     |
| TSCA       | Toxic Substance Control Act   |

## 15.2 Chemical Safety Assessment

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

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### SECTION 16: Other information

#### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)  | Actual entry (text/value)   | Safety-relevant |
|---------|--|---|-----------------|
| 2.2     | Labelling of packages where the contents do not exceed 125 ml:<br>Signal word: Danger  |   | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                                 | yes             |
| 2.2     |  | Labelling of packages where the contents do not exceed 125 ml:<br>change in the listing (table)                                 | yes             |
| 2.2     | contains:<br>2-Propanol  |   | yes             |
| 2.3     | Results of PBT and vPvB assessment:<br>This mixture does not contain any substances that are assessed to be a PBT or a vPvB. | Results of PBT and vPvB assessment:<br>Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$ .              | yes             |
| 2.3     |  | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$ .          | yes             |
| 14.8    | Classification code:<br>3  | Classification code:<br>F1  | yes             |
| 15.1    | Restrictions according to REACH, Annex XVII  |   | yes             |
| 15.1    |  | Dangerous substances with restrictions (REACH, Annex XVII):<br>change in the listing (table)                                    | yes             |
| 15.1    | List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list:<br>None of the ingredients are listed. |   | yes             |
| 15.1    | VOC content:<br>70 %<br>790,5 g/l  | VOC content:<br>70 %  | yes             |
| 15.1    |  | VOC content (Water content was discounted):<br>790,5 g/l  | yes             |
| 15.1    |  | National regulations(GB)  | yes             |
| 15.1    |  | List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list:<br>none of the ingredients are listed | yes             |
| 15.1    |  | Restrictions according to GB REACH, Annex 17  | yes             |
| 15.1    |  | Dangerous substances with restrictions (GB REACH, Annex 17):<br>change in the listing (table)                                   | yes             |
| 15.1    |  | National inventories:<br>change in the listing (table)  | yes             |

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### Abbreviations and acronyms

| Abbr.      | Descriptions of used abbreviations  |
|------------|---|
| ADR        | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)                         |
| BCF        | Bioconcentration factor   |
| BOD        | Biochemical Oxygen Demand   |
| CAS        | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)  |
| Ceiling-C  | Ceiling value   |
| COD        | Chemical oxygen demand  |
| DGR        | Dangerous Goods Regulations (see IATA/DGR)  |
| 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 ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> ) |
| EINECS     | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS     | European List of Notified Chemical Substances   |
| EmS        | Emergency Schedule  |
| Eye Dam.   | Seriously damaging to the eye   |
| Eye Irrit. | Irritant to the eye   |
| Flam. Liq. | Flammable liquid  |
| GB REACH   | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)  |
| GHS        | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IATA       | International Air Transport Association   |
| IATA/DGR   | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO       | International Civil Aviation Organization   |
| ICAO-TI    | Technical instructions for the safe transport of dangerous goods by air   |
| IMDG       | International Maritime Dangerous Goods Code   |
| IMDG-Code  | 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  |
| LC50       | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval                                     |
| LD50       | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval  |
| LEL        | Lower explosion limit (LEL)   |
| log KOW    | n-Octanol/water   |
| NLP        | No-Longer Polymer   |
| PBT        | Persistent, Bioaccumulative and Toxic   |

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| Abbr.   | Descriptions of used abbreviations  |
|---------|---|
| PNEC    | Predicted No-Effect Concentration   |
| ppm     | Parts per million   |
| 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) |
| STEL    | Short-term exposure limit   |
| STOT SE | Specific target organ toxicity - single exposure  |
| TWA     | Time-weighted average   |
| UEL     | Upper explosion limit (UEL)   |
| VOC     | Volatile Organic Compounds  |
| vPvB    | Very Persistent and very Bioaccumulative  |
| WEL     | Workplace exposure limit  |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

| Code | Text                                |
|------|-------------------------------------|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation.      |
| H336 | May cause drowsiness or dizziness.  |

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

# Safety data sheet

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



## Washing Buffer WST

article number:  
Version: **3.0 en**  
Replaces version of: 2022-03-16  
Version: (2)

date of compilation: 2015-10-24  
Revision: 2023-03-29

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

### 1.1 Product identifier

Identification of the substance

**Washing Buffer WST**

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

Relevant identified uses:

Laboratory chemical  
Laboratory and analytical use

Uses advised against:

Do not use for private purposes (household).  
Food, drink and animal feedingstuffs.

### 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](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):**

**[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification acc. to GHS

This mixture does not meet the criteria for classification.

### 2.2 Label elements

#### Labelling

not required

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

# Safety data sheet

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



## Washing Buffer WST

article number:

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

not relevant (mixture)

#### 3.2 Mixtures

##### Description of the mixture

This product does not meet the criteria for classification in any hazard class according to GHS

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures



##### General notes

No special measures are necessary.

##### Following inhalation

No special measures are necessary.

##### Following skin contact

No special measures are necessary.

##### Following eye contact

No special measures are necessary.

##### Following ingestion

No special measures are necessary.

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

Symptoms and effects are not known to date.

#### 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 firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

water jet

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

Non-combustible.

# Safety data sheet

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



## Washing Buffer WST

article number:

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

No special measures are necessary.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 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.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

No special measures are necessary.

#### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

### 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:

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

### 7.3 Specific end use(s)

No information available.



# Safety data sheet

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



## Washing Buffer WST

article number:

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

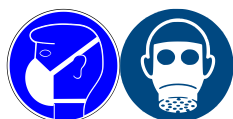
##### Skin protection



##### • hand protection

Hand protection is not required.

##### Respiratory protection



Usually no personal respiratory protection necessary.

##### Environmental exposure controls

Keep away from drains, surface and ground water.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

|  |                      |
|--|----------------------|
| Physical state   | liquid               |
| Colour   | colourless           |
| Odour  | odourless            |
| Melting point/freezing point                             | not determined       |
| Boiling point or initial boiling point and boiling range | ~100 °C at 1.013 hPa |
| Flammability   | non-combustible      |
| Lower and upper explosion limit                          | not determined       |
| Flash point  | not determined       |
| Auto-ignition temperature                                | not determined       |

# Safety data sheet

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



## Washing Buffer WST

article number:

|   |   |
|---|---|
| Decomposition temperature                           | not relevant  |
| pH (value)  | not determined  |
| Kinematic viscosity                                 | not determined  |
| <u>Solubility(ies)</u>                              |   |
| Water solubility                                    | miscible in any proportion                                  |
| <u>Partition coefficient</u>                        |   |
| Partition coefficient n-octanol/water (log value):  | not relevant (inorganic)                                    |
| Vapour pressure                                     | 23 hPa at 20 °C   |
| <u>Density and/or relative density</u>              |   |
| Density   | ~1 g/cm <sup>3</sup> at 20 °C                               |
| Relative vapour density                             | information on this property is not available               |
| Particle characteristics                            | not relevant (liquid)                                       |
| <u>Other safety parameters</u>                      |   |
| Oxidising properties                                | none  |
| <b>9.2 Other information</b>                        |   |
| Information with regard to physical hazard classes: | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics:                       |   |
| Miscibility   | completely miscible with water                              |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 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

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

# Safety data sheet

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



## Washing Buffer WST

article number:

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to GHS

This mixture does not meet the criteria for classification.

##### Acute toxicity

Shall not be classified as acutely toxic.

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified 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

Data are not available.

##### • If in eyes

Data are not available.

##### • If inhaled

Data are not available.

##### • If on skin

Data are not available.

##### • Other information

Health effects are not known.

# Safety data sheet

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



## Washing Buffer WST

article number:

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

### 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.

# Safety data sheet

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



## Washing Buffer WST

article number:

### SECTION 14: Transport information

- 14.1 UN number or ID number** not subject to transport regulations
- 14.2 UN proper shipping name** not assigned
- 14.3 Transport hazard class(es)** none
- 14.4 Packing group** not assigned
- 14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 Special precautions for user**  
There is no additional information.
- 14.7 Maritime transport in bulk according to IMO instruments**  
The cargo is not intended to be carried in bulk.
- 14.8 Information for each of the UN Model Regulations**
- International Maritime Dangerous Goods Code (IMDG) - Additional information**  
Not subject to IMDG.
- International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**  
Not subject to ICAO-IATA.

### 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)**

#### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

#### Deco-Paint Directive

|  |        |
|--|--------|
| VOC content                                | 0 %    |
| VOC content (Water content was discounted) | -0 g/l |

#### Industrial Emissions Directive (IED)

|  |        |
|--|--------|
| VOC content                                | 0 %    |
| VOC content (Water content was discounted) | -0 g/l |

#### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

# Safety data sheet

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



## Washing Buffer WST

article number:

### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

### Water Framework Directive (WFD)

none of the ingredients are listed

### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

### Regulation on drug precursors

none of the ingredients are listed

### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory | Status                                 |
|---------|-----------|--|
| AU      | AIIC      | all ingredients are listed             |
| CA      | DSL       | all ingredients are listed             |
| CN      | IECSC     | all ingredients are listed             |
| EU      | ECSI      | all ingredients are listed             |
| JP      | CSCL-ENCS | all ingredients are listed             |
| KR      | KECI      | all ingredients are listed             |
| MX      | INSQ      | all ingredients are listed             |
| NZ      | NZIoC     | all ingredients are listed             |
| PH      | PICCS     | all ingredients are listed             |
| TW      | TCSI      | all ingredients are listed             |
| US      | TSCA      | all ingredients are listed as "ACTIVE" |

#### Legend

|           |   |
|-----------|---|
| AIIC      | Australian Inventory of Industrial Chemicals                            |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL       | Domestic Substances List (DSL)  |
| ECSI      | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC     | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ      | National Inventory of Chemical Substances                               |
| KECI      | Korea Existing Chemicals Inventory                                      |
| NZIoC     | New Zealand Inventory of Chemicals                                      |
| PICCS     | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| TCSI      | Taiwan Chemical Substance Inventory                                     |
| TSCA      | Toxic Substance Control Act   |

# Safety data sheet

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



## Washing Buffer WST

article number:

### 15.2 Chemical Safety Assessment

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

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)  | Actual entry (text/value)  | Safety-relevant |
|---------|--|--|-----------------|
| 2.1     | Classification according to Regulation (EC) No 1272/2008 (CLP):<br>This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC. | Classification acc. to GHS:<br>This mixture does not meet the criteria for classification.                             | yes             |
| 2.3     | Results of PBT and vPvB assessment:<br>This mixture does not contain any substances that are assessed to be a PBT or a vPvB.   | Results of PBT and vPvB assessment:<br>Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$ .     | yes             |
| 2.3     |  | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$ . | yes             |
| 14.8    | Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information:<br>Not subject to ADR, RID and ADN.                                   |  | yes             |
| 15.1    | Restrictions according to REACH, Annex XVII:<br>none of the ingredients are listed   |  | yes             |
| 15.1    | List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list:<br>None of the ingredients are listed.   |  | yes             |
| 15.1    | VOC content:<br>0 %<br>, -0 9/1  | VOC content:<br>0 %  | yes             |
| 15.1    |  | VOC content (Water content was discounted):<br>-0 9/1  | yes             |
| 15.1    |  | National inventories:<br>change in the listing (table)   | yes             |

### Abbreviations and acronyms

| Abbr.    | Descriptions of used abbreviations  |
|----------|---|
| ADR      | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road) |
| DGR      | Dangerous Goods Regulations (see IATA/DGR)  |
| EINECS   | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS   | European List of Notified Chemical Substances   |
| GHS      | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IATA     | International Air Transport Association   |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO     | International Civil Aviation Organization   |
| IMDG     | International Maritime Dangerous Goods Code   |

# Safety data sheet

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



## Washing Buffer WST

article number:

| Abbr. | Descriptions of used abbreviations  |
|-------|---|
| NLP   | No-Longer Polymer   |
| PBT   | Persistent, Bioaccumulative and Toxic   |
| 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) |
| VOC   | Volatile Organic Compounds  |
| vPvB  | Very Persistent and very Bioaccumulative  |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.



# Safety data sheet

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



## Elution Buffer EB

article number:  
Version: **3.0 en**  
Replaces version of: 2022-03-16  
Version: (2)

date of compilation: 2015-10-23  
Revision: 2023-03-29

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

### 1.1 Product identifier

Identification of the substance

**Elution Buffer EB**

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

Relevant identified uses:

Laboratory chemical  
Laboratory and analytical use

Uses advised against:

Do not use for private purposes (household).  
Food, drink and animal feedingstuffs.

### 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](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

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

**e-mail (competent person):**

**[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)**

### 1.4 Emergency telephone number

| Name  | Street    | Postal code/city     | Telephone    | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service<br>City Hospital | Dudley Rd | B187QH<br>Birmingham | 844 892 0111 |         |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification acc. to GHS

This mixture does not meet the criteria for classification.

### 2.2 Label elements

#### Labelling

not required

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

# Safety data sheet

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



## Elution Buffer EB

article number:

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

not relevant (mixture)

#### 3.2 Mixtures

##### Description of the mixture

This product does not meet the criteria for classification in any hazard class according to GHS

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures



##### General notes

No special measures are necessary.

##### Following inhalation

No special measures are necessary.

##### Following skin contact

No special measures are necessary.

##### Following eye contact

No special measures are necessary.

##### Following ingestion

No special measures are necessary.

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

Symptoms and effects are not known to date.

#### 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 firefighting measures to the fire surroundings  
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

water jet

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

Non-combustible.

# Safety data sheet

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



## Elution Buffer EB

article number:

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

No special measures are necessary.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

#### Advice on how to contain a spill

Covering of drains.

#### Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 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.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

No special measures are necessary.

#### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

### 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:

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

### 7.3 Specific end use(s)

No information available.

# Safety data sheet

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



## Elution Buffer EB

article number:

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

#### 8.2 Exposure controls

##### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

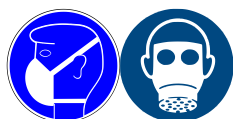
##### Skin protection



##### • hand protection

Hand protection is not required.

##### Respiratory protection



Usually no personal respiratory protection necessary.

##### Environmental exposure controls

Keep away from drains, surface and ground water.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

|  |                      |
|--|----------------------|
| Physical state   | liquid               |
| Colour   | colourless           |
| Odour  | odourless            |
| Melting point/freezing point                             | not determined       |
| Boiling point or initial boiling point and boiling range | ~100 °C at 1.013 hPa |
| Flammability   | non-combustible      |
| Lower and upper explosion limit                          | not determined       |
| Flash point  | not determined       |
| Auto-ignition temperature                                | not determined       |

# Safety data sheet

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



## Elution Buffer EB

article number:

|   |   |
|---|---|
| Decomposition temperature                           | not relevant  |
| pH (value)  | not determined  |
| Kinematic viscosity                                 | not determined  |
| <u>Solubility(ies)</u>                              |   |
| Water solubility                                    | miscible in any proportion                                  |
| <u>Partition coefficient</u>                        |   |
| Partition coefficient n-octanol/water (log value):  | not relevant (inorganic)                                    |
| Vapour pressure                                     | 23 hPa at 20 °C   |
| <u>Density and/or relative density</u>              |   |
| Density   | ~1 g/cm <sup>3</sup> at 20 °C                               |
| Relative vapour density                             | information on this property is not available               |
| Particle characteristics                            | not relevant (liquid)                                       |
| <u>Other safety parameters</u>                      |   |
| Oxidising properties                                | none  |
| <b>9.2 Other information</b>                        |   |
| Information with regard to physical hazard classes: | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics:                       |   |
| Miscibility   | completely miscible with water                              |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 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

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to GHS

This mixture does not meet the criteria for classification.

##### Acute toxicity

Shall not be classified as acutely toxic.

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified 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

Data are not available.

##### • If in eyes

Data are not available.

##### • If inhaled

Data are not available.

##### • If on skin

Data are not available.

##### • Other information

Health effects are not known.

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### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 11.3 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

### 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.

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### SECTION 14: Transport information

- 14.1 UN number or ID number** not subject to transport regulations
- 14.2 UN proper shipping name** not assigned
- 14.3 Transport hazard class(es)** none
- 14.4 Packing group** not assigned
- 14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 Special precautions for user**  
There is no additional information.
- 14.7 Maritime transport in bulk according to IMO instruments**  
The cargo is not intended to be carried in bulk.
- 14.8 Information for each of the UN Model Regulations**
- International Maritime Dangerous Goods Code (IMDG) - Additional information**  
Not subject to IMDG.
- International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**  
Not subject to ICAO-IATA.

### 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)

#### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |   |       |
|-------------------------|---------------------------------------|---|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
|                         | not assigned                          |   |       |

#### Deco-Paint Directive

|  |        |
|--|--------|
| VOC content                                | 0 %    |
| VOC content (Water content was discounted) | -0 g/l |

#### Industrial Emissions Directive (IED)

|  |        |
|--|--------|
| VOC content                                | 0 %    |
| VOC content (Water content was discounted) | -0 g/l |

#### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed



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### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

### Water Framework Directive (WFD)

none of the ingredients are listed

### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

### Regulation on drug precursors

none of the ingredients are listed

### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

### Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory | Status                                 |
|---------|-----------|--|
| AU      | AIIC      | all ingredients are listed             |
| CA      | DSL       | all ingredients are listed             |
| CN      | IECSC     | all ingredients are listed             |
| EU      | ECSI      | all ingredients are listed             |
| JP      | CSCL-ENCS | all ingredients are listed             |
| KR      | KECI      | all ingredients are listed             |
| MX      | INSQ      | all ingredients are listed             |
| NZ      | NZIoC     | all ingredients are listed             |
| PH      | PICCS     | all ingredients are listed             |
| TW      | TCSI      | all ingredients are listed             |
| US      | TSCA      | all ingredients are listed as "ACTIVE" |

#### Legend

|           |   |
|-----------|---|
| AIIC      | Australian Inventory of Industrial Chemicals                            |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS)                |
| DSL       | Domestic Substances List (DSL)  |
| ECSI      | EC Substance Inventory (EINECS, ELINCS, NLP)                            |
| IECSC     | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ      | National Inventory of Chemical Substances                               |
| KECI      | Korea Existing Chemicals Inventory                                      |
| NZIoC     | New Zealand Inventory of Chemicals                                      |
| PICCS     | Philippine Inventory of Chemicals and Chemical Substances (PICCS)       |
| TCSI      | Taiwan Chemical Substance Inventory                                     |
| TSCA      | Toxic Substance Control Act   |

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### 15.2 Chemical Safety Assessment

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

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value)  | Actual entry (text/value)  | Safety-relevant |
|---------|--|--|-----------------|
| 2.1     | Classification according to Regulation (EC) No 1272/2008 (CLP):<br>This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC. | Classification acc. to GHS:<br>This mixture does not meet the criteria for classification.                             | yes             |
| 2.3     | Results of PBT and vPvB assessment:<br>This mixture does not contain any substances that are assessed to be a PBT or a vPvB.   | Results of PBT and vPvB assessment:<br>Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$ .     | yes             |
| 2.3     |  | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$ . | yes             |
| 14.8    | Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information:<br>Not subject to ADR, RID and ADN.                                   |  | yes             |
| 15.1    | Restrictions according to REACH, Annex XVII:<br>none of the ingredients are listed   |  | yes             |
| 15.1    | List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list:<br>None of the ingredients are listed.   |  | yes             |
| 15.1    | VOC content:<br>0 %<br>, -0 9/1  | VOC content:<br>0 %  | yes             |
| 15.1    |  | VOC content (Water content was discounted):<br>-0 9/1  | yes             |
| 15.1    |  | National inventories:<br>change in the listing (table)   | yes             |

### Abbreviations and acronyms

| Abbr.    | Descriptions of used abbreviations  |
|----------|---|
| ADR      | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road) |
| DGR      | Dangerous Goods Regulations (see IATA/DGR)  |
| EINECS   | European Inventory of Existing Commercial Chemical Substances   |
| ELINCS   | European List of Notified Chemical Substances   |
| GHS      | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IATA     | International Air Transport Association   |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO     | International Civil Aviation Organization   |
| IMDG     | International Maritime Dangerous Goods Code   |

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| Abbr. | Descriptions of used abbreviations  |
|-------|---|
| NLP   | No-Longer Polymer   |
| PBT   | Persistent, Bioaccumulative and Toxic   |
| 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) |
| VOC   | Volatile Organic Compounds  |
| vPvB  | Very Persistent and very Bioaccumulative  |

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.