




# FLYLEAF

## Article: L533 ROTI® Black P For electrophoresis

Date of compilation: 19.07.2022

### 1 Composition/information on ingredients

#### Bill of materials

| Name of substance                | Identifier   | Classification acc. to GHS   | Pictograms  | Page    |
|----------------------------------|--|--|---|---------|
| Sodium thiosulphate pentahydrate | CAS No<br>10102-17-7<br><br>EC No<br>600-156-5<br><br>Article number<br>L534 |  |   | 5 – 17  |
| Silver nitrate                   | CAS No<br>7761-88-8<br><br>EC No<br>231-853-9<br><br>Article number<br>L535  | Ox. Sol. 2 / H272<br>Met. Corr. 1 / H290<br>Skin Corr. 1B / H314<br>Aquatic Acute 1 / H400<br>Aquatic Chronic 1 / H410   |  | 18 – 34 |
| Formaldehyde solution            | Article number<br>L537   | Acute Tox. 3 / H301<br>Acute Tox. 3 / H311<br>Acute Tox. 3 / H331<br>Skin Corr. 1B / H314<br>Eye Dam. 1 / H318<br>Skin Sens. 1 / H317<br>Muta. 2 / H341<br>Carc. 1B / H350<br>STOT SE 1 / H370<br>STOT SE 3 / H335 |  | 35 – 58 |
| Sodium carbonate                 | CAS No<br>497-19-8<br><br>EC No<br>207-838-8<br><br>Article number<br>L538   | Eye Irrit. 2 / H319  |  | 59 – 72 |

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## 2 Hazards identification

### 2.1 Label elements

**Signal word** Danger

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

**Pictograms**

Danger.



**Hazard statement(s)**

|                |  |
|----------------|--|
| H272           | May intensify fire; oxidiser                           |
| H290           | May be corrosive to metals                             |
| H301+H311+H331 | Toxic if swallowed, in contact with skin or if inhaled |
| H314           | Causes severe skin burns and eye damage                |
| H317           | May cause an allergic skin reaction                    |
| H335           | May cause respiratory irritation                       |
| H341           | Suspected of causing genetic defects                   |
| H350           | May cause cancer                                       |
| H370           | Causes damage to organs                                |
| 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**

|                |   |
|----------------|---|
| P302+P352      | IF ON SKIN: Wash with plenty of soap and water  |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing |

**Additional labelling requirements**

For professional users only.

**Hazardous ingredients for labelling:**

Silver nitrate,  
Formaldehyde ... %,  
Methanol,

## 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 |

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|            |   |   |
|------------|---|---|
|            | ICAO-TI   | Chemical kit  |
| <b>3.3</b> | <b>Transport hazard class(es)</b>   |   |
|            | ADR/RID/ADN   | 9   |
|            | IMDG-Code   | 9   |
|            | ICAO-TI   | 9   |
| <b>3.4</b> | <b>Packing group</b>  |   |
|            | ADR/RID/ADN   | II  |
|            | IMDG-Code   | II  |
|            | ICAO-TI   | II  |
| <b>3.5</b> | <b>Environmental hazards</b>  | hazardous to the aquatic environment                        |
| <b>3.6</b> | <b>Special precautions for user</b>   |   |
|            | Provisions for dangerous goods (ADR) should be complied within the premises.  |   |
| <b>3.7</b> | <b>Maritime transport in bulk according to IMO instruments</b>  |   |
|            | The cargo is not intended to be carried in bulk.  |   |
| <b>3.8</b> | <b>Information for each of the UN Model Regulations</b>   |   |
|            | <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information</b>  |   |
|            | 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>International Maritime Dangerous Goods Code (IMDG) - Additional information</b>  |   |
|            | 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  |
|            | Limited quantities (LQ)   | -> SP251  |
|            | EmS   | F-A, <u>S-P</u>   |
|            | Stowage category  | A   |

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### 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  |



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

# Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH)



## Sodium thiosulphate pentahydrate ROTI® Black P

article number: **L534**  
Version: **2.0 en**  
Replaces version of: 14.01.2020  
Version: (1)

date of compilation: 14.01.2020  
Revision: 13.06.2022

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

### 1.1 Product identifier

|                                 |   |
|---------------------------------|---|
| Identification of the substance | <b>Sodium thiosulphate pentahydrate ROTI® Black P</b> |
| Article number                  | L534  |
| Registration number (REACH)     | 01-2119531537-38-xxxx                                 |
| EC number                       | 600-156-5   |
| CAS number                      | 10102-17-7  |

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

|                           |   |
|---------------------------|---|
| Relevant identified uses: | Laboratory chemical<br>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](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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

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

### 2.2 Label elements

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

not required

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### 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 | Sodium thiosulphate pentahydrate                             |
| Molecular formula | $\text{Na}_2\text{O}_3\text{S}_2 \cdot 5 \text{H}_2\text{O}$ |
| Molar mass        | 248,2 g/mol  |
| REACH Reg. No     | 01-2119531537-38-xxxx  |
| CAS No            | 10102-17-7   |
| EC No             | 600-156-5  |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

No special measures are necessary.

#### 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

Rinse cautiously with water for several minutes.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritant effects, Gastrointestinal complaints, Diarrhoea

### 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, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

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

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: Sulphur oxides (SO<sub>x</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

Control of 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.

#### 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.

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## 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

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice:

#### 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)

This information is not available.

#### Human health values

| Relevant DNELs and other threshold levels |                       |                                    |                   |                            |
|---|-----------------------|------------------------------------|-------------------|----------------------------|
| Endpoint                                  | Threshold level       | Protection goal, route of exposure | Used in           | Exposure time              |
| DNEL                                      | 374 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - systemic effects |

### 8.2 Exposure controls

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

#### Eye/face protection



Use safety goggle with side protection.



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**Skin protection**



• **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

• **type of material**

NBR (Nitrile rubber)

• **material thickness**

>0,11 mm

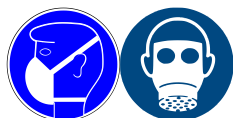
• **breakthrough times of the glove material**

>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: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % 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   | crystalline                                   |
| Colour   | colourless                                    |
| Odour  | odourless                                     |
| Melting point/freezing point                             | 48 °C   |
| Boiling point or initial boiling point and boiling range | not determined                                |
| Flammability   | non-combustible                               |
| Lower and upper explosion limit                          | not determined                                |
| Flash point  | not applicable                                |
| Auto-ignition temperature                                | not determined                                |
| Decomposition temperature                                | >100 °C                                       |
| pH (value)   | 6 – 8,5 (in aqueous solution: 100 g/l, 20 °C) |

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|   |   |
|---|---|
| Kinematic viscosity                                 | not relevant  |
| <u>Solubility(ies)</u>                              |   |
| Water solubility                                    | ~700 g/l at 20 °C   |
| <u>Partition coefficient</u>                        |   |
| Partition coefficient n-octanol/water (log value):  | -4,53 (anhydrous) (Lit.)                                    |
| Vapour pressure                                     | not determined  |
| <u>Density and/or relative density</u>              |   |
| Density   | 1,73 g/cm <sup>3</sup>                                      |
| Relative vapour density                             | information on this property is not available               |
| Bulk density  | ~900 – 1.100 kg/m <sup>3</sup>                              |
| Particle characteristics                            | No data available.  |
| <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:                       | There is no additional information.                         |

## 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

**Violent reaction with:** strong oxidiser, Nitrate, Nitrites, Acids, Peroxides,  
=> Explosive properties

### 10.4 Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above: >100 °C.

### 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 hazard classes as defined in Regulation (EC) No 1272/2008**

**Classification according to GHS (1272/2008/EC, CLP)**

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

**Acute toxicity**

Shall not be classified as acutely toxic.

| Acute toxicity |          |              |         |           |        |
|----------------|----------|--------------|---------|-----------|--------|
| Exposure route | Endpoint | Value        | Species | Method    | Source |
| oral           | LD50     | >2.000 mg/kg | rat     | anhydrous | ECHA   |
| dermal         | LD50     | >2.000 mg/kg | rabbit  | anhydrous | ECHA   |

**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**

diarrhoea, gastrointestinal complaints

• **If in eyes**

essentially non-irritating

• **If inhaled**

Inhalation of dust may cause irritation of the respiratory system

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• **If on skin**

Frequently or prolonged contact with skin may cause dermal irritation

• **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.

| Aquatic toxicity (acute) |             |   |        |               |
|--------------------------|-------------|---|--------|---------------|
| Endpoint                 | Value       | Species                                 | Source | Exposure time |
| LC50                     | 24.000 mg/l | western mosquitofish (Gambusia affinis) | IUCLID | 96 h          |
| EC50                     | 230 mg/l    | daphnia magna                           | ECHA   | 48 h          |

**Biodegradation**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.2 Process of degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Does not significantly accumulate in organisms.

|                           |                          |
|---------------------------|--------------------------|
| n-octanol/water (log KOW) | -4,53 (Anhydrous) (Lit.) |
|---------------------------|--------------------------|

**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**

Not listed.

**12.7 Other adverse effects**

Data are not available.

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## 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. Waste catalogue ordinance (Germany).

### 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>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information</b> | Not subject to ADR, RID and ADN.                                      |
| <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)**

**Restrictions according to REACH, Annex XVII**

not listed

**List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list**

Not listed.

**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)**

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

**Legend**

A) Indicative list of the main pollutants

**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

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

not listed

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

not 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      | substance is listed |
| CA      | DSL       | substance is listed |
| CN      | IECSC     | substance is listed |
| KR      | KECI      | substance is listed |
| NZ      | NZIoC     | substance is listed |
| PH      | PICCS     | substance is listed |
| TW      | TCSI      | substance is listed |

**Legend**

|       |   |
|-------|---|
| AIIC  | Australian Inventory of Industrial Chemicals                            |
| DSL   | Domestic Substances List (DSL)  |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| 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                                     |

**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)**

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

| Section | Former entry (text/value)                             | Actual entry (text/value)   | Safety-relevant |
|---------|---|---|-----------------|
| 2.2     | Signal word:<br>not required                          |   | yes             |
| 2.3     | Other hazards:<br>There is no additional information. | Other hazards   | yes             |
| 2.3     |   | Results of PBT and vPvB assessment:<br>According to the results of its assessment, this substance is not a PBT or a vPvB. | yes             |

# Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH)



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### Abbreviations and acronyms

| Abbr.    | Descriptions of used abbreviations  |
|----------|---|
| ADN      | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR      | Accord 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)  |
| CLP      | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures  |
| 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   |
| 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   |
| 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  |
| 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)   |
| SVHC     | Substance of Very High Concern  |
| VOC      | Volatile Organic Compounds  |
| vPvB     | Very Persistent and very Bioaccumulative  |

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

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



**Voluntary safety information following the Safety Data Sheet format according to Regulation (EC) No. 1907/2006 (REACH)**



**Sodium thiosulphate pentahydrate ROTI® Black P**

article number: **L534**

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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.

# Safety data sheet

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



## Silver nitrate ROTI®-BLACK P

article number: **L535**  
Version: **2.0 en**  
Replaces version of: 09.01.2020  
Version: (1)

date of compilation: 09.01.2020  
Revision: 13.06.2022

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

### 1.1 Product identifier

|                                 |                                     |
|---------------------------------|-------------------------------------|
| Identification of the substance | <b>Silver nitrate ROTI®-BLACK P</b> |
| Article number                  | L535                                |
| Registration number (REACH)     | 01-2119513705-43-xxxx               |
| Index number in CLP Annex VI    | 047-001-00-2                        |
| EC number                       | 231-853-9                           |
| CAS number                      | 7761-88-8                           |

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

|                           |   |
|---------------------------|---|
| Relevant identified uses: | Laboratory chemical<br>Laboratory and analytical use  |
| Uses advised against:     | Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin. 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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

| Section | Hazard class  | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 2.14    | Oxidising solid                                     | 2         | Ox. Sol. 2                | H272             |
| 2.16    | Substance or mixture corrosive to metals            | 1         | Met. Corr. 1              | H290             |
| 3.2     | Skin corrosion/irritation                           | 1B        | Skin Corr. 1B             | H314             |
| 4.1A    | Hazardous to the aquatic environment - acute hazard | 1         | Aquatic Acute 1           | H400             |

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| Section | Hazard class  | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 4.1C    | Hazardous to the aquatic environment - chronic hazard | 1         | Aquatic Chronic 1         | H410             |

For full text of abbreviations: see SECTION 16

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

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Spillage and fire water can cause pollution of watercourses.

## 2.2 Label elements

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

**Signal word**                      **Danger**

#### Pictograms

GHS03, GHS05,  
GHS09



#### Hazard statements

H272                      May intensify fire; oxidiser  
H290                      May be corrosive to metals  
H314                      Causes severe skin burns and eye damage  
H410                      Very toxic to aquatic life with long lasting effects

#### Precautionary statements

##### Precautionary statements - prevention

P273                      Avoid release to the environment  
P280                      Wear protective gloves/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  
P310                      Immediately call a POISON CENTER/doctor

#### Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



H314                      Causes severe skin burns and eye damage.  
P280                      Wear protective gloves/eye protection.  
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.  
P310                      Immediately call a POISON CENTER/doctor.

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### 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 | Silver nitrate        |
| Molecular formula | AgNO <sub>3</sub>     |
| Molar mass        | 169,9 g/mol           |
| REACH Reg. No     | 01-2119513705-43-xxxx |
| CAS No            | 7761-88-8             |
| EC No             | 231-853-9             |
| Index No          | 047-001-00-2          |

#### Substance, Specific Conc. Limits, M-factors, ATE

| Specific Conc. Limits | M-Factors  | ATE | Exposure route |
|-----------------------|--|-----|----------------|
| -                     | M-factor (acute) = 100<br>M-factor (chronic) = 100 | -   |                |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off immediately all contaminated clothing.

#### Following inhalation

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

#### Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

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

Corrosion, Risk of blindness, Gastric perforation

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### 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, alcohol resistant foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

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

Oxidising property. Non-combustible.

#### 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. Wear full chemical protective clothing.

## 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 dust.

### 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. 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.

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### 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

Handle and open container with care. Avoid dust formation. Clear contaminated areas thoroughly.

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

Removal of dust deposits. Keep away from combustible material.

#### 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

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage. Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

#### Consideration of other advice:

#### 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)

This information is not available.

#### Human health values

| Relevant DNELs and other threshold levels |                         |                                    |                   |                            |
|---|-------------------------|------------------------------------|-------------------|----------------------------|
| Endpoint                                  | Threshold level         | Protection goal, route of exposure | Used in           | Exposure time              |
| DNEL                                      | 0,016 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - systemic effects |

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### Environmental values

| Relevant PNECs and other threshold levels |                 |                       |                              |                              |
|---|-----------------|-----------------------|------------------------------|------------------------------|
| End-point                                 | Threshold level | Organism              | Environmental compartment    | Exposure time                |
| PNEC                                      | 0,04 µg/l       | aquatic organisms     | freshwater                   | short-term (single instance) |
| PNEC                                      | 0,86 µg/l       | aquatic organisms     | marine water                 | short-term (single instance) |
| PNEC                                      | 0,025 mg/l      | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| PNEC                                      | 438,1 mg/kg     | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| PNEC                                      | 438,1 mg/kg     | aquatic organisms     | marine sediment              | short-term (single instance) |
| PNEC                                      | 1,41 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. Wear face protection.

#### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. 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: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % 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   | crystalline                                   |
| Colour   | colourless                                    |
| Odour  | odourless                                     |
| Melting point/freezing point                             | 210 °C  |
| Boiling point or initial boiling point and boiling range | 440 °C at 1.013 hPa                           |
| Flammability   | non-combustible                               |
| Lower and upper explosion limit                          | not determined                                |
| Flash point  | not applicable                                |
| Auto-ignition temperature                                | not determined                                |
| Decomposition temperature                                | >440 °C                                       |
| pH (value)   | 4 – 6 (in aqueous solution: 100 g/l, 20 °C)   |
| Kinematic viscosity                                      | not relevant                                  |
| <u>Solubility(ies)</u>                                   |   |
| Water solubility   | 2.160 g/l at 20 °C                            |
| <u>Partition coefficient</u>                             |   |
| Partition coefficient n-octanol/water (log value):       | not relevant (inorganic)                      |
| Vapour pressure  | not determined                                |
| <u>Density and/or relative density</u>                   |   |
| Density  | 4,35 g/cm <sup>3</sup> at 20 °C               |
| Relative vapour density                                  | information on this property is not available |
| Bulk density   | ~2.300 kg/m <sup>3</sup>                      |



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Particle characteristics No data available.

### Other safety parameters

Oxidising properties oxidiser

## 9.2 Other information

Information with regard to physical hazard classes:

Corrosive to metals category 1: corrosive to metals

Other safety characteristics: There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

It's a reactive substance. Oxidising property. Substance or mixture corrosive to metals.

### 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:** Acetylene, Aldehydes, Alcohols, Ammonia (NH<sub>3</sub>), Ammonium hydroxide, Azides, Combustible materials, Carbide, Ethanol, Halogenated hydrocarbons, Hydrazine, Magnesium, Nitriles, Nitro compound, Reducing agents

### 10.4 Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above: >440 °C.

### 10.5 Incompatible materials

combustible materials, different metals, aluminium, Steel

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

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

**Classification according to GHS (1272/2008/EC, CLP)**

#### Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity |          |              |         |        |        |
|----------------|----------|--------------|---------|--------|--------|
| Exposure route | Endpoint | Value        | Species | Method | Source |
| oral           | LD50     | >2.000 mg/kg | rat     |        | ECHA   |
| dermal         | LD50     | >2.000 mg/kg | rat     |        | ECHA   |

#### Skin corrosion/irritation

Causes severe skin burns and eye damage.

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### Serious eye damage/eye irritation

Causes serious eye damage.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### 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

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

#### • If in eyes

causes burns, Causes serious eye damage, risk of blindness

#### • If inhaled

Inhalation of dust may cause irritation of the respiratory system, cough, breathing difficulties

#### • If on skin

causes severe burns, causes poorly healing wounds

#### • 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

Very toxic to aquatic life with long lasting effects.

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| Aquatic toxicity (acute) |          |         |        |               |
|--------------------------|----------|---------|--------|---------------|
| Endpoint                 | Value    | Species | Source | Exposure time |
| LC50                     | 1,2 µg/l | fish    | ECHA   | 96 h          |

| Aquatic toxicity (chronic) |          |                       |        |               |
|----------------------------|----------|-----------------------|--------|---------------|
| Endpoint                   | Value    | Species               | Source | Exposure time |
| EC50                       | 0,8 µg/l | aquatic invertebrates | ECHA   | 7 d           |

### Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.2 Process of degradability

Data are not available.

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

|     |           |
|-----|-----------|
| BCF | 70 (ECHA) |
|-----|-----------|

### 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

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. 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. Waste catalogue ordinance (Germany).

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### 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

|           |         |
|-----------|---------|
| ADR       | UN 1493 |
| IMDG-Code | UN 1493 |
| ICAO-TI   | UN 1493 |

### 14.2 UN proper shipping name

|           |                |
|-----------|----------------|
| ADR       | SILVER NITRATE |
| IMDG-Code | SILVER NITRATE |
| ICAO-TI   | Silver nitrate |

### 14.3 Transport hazard class(es)

|           |     |
|-----------|-----|
| ADR       | 5.1 |
| IMDG-Code | 5.1 |
| ICAO-TI   | 5.1 |

### 14.4 Packing group

|           |    |
|-----------|----|
| ADR       | II |
| IMDG-Code | II |
| ICAO-TI   | II |

### 14.5 Environmental hazards

hazardous to the aquatic environment

### 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

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

|                                       |   |
|---------------------------------------|---|
| Proper shipping name                  | SILVER NITRATE  |
| Particulars in the transport document | UN1493, SILVER NITRATE, 5.1, II, (E), environmentally hazardous |
| Classification code                   | O2  |
| Danger label(s)                       | 5.1, "Fish and tree"  |
|                                       |   |
| Environmental hazards                 | yes (hazardous to the aquatic environment)                      |
| Excepted quantities (EQ)              | E2  |

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|                               |      |
|-------------------------------|------|
| Limited quantities (LQ)       | 1 kg |
| Transport category (TC)       | 2    |
| Tunnel restriction code (TRC) | E    |
| Hazard identification No      | 50   |

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

|  |   |
|--|---|
| Proper shipping name                     | SILVER NITRATE                                    |
| Particulars in the shipper's declaration | UN1493, SILVER NITRATE, 5.1, II, MARINE POLLUTANT |
| Marine pollutant                         | yes (hazardous to the aquatic environment)        |
| Danger label(s)                          | 5.1, "Fish and tree"                              |



|                          |          |
|--------------------------|----------|
| Special provisions (SP)  | -        |
| Excepted quantities (EQ) | E2       |
| Limited quantities (LQ)  | 1 kg     |
| EmS                      | F-A, S-Q |
| Stowage category         | A        |

**Segregation group** 7 - Heavy metals and their salts

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

|  |  |
|--|--|
| Proper shipping name                     | Silver nitrate                             |
| Particulars in the shipper's declaration | UN1493, Silver nitrate, 5.1, II            |
| Environmental hazards                    | yes (hazardous to the aquatic environment) |
| Danger label(s)                          | 5.1  |



|                          |        |
|--------------------------|--------|
| Excepted quantities (EQ) | E2     |
| Limited quantities (LQ)  | 2,5 kg |

## 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)

#### Restrictions according to REACH, Annex XVII

| Dangerous substances with restrictions (REACH, Annex XVII) |   |        |             |    |
|--|---|--------|-------------|----|
| Name of substance  | Name acc. to inventory                          | CAS No | Restriction | No |
| Silver nitrate   | substances in tattoo inks and permanent make-up |        | R75         | 75 |

#### Legend

R75 1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or

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### Legend

are present in the following circumstances:

- (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
  - (b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
  - (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
  - (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
    - (i) 0,1 % by weight, if the substance is used solely as a pH regulator;
    - (ii) 0,01 % by weight, in all other cases;
  - (e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (\*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
  - (f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
    - (i) "Rinse-off products";
    - (ii) "Not to be used in products applied on mucous membranes";
    - (iii) "Not to be used in eye products";
  - (g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
  - (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
  - (a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
  - (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.
6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:
  - (a) the statement "Mixture for use in tattoos or permanent make-up";
  - (b) a reference number to uniquely identify the batch;
  - (c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
  - (d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;
  - (e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;
  - (f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
  - (g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.

The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.

Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.

8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.

9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-

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article number: L535

### Legend

00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

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

Not listed.

### 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 |
| P8                      | oxidising liquids and solids          | 50  | 200 | 55)   |

### Notation

55) Oxidising liquids, category 1, 2 or 3, or oxidising solids, category 1, 2 or 3

### Deco-Paint Directive

|             |              |
|-------------|--------------|
| VOC content | 0 %<br>0 g/l |
|-------------|--------------|

### Industrial Emissions Directive (IED)

|             |       |
|-------------|-------|
| VOC content | 0 %   |
| VOC content | 0 g/l |

### 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)

| List of pollutants (WFD) |  |        |           |         |
|--------------------------|--|--------|-----------|---------|
| Name of substance        | Name acc. to inventory   | CAS No | Listed in | Remarks |
| Silver nitrate           | Substances which contribute to eutrophication (in particular, nitrates and phosphates) |        | a)        |         |
| Silver nitrate           | Metals and their compounds   |        | a)        |         |

### Legend

A) Indicative list of the main pollutants

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

not listed

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### 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

### 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       | substance is listed |
| CA      | DSL        | substance is listed |
| CN      | IECSC      | substance is listed |
| EU      | ECSI       | substance is listed |
| EU      | REACH Reg. | substance is listed |
| JP      | CSCL-ENCS  | substance is listed |
| KR      | KECI       | substance is listed |
| MX      | INSQ       | substance is listed |
| NZ      | NZIoC      | substance is listed |
| PH      | PICCS      | substance is listed |
| TR      | CICR       | substance is listed |
| TW      | TCSI       | substance is listed |
| US      | TSCA       | substance is listed |

#### 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

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



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### SECTION 16: Other information

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

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

| Section | Former entry (text/value)                             | Actual entry (text/value)   | Safety-relevant |
|---------|---|---|-----------------|
| 2.1     |   | Classification according to Regulation (EC) No 1272/2008 (CLP):<br>change in the listing (table)  | yes             |
| 2.1     |   | The most important adverse physicochemical, human health and environmental effects:<br>Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Spillage and fire water can cause pollution of watercourses. | yes             |
| 2.3     | Other hazards:<br>There is no additional information. | Other hazards   | yes             |
| 2.3     |   | Results of PBT and vPvB assessment:<br>According to the results of its assessment, this substance is not a PBT or a vPvB.   | yes             |

#### Abbreviations and acronyms

| Abbr.    | Descriptions of used abbreviations  |
|----------|---|
| ADN      | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR      | Accord 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   |
| CAS      | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)  |
| CLP      | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures  |
| 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   |
| EmS      | Emergency Schedule  |
| 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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| 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   |
| 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   |
| 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  |
| 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)  |
| SVHC      | Substance of Very High Concern   |
| VOC       | Volatile Organic Compounds   |
| vPvB      | Very Persistent and very Bioaccumulative   |

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). 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  |
|------|---|
| H272 | May intensify fire; oxidiser.                         |
| H290 | May be corrosive to metals.                           |
| H314 | Causes severe skin burns and eye damage.              |
| H400 | Very toxic to aquatic life.                           |
| H410 | Very toxic 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.

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## Formaldehyde solution ROTI®-BLACK P

article number: **L537**  
Version: **2.0 en**  
Replaces version of: 09.01.2020  
Version: (1)

date of compilation: 09.01.2020  
Revision: 01.09.2021

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

### 1.1 Product identifier

Identification of the substance **Formaldehyde solution ROTI®-BLACK P**  
Article number **L537**  
Registration number (REACH) **not relevant (mixture)**

### 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 squirting or spraying. Do not use for products which come into direct contact with the skin. 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](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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

| Section | Hazard class                      | Cat-egory | Hazard class and category | Hazard statement |
|---------|-----------------------------------|-----------|---------------------------|------------------|
| 3.1O    | Acute toxicity (oral)             | 3         | Acute Tox. 3              | H301             |
| 3.1D    | Acute toxicity (dermal)           | 3         | Acute Tox. 3              | H311             |
| 3.1I    | Acute toxicity (inhal.)           | 3         | Acute Tox. 3              | H331             |
| 3.2     | Skin corrosion/irritation         | 1B        | Skin Corr. 1B             | H314             |
| 3.3     | Serious eye damage/eye irritation | 1         | Eye Dam. 1                | H318             |
| 3.4S    | Skin sensitisation                | 1         | Skin Sens. 1              | H317             |
| 3.5     | Germ cell mutagenicity            | 2         | Muta. 2                   | H341             |

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| Section | Hazard class  | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 3.6     | Carcinogenicity   | 1B        | Carc. 1B                  | H350             |
| 3.8     | Specific target organ toxicity - single exposure                                | 1         | STOT SE 1                 | H370             |
| 3.8R    | Specific target organ toxicity - single exposure (respiratory tract irritation) | 3         | STOT SE 3                 | H335             |

For full text of abbreviations: see SECTION 16

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

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Immediate effects can be expected after short-term exposure.

## 2.2 Label elements

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

#### Signal word

**Danger**

#### Pictograms

GHS05, GHS06,  
GHS08



#### Hazard statements

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled  
H314 Causes severe skin burns and eye damage  
H317 May cause an allergic skin reaction  
H335 May cause respiratory irritation  
H341 Suspected of causing genetic defects  
H350 May cause cancer  
H370 Causes damage to organs (eye)

#### Precautionary statements

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

P260 Do not breathe mist/vapours  
P280 Wear protective gloves/protective clothing/eye protection/face protection

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor

For professional users only

#### **Hazardous ingredients for labelling:**

Formaldehyde ... %, Methanol

#### **Labelling of packages where the contents do not exceed 125 ml**

Signal word: **Danger**

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Symbol(s)



H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.  
H370 Causes damage to organs (eye).  
P260 Do not breathe mist/vapours.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.  
contains: Formaldehyde ... %, Methanol

### 2.3 Other hazards

This material is combustible, but will not ignite readily.

#### 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  |
|--------------------|---|---------|--|------------|--|
| Formaldehyde ... % | CAS No<br>50-00-0<br><br>EC No<br>200-001-8<br><br>Index No<br>605-001-00-5<br><br>REACH Reg. No<br>01-2119488953-<br>20-xxxx | 30 – 50 | Acute Tox. 3 / H301<br>Acute Tox. 3 / H311<br>Acute Tox. 3 / H331<br>Skin Corr. 1B / H314<br>Eye Dam. 1 / H318<br>Skin Sens. 1 / H317<br>Muta. 2 / H341<br>Carc. 1B / H350<br>STOT SE 3 / H335 |            | B<br>D<br>GHS-HC<br>IARC: 1<br>IOELV<br>RoC<br>"Known" |
| Methanol           | CAS No<br>67-56-1<br><br>EC No<br>200-659-6<br><br>Index No<br>603-001-00-X<br><br>REACH Reg. No<br>01-2119433307-<br>44-xxxx | 8 – 12  | Flam. Liq. 2 / H225<br>Acute Tox. 3 / H301<br>Acute Tox. 3 / H311<br>Acute Tox. 3 / H331<br>STOT SE 1 / H370   |            | GHS-HC<br>IOELV  |

#### Notes

B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

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### Notes

D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.

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

IARC: 1: IARC group 1: carcinogenic to humans (International Agency for Research on Cancer)

IOELV: Substance with a community indicative occupational exposure limit value

RoC NTP-RoC: Known To Be A Human Carcinogen

"Known"

:

| Name of substance     | Identifier  | Specific Conc. Limits   | M-Factors | ATE                                 | Exposure route                            |
|-----------------------|---|---|-----------|-------------------------------------|---|
| Formaldehyde ...<br>% | CAS No<br>50-00-0<br><br>EC No<br>200-001-8<br><br>Index No<br>605-001-00-5 | Skin Corr. 1B; H314: $C \geq 25\%$<br>Skin Irrit. 2; H315: $5\% \leq C < 25\%$<br>Eye Dam. 1; H318: $C \geq 25\%$<br>Eye Irrit. 2; H319: $5\% \leq C < 25\%$<br>Skin Sens. 1; H317: $C \geq 0,2\%$<br>STOT SE 3; H335: $C \geq 5\%$ | -         | 100 mg/kg<br>300 mg/kg<br>3 mg/l/4h | oral<br>dermal<br>inhalation: va-<br>pour |
| Methanol              | CAS No<br>67-56-1<br><br>EC No<br>200-659-6<br><br>Index No<br>603-001-00-X | STOT SE 1; H370: $C \geq 10\%$<br>STOT SE 2; H371: $3\% \leq C < 10\%$  | -         | 100 mg/kg<br>300 mg/kg<br>3 mg/l/4h | oral<br>dermal<br>inhalation: va-<br>pour |

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

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

#### Following inhalation

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

#### Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure. In case of skin reactions, consult a physician.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

Vomiting, Corrosion, Gastric perforation, Allergic reactions, Irritation, Cough, Dyspnoea, Headache, Vertigo, Dizziness, Unconsciousness, Spasms, Risk of serious damage to eyes, Risk of blindness

### 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

Ingredients of the mixture combustible. The product itself does not burn. Vapours may form explosive mixtures with air.

#### 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. Wear full chemical protective clothing.

## 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. Ventilate affected area.

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### 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. Use extractor hood (laboratory). Handle and open container with care. Avoid exposure. Clear contaminated areas thoroughly.

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



Keep away from sources of ignition - No smoking.

#### Advice on general occupational hygiene

When using do not eat or drink. Thorough skin-cleansing after handling the product.

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

Store in a well-ventilated place. Keep container tightly closed. May cause decomposition by long-term light influence.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Protect against external exposure, such as

high temperatures, direct light irradiation

#### Consideration of other advice:

Store locked up.

#### Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

#### 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      | formaldehyde  | 50-00-0 | IOELV      | 0,3       | 0,37                     | 0,74       | 0,6                       |                 |                                | sect     | 2019/983/EU |



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| 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      | methanol      | 67-56-1 | IOELV      | 200       | 260                      |            |                           |                 |                                |          | 2006/15/EC |
| MT      | methanol      | 67-56-1 | OELV       | 200       | 260                      |            |                           |                 |                                |          | CAP. 424   |

### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur  
 sect Limit value of 0,62 mg/m<sup>3</sup> or 0,5 ppm for the health care, funeral and embalming sectors until 11 July 2024  
 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  | End-point | Threshold level         | Protection goal, route of exposure | Used in           | Exposure time              |
|--------------------|---------|-----------|-------------------------|------------------------------------|-------------------|----------------------------|
| Formaldehyde ... % | 50-00-0 | DNEL      | 9 mg/m <sup>3</sup>     | human, inhalatory                  | worker (industry) | chronic - systemic effects |
| Formaldehyde ... % | 50-00-0 | DNEL      | 0,375 mg/m <sup>3</sup> | human, inhalatory                  | worker (industry) | chronic - local effects    |
| Formaldehyde ... % | 50-00-0 | DNEL      | 0,75 mg/m <sup>3</sup>  | human, inhalatory                  | worker (industry) | acute - local effects      |
| Formaldehyde ... % | 50-00-0 | DNEL      | 240 mg/kg bw/day        | human, dermal                      | worker (industry) | chronic - systemic effects |
| Formaldehyde ... % | 50-00-0 | DNEL      | 37 µg/cm <sup>2</sup>   | human, dermal                      | worker (industry) | chronic - local effects    |
| Methanol           | 67-56-1 | DNEL      | 130 mg/m <sup>3</sup>   | human, inhalatory                  | worker (industry) | chronic - systemic effects |
| Methanol           | 67-56-1 | DNEL      | 130 mg/m <sup>3</sup>   | human, inhalatory                  | worker (industry) | acute - systemic effects   |
| Methanol           | 67-56-1 | DNEL      | 130 mg/m <sup>3</sup>   | human, inhalatory                  | worker (industry) | chronic - local effects    |
| Methanol           | 67-56-1 | DNEL      | 130 mg/m <sup>3</sup>   | human, inhalatory                  | worker (industry) | acute - local effects      |
| Methanol           | 67-56-1 | DNEL      | 20 mg/kg bw/day         | human, dermal                      | worker (industry) | chronic - systemic effects |
| Methanol           | 67-56-1 | DNEL      | 20 mg/kg bw/day         | human, dermal                      | worker (industry) | acute - systemic effects   |

### Relevant PNECs of components of the mixture

| Name of substance  | CAS No  | End-point | Threshold level | Organism          | Environmental compartment | Exposure time                |
|--------------------|---------|-----------|-----------------|-------------------|---------------------------|------------------------------|
| Formaldehyde ... % | 50-00-0 | PNEC      | 0,44 mg/l       | aquatic organisms | freshwater                | short-term (single instance) |
| Formaldehyde ... % | 50-00-0 | PNEC      | 0,44 mg/l       | aquatic organisms | marine water              | short-term (single instance) |

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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                |
| Formaldehyde ... %                          | 50-00-0 | PNEC      | 0,19 mg/l       | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| Formaldehyde ... %                          | 50-00-0 | PNEC      | 2,3 mg/kg       | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| Formaldehyde ... %                          | 50-00-0 | PNEC      | 2,3 mg/kg       | aquatic organisms     | marine sediment              | short-term (single instance) |
| Formaldehyde ... %                          | 50-00-0 | PNEC      | 0,2 mg/kg       | terrestrial organisms | soil                         | short-term (single instance) |
| Methanol                                    | 67-56-1 | PNEC      | 20,8 mg/l       | aquatic organisms     | freshwater                   | short-term (single instance) |
| Methanol                                    | 67-56-1 | PNEC      | 2,08 mg/l       | aquatic organisms     | marine water                 | short-term (single instance) |
| Methanol                                    | 67-56-1 | PNEC      | 100 mg/l        | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| Methanol                                    | 67-56-1 | PNEC      | 77 mg/kg        | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| Methanol                                    | 67-56-1 | PNEC      | 7,7 mg/kg       | aquatic organisms     | marine sediment              | short-term (single instance) |
| Methanol                                    | 67-56-1 | PNEC      | 100 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. Wear face protection.

#### Skin protection



#### • hand protection

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

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Butyl caoutchouc (butyl rubber)

- **material thickness**

0,4 mm

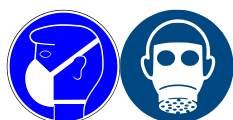
- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

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

### 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  | stinging                          |
| Melting point/freezing point                             | <-15 °C                           |
| Boiling point or initial boiling point and boiling range | 97 °C                             |
| Flammability   | non-combustible                   |
| Lower and upper explosion limit                          | 7 vol% - 73 vol% (anhydrous)      |
| Flash point  | 62 °C                             |
| Auto-ignition temperature                                | >300 °C                           |
| Decomposition temperature                                | not relevant                      |
| pH (value)   | 2,8 - 4 (20 °C)                   |
| Kinematic viscosity                                      | 2,018 mm <sup>2</sup> /s at 20 °C |
| <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  | 1,3 mbar at 20 °C                 |

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|                          |   |
|--------------------------|---|
| Density                  | 1,09 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

Temperature class (EU, acc. to ATEX) T2  
Maximum permissible surface temperature on the equipment: 300°C

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Danger of polymerisation.

#### **If heated**

Vapours may form explosive mixtures with air.

### 10.2 Chemical stability

May cause decomposition by long-term light influence.  
To stabilise: Methanol.

### 10.3 Possibility of hazardous reactions

**Exothermic reaction with:** Alkalis, Permanganates, strong oxidiser, Aniline,

**Violent reaction with:** Acids, Phenol, Nitric acid, Hydrogen peroxide,

=> Explosive properties

### 10.4 Conditions to avoid

Direct light irradiation. Keep away from heat.

### 10.5 Incompatible materials

different metals

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

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### SECTION 11: Toxicological information

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

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 according to GHS (1272/2008/EC, CLP)

##### Acute toxicity

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

| Acute toxicity estimate (ATE) of components of the mixture |         |                    |           |
|--|---------|--------------------|-----------|
| Name of substance  | CAS No  | Exposure route     | ATE       |
| Formaldehyde ... %   | 50-00-0 | oral               | 100 mg/kg |
| Formaldehyde ... %   | 50-00-0 | dermal             | 300 mg/kg |
| Formaldehyde ... %   | 50-00-0 | inhalation: vapour | 3 mg/l/4h |
| Methanol   | 67-56-1 | oral               | 100 mg/kg |
| Methanol   | 67-56-1 | dermal             | 300 mg/kg |
| Methanol   | 67-56-1 | inhalation: vapour | 3 mg/l/4h |

| Acute toxicity of components of the mixture |         |                    |          |              |         |
|---|---------|--------------------|----------|--------------|---------|
| Name of substance                           | CAS No  | Exposure route     | Endpoint | Value        | Species |
| Methanol                                    | 67-56-1 | inhalation: vapour | LC50     | 131 mg/l/4h  | rat     |
| Methanol                                    | 67-56-1 | oral               | LD50     | 5.628 mg/kg  | rat     |
| Methanol                                    | 67-56-1 | oral               | LDLo     | 143 mg/kg    | human   |
| Methanol                                    | 67-56-1 | dermal             | LD50     | 15.800 mg/kg | rabbit  |

##### Skin corrosion/irritation

Causes severe skin burns and eye damage.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### Respiratory or skin sensitisation

May cause an allergic skin reaction.

##### Germ cell mutagenicity

Suspected of causing genetic defects.

##### Carcinogenicity

May cause cancer.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

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### Specific target organ toxicity - single exposure

Causes damage to organs (eye). May cause respiratory irritation.

| Hazard category | Target organ | Exposure route |
|-----------------|--------------|----------------|
| 1               | eye          | if exposed     |

### Specific target organ toxicity - repeated exposure

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

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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

#### • If swallowed

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

#### • If in eyes

causes burns, Causes serious eye damage, risk of blindness

#### • If inhaled

vertigo, headache, Irritation to respiratory tract, cough, Dyspnoea

#### • If on skin

causes severe burns, causes poorly healing wounds, May produce an allergic reaction, pruritis, localised redness

#### • Other information

Other adverse effects: Spasms, Blood pressure drop, Liver and kidney damage, Dizziness, Unconsciousness

### 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 |
| Formaldehyde ... %                                    | 50-00-0 | LC50     | 6,7 mg/l    | fish                  | 96 h          |
| Formaldehyde ... %                                    | 50-00-0 | EC50     | 5,8 mg/l    | aquatic invertebrates | 48 h          |
| Formaldehyde ... %                                    | 50-00-0 | ErC50    | 4,89 mg/l   | algae                 | 72 h          |
| Methanol  | 67-56-1 | LC50     | 15.400 mg/l | fish                  | 96 h          |
| Methanol  | 67-56-1 | ErC50    | 22.000 mg/l | algae                 | 96 h          |

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### Aquatic toxicity (chronic) of components of the mixture

| Name of substance  | CAS No  | Endpoint | Value   | Species        | Exposure time |
|--------------------|---------|----------|---------|----------------|---------------|
| Formaldehyde ... % | 50-00-0 | EC50     | 19 mg/l | microorganisms | 3 h           |

### Biodegradation

Data are not available.

## 12.2 Process of degradability

### Degradability of components of the mixture

| Name of substance  | CAS No  | Process          | Degradation rate | Time | Method | Source |
|--------------------|---------|------------------|------------------|------|--------|--------|
| Formaldehyde ... % | 50-00-0 | DOC removal      | 99 %             | 28 d |        | ECHA   |
| Methanol           | 67-56-1 | biotic/abiotic   | 99 %             | 30 d |        |        |
| Methanol           | 67-56-1 | oxygen depletion | 69 %             | 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 |
|-------------------|---------|-----|---------|----------|
| Methanol          | 67-56-1 |     | -0,77   |          |

## 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.

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### Waste treatment of containers/packagings

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

### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

### 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

|             |         |
|-------------|---------|
| ADR/RID/ADN | UN 2209 |
| IMDG-Code   | UN 2209 |
| ICAO-TI     | UN 2209 |

### 14.2 UN proper shipping name

|             |                       |
|-------------|-----------------------|
| ADR/RID/ADN | FORMALDEHYDE SOLUTION |
| IMDG-Code   | FORMALDEHYDE SOLUTION |
| ICAO-TI     | Formaldehyde solution |

### 14.3 Transport hazard class(es)

|             |   |
|-------------|---|
| ADR/RID/ADN | 8 |
| IMDG-Code   | 8 |
| ICAO-TI     | 8 |

### 14.4 Packing group

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

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 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

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

|                                       |  |
|---------------------------------------|--|
| Proper shipping name                  | FORMALDEHYDE SOLUTION                      |
| Particulars in the transport document | UN2209, FORMALDEHYDE SOLUTION, 8, III, (E) |
| Classification code                   | C9   |
| Danger label(s)                       | 8  |



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|                               |     |
|-------------------------------|-----|
| Special provisions (SP)       | 533 |
| Excepted quantities (EQ)      | E1  |
| Limited quantities (LQ)       | 5 L |
| Transport category (TC)       | 3   |
| Tunnel restriction code (TRC) | E   |
| Hazard identification No      | 80  |

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

|  |                                       |
|--|---------------------------------------|
| Proper shipping name                     | FORMALDEHYDE SOLUTION                 |
| Particulars in the shipper's declaration | UN2209, FORMALDEHYDE SOLUTION, 8, III |
| Marine pollutant                         | -                                     |
| Danger label(s)                          | 8                                     |



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

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

|  |                                       |
|--|---------------------------------------|
| Proper shipping name                     | Formaldehyde solution                 |
| Particulars in the shipper's declaration | UN2209, Formaldehyde 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)

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### Restrictions according to REACH, Annex XVII

| Dangerous substances with restrictions (REACH, Annex XVII) |  |         |             |    |
|--|--|---------|-------------|----|
| Name of substance  | Name acc. to inventory   | CAS No  | Restriction | No |
| Formaldehyde solution                                      | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC |         | R3          | 3  |
| Formaldehyde ... %   | formaldehyde   | 50-00-0 | R72         | 72 |
| Formaldehyde ... %   | carcinogenic   |         | R28-30      | 28 |
| Formaldehyde ... %   | substances in tattoo inks and permanent make-up  |         | R75         | 75 |
| Methanol   | methanol   | 67-56-1 | R69         | 69 |
| Methanol   | flammable / pyrophoric   |         | R40         | 40 |

#### Legend

- R28-30 1. Shall not be placed on the market, or used,  
- as substances,  
- as constituents of other substances, or,  
- in mixtures,  
for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than:  
- either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or,  
- the relevant concentration specified in Directive 1999/45/EC where no specific concentration limit is set out in Part 3 of Annex VI to Regulation (EC) No 1272/2008.  
Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows:  
'Restricted to professional users'.  
2. By way of derogation, paragraph 1 shall not apply to:  
(a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;  
(b) cosmetic products as defined by Directive 76/768/EEC;  
(c) the following fuels and oil products:  
- motor fuels which are covered by Directive 98/70/EC,  
- mineral oil products intended for use as fuel in mobile or fixed combustion plants,  
- fuels sold in closed systems (e.g. liquid gas bottles);  
(d) artists' paints covered by Directive 1999/45/EC;  
(e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date;  
(f) devices covered by Regulation (EU) 2017/745.
- R3 1. Shall not be used in:  
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,  
- tricks and jokes,  
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,  
2. Articles not complying with paragraph 1 shall not be placed on the market.  
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:  
— can be used as fuel in decorative oil lamps for supply to the general public, and  
— present an aspiration hazard and are labelled with H304.  
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).  
5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:  
(a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";  
(b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';  
(c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;

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### Legend

- R40 1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
- metallic glitter intended mainly for decoration,
  - artificial snow and frost,
  - 'whoopie' cushions,
  - silly string aerosols,
  - imitation excrement,
  - horns for parties,
  - decorative flakes and foams,
  - artificial cobwebs,
  - stink bombs.
2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:  
'For professional users only'.
3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.
- R69 Shall not be placed on the market to the general public after 9 May 2019 in windscreen washing or defrosting fluids, in a concentration equal to or greater than 0,6 % by weight.
- R72 1. Shall not be placed on the market after 1 November 2020 in any of the following:
- (a) clothing or related accessories;
  - (b) textiles other than clothing which, under normal or reasonably foreseeable conditions of use, come into contact with human skin to an extent similar to clothing;
  - (c) footwear;
- if the clothing, related accessory, textile other than clothing or footwear is for use by consumers and the substance is present in a concentration, measured in homogeneous material, equal to or greater than that specified for that substance in Appendix 12.
2. By way of derogation, in relation to the placing on the market of formaldehyde [CAS No 50-00-0] in jackets, coats or upholstery, the relevant concentration for the purposes of paragraph 1 shall be 300 mg/kg during the period between 1 November 2020 and 1 November 2023. The concentration specified in Appendix 12 shall apply thereafter.
3. Paragraph 1 shall not apply to:
- (a) clothing, related accessories or footwear, or parts of clothing, related accessories or footwear, made exclusively of natural leather, fur or hide;
  - (b) non-textile fasteners and non-textile decorative attachments;
  - (c) second-hand clothing, related accessories, textiles other than clothing or footwear
  - (d) wall-to-wall carpets and textile floor coverings for indoor use, rugs and runners.
4. Paragraph 1 shall not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 of the European Parliament and of the Council (\*) or Regulation (EU) 2017/745 of the European Parliament and of the Council (\*\*).
5. Paragraph 1(b) shall not apply to disposable textiles. 'Disposable textiles' means textiles that are designed to be used only once or for a limited time and are not intended for subsequent use for the same or a similar purpose.
6. Paragraphs 1 and 2 shall apply without prejudice to the application of any stricter restrictions set out in this Annex or in other applicable Union legislation.
7. The Commission shall review the exemption in paragraph 3(d) and, if appropriate, modify that point accordingly.
- (\*) Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC (OJ L 81, 31.3.2016, p. 51).
- (\*\*) Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC (OJ L 117, 5.5.2017, p. 1).

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### Legend

- R75
1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:
    - (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
    - (b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
    - (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
    - (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
      - (i) 0,1 % by weight, if the substance is used solely as a pH regulator;
      - (ii) 0,01 % by weight, in all other cases;
    - (e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (\*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
    - (f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
      - (i) "Rinse-off products";
      - (ii) "Not to be used in products applied on mucous membranes";
      - (iii) "Not to be used in eye products";
    - (g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
    - (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
  2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
  3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
  4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
    - (a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
    - (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
  5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.
  6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
  7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:
    - (a) the statement "Mixture for use in tattoos or permanent make-up";
    - (b) a reference number to uniquely identify the batch;
    - (c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
    - (d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;
    - (e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;
    - (f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
    - (g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.The information shall be clearly visible, easily legible and marked in a way that is indelible. The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise. Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use. Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.
  8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.

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### Legend

9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

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

None of the ingredients are listed. (Or Concentration of the substance in a mixture: <0.1 % Mass concentration)

### 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 |
| 22                      | methanol                              | 500   | 5.000 |       |

### Deco-Paint Directive

|             |                     |
|-------------|---------------------|
| VOC content | 47 %<br>, 1.217 g/l |
|-------------|---------------------|

### Industrial Emissions Directive (IED)

|   |           |
|---|-----------|
| VOC content                                 | 47 %      |
| VOC content                                 | 1.090 g/l |
| VOC content<br>Water content was discounted | 1.217 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 |
| Formaldehyde ... %       | 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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| List of pollutants (WFD) |   |        |           |         |
|--------------------------|---|--------|-----------|---------|
| Name of substance        | Name acc. to inventory  | CAS No | Listed in | Remarks |
| Methanol                 | 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

### 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      | AICS       | 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     |

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| Country | Inventory | Status                     |
|---------|-----------|----------------------------|
| US      | TSCA      | all ingredients are listed |

### Legend

|            |   |
|------------|---|
| AICS       | Australian Inventory of Chemical Substances                             |
| 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.

## SECTION 16: Other information

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

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

| Section | Former entry (text/value)                             | Actual entry (text/value)   | Safety-relevant |
|---------|---|---|-----------------|
| 2.1     |   | Classification according to Regulation (EC) No 1272/2008 (CLP):<br>change in the listing (table)  | yes             |
| 2.1     |   | The most important adverse physicochemical, human health and environmental effects:<br>Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Immediate effects can be expected after short-term exposure. | yes             |
| 2.3     | Other hazards:<br>There is no additional information. | Other hazards:<br>This material is combustible, but will not ignite readily.  | 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             |

### Abbreviations and acronyms

| Abbr.       | Descriptions of used abbreviations  |
|-------------|---|
| 2006/15/EC  | Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC                    |
| 2019/983/EU | Directive of the European Parliament and of the Council amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work                              |
| Acute Tox.  | Acute toxicity  |
| ADN         | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |

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| 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)                     |
| ADR/RID/ADN | Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)   |
| ATE         | Acute Toxicity Estimate   |
| BCF         | Bioconcentration factor   |
| BOD         | Biochemical Oxygen Demand   |
| CAP. 424    | Occupational Health and Safety Authority Act (CAP. 424)   |
| Carc.       | Carcinogenicity   |
| CAS         | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)  |
| Ceiling-C   | Ceiling value   |
| CLP         | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures  |
| 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   |
| 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   |
| Flam. Liq.  | Flammable liquid  |
| GHS         | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| IARC        | International Agency for Research on Cancer   |
| 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  |
| IOELV       | Indicative occupational exposure limit value  |



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| Abbr.       | Descriptions of used abbreviations  |
|-------------|---|
| 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   |
| Muta.       | Germ cell mutagenicity  |
| NLP         | No-Longer Polymer   |
| NTP-RoC     | National Toxicology Program: Report on Carcinogens  |
| PBT         | Persistent, Bioaccumulative and Toxic   |
| 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) |
| Skin Corr.  | Corrosive to skin   |
| Skin Irrit. | Irritant to skin  |
| Skin Sens.  | Skin sensitisation  |
| STEL        | Short-term exposure limit   |
| STOT SE     | Specific target organ toxicity - single exposure  |
| SVHC        | Substance of Very High Concern  |
| TWA         | Time-weighted average   |
| VOC         | Volatile Organic Compounds  |
| vPvB        | Very Persistent and very Bioaccumulative  |

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). 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 chapter 2 and 3)

| Code | Text                                     |
|------|--|
| H225 | Highly flammable liquid and vapour.      |
| H301 | Toxic if swallowed.                      |
| H311 | Toxic in contact with skin.              |
| H314 | Causes severe skin burns and eye damage. |

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| Code | Text                                  |
|------|---------------------------------------|
| H317 | May cause an allergic skin reaction.  |
| H318 | Causes serious eye damage.            |
| H331 | Toxic if inhaled.                     |
| H335 | May cause respiratory irritation.     |
| H341 | Suspected of causing genetic defects. |
| H350 | May cause cancer.                     |
| H370 | Causes damage to organs (eye).        |

### 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

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## Sodium carbonate ROTI®-BLACK P

article number: **L538**  
Version: **2.0 en**  
Replaces version of: 14.01.2020  
Version: (1)

date of compilation: 14.01.2020  
Revision: 14.02.2022

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

### 1.1 Product identifier

|                                 |                                       |
|---------------------------------|---------------------------------------|
| Identification of the substance | <b>Sodium carbonate ROTI®-BLACK P</b> |
| Article number                  | L538                                  |
| Registration number (REACH)     | 01-2119485498-19-xxxx                 |
| Index number in CLP Annex VI    | 011-005-00-2                          |
| EC number                       | 207-838-8                             |
| CAS number                      | 497-19-8                              |
| Alternative name(s)             | Soda                                  |

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

|                           |   |
|---------------------------|---|
| Relevant identified uses: | Laboratory chemical<br>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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

| 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

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

#### Signal word

Warning

#### Pictograms

GHS07



#### Hazard statements

H319

Causes serious eye irritation

#### Precautionary statements

##### 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

P337+P313 If eye irritation persists: Get medical advice/attention

#### Labelling of packages where the contents do not exceed 125 ml

Signal word: **Warning**

Symbol(s)



## 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 | Sodium carbonate                |
| Molecular formula | Na <sub>2</sub> CO <sub>3</sub> |
| Molar mass        | 106 g/mol                       |
| REACH Reg. No     | 01-2119485498-19-xxxx           |
| CAS No            | 497-19-8                        |
| EC No             | 207-838-8                       |
| Index No          | 011-005-00-2                    |

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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, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

##### Unsuitable extinguishing media

water jet

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

Non-combustible.

##### Hazardous combustion products

In case of fire may be liberated: 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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## 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.

### 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

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

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Protect against external exposure, such as

humidity

#### Consideration of other advice:

#### 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.

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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.

#### 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

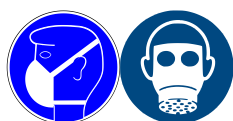
##### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

##### • other protection measures

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

##### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

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### 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   | white   |
| Odour  | odourless                                     |
| Melting point/freezing point                             | 851 °C (ECHA)                                 |
| Boiling point or initial boiling point and boiling range | not determined                                |
| Flammability   | non-combustible                               |
| Lower and upper explosion limit                          | not determined                                |
| Flash point  | not applicable                                |
| Auto-ignition temperature                                | not determined                                |
| Decomposition temperature                                | >400 °C (ECHA)                                |
| pH (value)   | 11 – 11,5 (in aqueous solution: 4 g/l, 25 °C) |
| Kinematic viscosity                                      | not relevant                                  |
| <u>Solubility(ies)</u>                                   |   |
| Water solubility   | 212,5 g/l at 20 °C (ECHA)                     |
| <u>Partition coefficient</u>                             |   |
| Partition coefficient n-octanol/water (log value):       | not relevant (inorganic)                      |
| Vapour pressure  | not determined                                |
| <u>Density and/or relative density</u>                   |   |
| Density  | 2,532 g/cm <sup>3</sup> at 20 °C (ECHA)       |
| Relative vapour density                                  | information on this property is not available |
| Bulk density   | ~1.100 kg/m <sup>3</sup>                      |
| Particle characteristics                                 | No data available.                            |
| <u>Other safety parameters</u>                           |   |
| Oxidising properties                                     | none  |



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### 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

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

**Violent reaction with:** Alkali metals, Alkaline earth metal, Nitro compound, Sulphuric acid, Strong acid

### 10.4 Conditions to avoid

Humidity. Keep away from heat. Decomposition takes place from temperatures above: >400 °C.

### 10.5 Incompatible materials

aluminium, zinc, Light metals

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

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

**Classification according to GHS (1272/2008/EC, CLP)**

#### Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity |          |              |         |        |        |
|----------------|----------|--------------|---------|--------|--------|
| Exposure route | Endpoint | Value        | Species | Method | Source |
| oral           | LD50     | 2.800 mg/kg  | rat     |        | ECHA   |
| dermal         | LD50     | >2.000 mg/kg | rabbit  |        | ECHA   |

#### 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.

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### 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

Inhalation of dust may cause irritation of the respiratory system

#### • If on skin

Frequently or prolonged contact with skin may cause dermal irritation

#### • 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.

| Aquatic toxicity (acute) |          |                       |        |               |
|--------------------------|----------|-----------------------|--------|---------------|
| Endpoint                 | Value    | Species               | Source | Exposure time |
| LC50                     | 300 mg/l | fish                  | ECHA   | 96 h          |
| EC50                     | 227 mg/l | aquatic invertebrates | ECHA   | 48 h          |

### Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.2 Process of degradability

Theoretical Carbon Dioxide: 0,4152 mg/mg

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### 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.

### 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. Waste catalogue ordinance (Germany).

### 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

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

Not subject to ADR, RID and ADN.

#### 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)

#### Restrictions according to REACH, Annex XVII

| Dangerous substances with restrictions (REACH, Annex XVII) |   |        |             |    |
|--|---|--------|-------------|----|
| Name of substance  | Name acc. to inventory                          | CAS No | Restriction | No |
| Sodium carbonate   | substances in tattoo inks and permanent make-up |        | R75         | 75 |

#### Legend

- R75 1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:
- (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
  - (b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
  - (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
  - (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
    - (i) 0,1 % by weight, if the substance is used solely as a pH regulator;
    - (ii) 0,01 % by weight, in all other cases;
  - (e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (\*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
  - (f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
    - (i) "Rinse-off products";
    - (ii) "Not to be used in products applied on mucous membranes";
    - (iii) "Not to be used in eye products";
  - (g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
  - (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
- (a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
  - (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, para-

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graph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.

6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.

7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:

(a) the statement "Mixture for use in tattoos or permanent make-up";

(b) a reference number to uniquely identify the batch;

(c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;

(d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;

(e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;

(f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;

(g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.

The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.

Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.

8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.

9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

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

Not listed.

### 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 %<br>0 g/l |
|-------------|--------------|

### Industrial Emissions Directive (IED)

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|             |       |
|-------------|-------|
| VOC content | 0 %   |
| VOC content | 0 g/l |

### 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)

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

#### Legend

A) Indicative list of the main pollutants

### 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

### 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      | AICS       | substance is listed |
| CA      | DSL        | substance is listed |
| CN      | IECSC      | substance is listed |
| EU      | ECSI       | substance is listed |
| EU      | REACH Reg. | substance is listed |
| JP      | CSCL-ENCS  | substance is listed |
| JP      | ISHA-ENCS  | substance is listed |
| KR      | KECI       | substance is listed |

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| Country | Inventory | Status              |
|---------|-----------|---------------------|
| MX      | INSQ      | substance is listed |
| NZ      | NZIoC     | substance is listed |
| PH      | PICCS     | substance is listed |
| TR      | CICR      | substance is listed |
| TW      | TCSI      | substance is listed |
| US      | TSCA      | substance is listed |

### Legend

|            |   |
|------------|---|
| AICS       | Australian Inventory of Chemical Substances                             |
| 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

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

## SECTION 16: Other information

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

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

| Section | Former entry (text/value)                             | Actual entry (text/value)   | Safety-relevant |
|---------|---|---|-----------------|
| 2.1     |   | Classification according to Regulation (EC) No 1272/2008 (CLP):<br>change in the listing (table)                          | yes             |
| 2.3     | Other hazards:<br>There is no additional information. | Other hazards   | yes             |
| 2.3     |   | Results of PBT and vPvB assessment:<br>According to the results of its assessment, this substance is not a PBT or a vPvB. | yes             |

### Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations  |
|-------|---|
| ADN   | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| ADR   | Accord 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)  |
| CLP   | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures  |

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| Abbr.    | Descriptions of used abbreviations  |
|----------|---|
| 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) |
| 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   |
| 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  |
| 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)           |
| SVHC     | Substance of Very High Concern  |
| VOC      | Volatile Organic Compounds  |
| vPvB     | Very Persistent and very Bioaccumulative  |

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). 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                           |
|------|--------------------------------|
| 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.